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As submitted confidentially to the Securities and Exchange Commission on September 2, 2020
pursuant to the Jumpstart Our Business Startups Act of 2012

Registration No. 333-

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

Form S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

Sotera Health Topco, Inc.*

(Exact name of Registrant as specified in its charter)

Delaware	7389	47-3531161
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

9100 South Hills Blvd, Suite 300
Broadview Heights, Ohio 44147
(440) 262-1410
(Address including zip code, telephone number, including area code, of Registrant's Principal Executive Offices)

Matthew J. Klaben, Esq.
Senior Vice President, General Counsel and Secretary
Sotera Health Topco, Inc.
9100 South Hills Blvd, Suite 300
Broadview Heights, Ohio 44147
(440) 262-1409
(Name, address including zip code, telephone number, including area code, of agent for service)

Copies To:

David Lopez, Esq.
Cleary Gottlieb Steen & Hamilton LLP
One Liberty Plaza
New York, New York 10006
(212) 225-2000

Arthur D. Robinson, Esq.
John C. Ericson, Esq.
Simpson Thacher & Bartlett LLP
425 Lexington Avenue
New York, New York 10017
(212) 455-2000

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date hereof.

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act, check the following box. ☐

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

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 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 7(a)(2)(B) of the Securities Act. ☐

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered (1)	Proposed maximum aggregate offering price (1)(2)	Amount of registration fees
Common stock, $0.01 par value per share	$	$

(1) Includes shares of common stock that the underwriters may purchase, including pursuant to the option to purchase additional shares, if any.
(2) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

* Sotera Health Topco, Inc. is the registrant filing this Registration Statement with the Commission. Prior to the date of effectiveness of the Registration Statement, Sotera Health Topco, Inc. will be renamed Sotera Health Company. The securities issued to investors in connection with this offering will be shares of common stock in Sotera Health Company.

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The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED , 2020

Preliminary Prospectus

Shares

Sotera Health Company

Common Stock

This is the initial public offering of shares of common stock of Sotera Health Topco, Inc. (to be renamed Sotera Health Company prior to the completion of this offering).

Prior to this offering, there has been no public market for our common stock. The initial public offering price of the common stock is expected to be between $ and $ per share. We will apply to list our common stock on the under the symbol " ."

We are an "emerging growth company" as defined in Section 2(a) of the Securities Act of 1933, as amended (the "Securities Act"), and as such, have elected to comply with certain reduced public company reporting requirements. See "Prospectus Summary—Implications of Being an Emerging Growth Company."

Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page 20 to read about factors you should consider before deciding to invest in our common stock.

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

	Per share	Total
Initial public offering price	$	$
Underwriting discounts	$	$
Proceeds to us, before expenses	$	$

(1) We have agreed to reimburse the underwriters for certain expenses in connection with this offering. See "Underwriting."

We have granted the underwriters an option to purchase up to additional shares of common stock at the initial public offering price less the underwriting discount for a period of 30 days after the date of this prospectus.

Delivery of the shares of common stock will be made on or about , 2020.

[ ]

Prospectus dated , 2020.

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Through and including , 2020 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

You should rely only on the information contained in this prospectus, any amendment or supplement to this prospectus and any free writing prospectus prepared by us or on our behalf that we have referred you to. We have not, and the underwriters have not, authorized anyone to provide you with different or additional information or to make any representations other than those contained in this prospectus or in any free writing prospectuses we have authorized for use with respect to this offering. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you or any representation that others may make to you. We are not making an offer of these securities in any state, country or other jurisdiction where the offer is not permitted. You should not assume that the information in this prospectus or any free writing prospectus is accurate as of any date other than the date of the applicable document regardless of its time of delivery or the time of any sales of our common stock. Our business, prospects, financial condition or results of operations may have changed since the date of the applicable document. Information contained in our web site does not constitute part of this prospectus.

No action is being taken in any jurisdiction outside the United States to permit a public offering of our common stock. Persons who come into possession of this prospectus in jurisdictions outside the United States are required to inform themselves about and to observe any restriction as to this offering and the distribution of this prospectus applicable to those jurisdictions.

Certain Trademarks, Service Marks and Trade Names

We own or otherwise have rights to the trademarks, service marks and trade names, including those mentioned in this prospectus, used in conjunction with the marketing and sale of our products and services. This prospectus includes trademarks, service marks and trade names, which are protected under applicable intellectual property laws and are our property and/or the property of our subsidiaries. This prospectus may also contain trademarks, service marks and trade names of other companies, which are the property of their respective owners. We do not intend our use or display of other companies' trademarks, service marks or trade names to imply a relationship with, or endorsement or sponsorship of us by, any other companies. Solely for convenience, trademarks, service marks and trade names referred to in this prospectus may appear without the ®, ™, or SM symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor, to these trademarks, service marks and trade names.

Market, Industry and Other Data

Historical and current market data used throughout this prospectus were obtained from internal company analyses, consultants' reports and industry publications. Industry surveys and publications generally state that the information contained therein has been obtained from sources believed to be reliable, but the accuracy and completeness of information contained in consultants' reports and industry publications is not guaranteed. We have not independently verified this market data. Similarly, internal company analyses, while believed by us to be reliable, have not been verified by any independent sources, and neither we nor any of the underwriters make any representation as to the accuracy of such information. While we are not aware of any misstatements regarding any industry or similar data presented herein, such data involve risks and uncertainties and are subject to change based on various factors, including those discussed under the "Risk Factors" section in this prospectus.

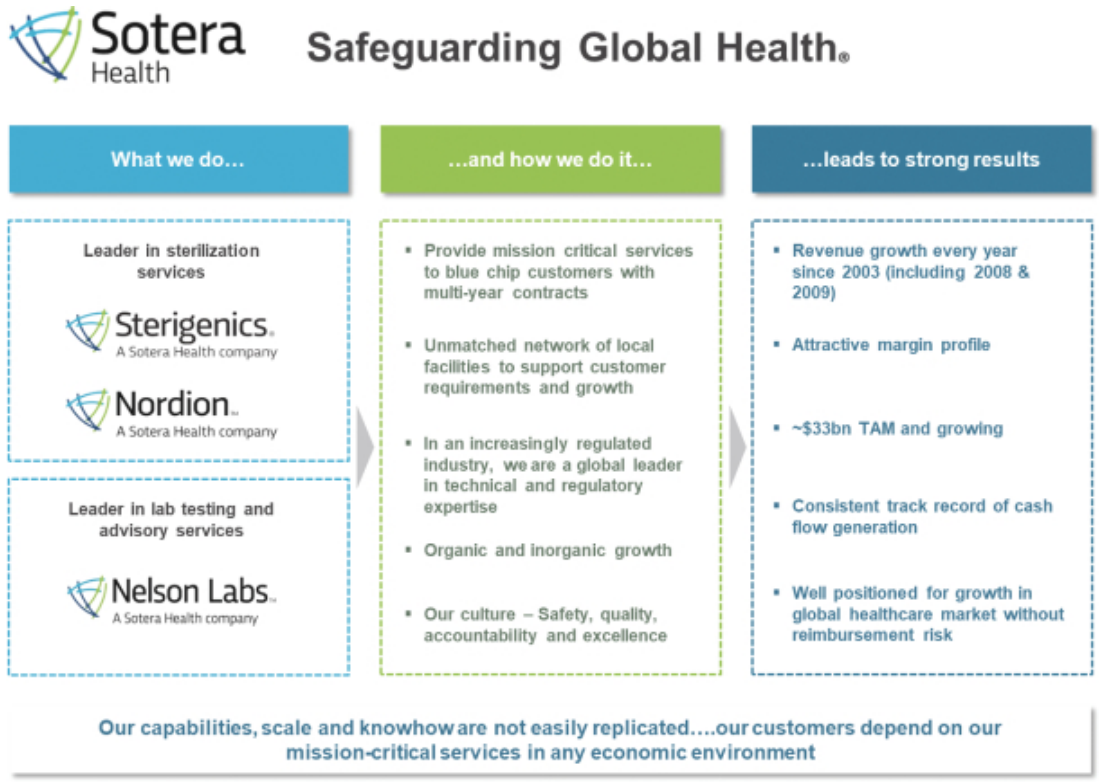
SUMMARY

The following summary highlights selected information about our company and this offering that is included elsewhere in this prospectus in greater detail. It does not contain all of the information that you should consider before investing in our common stock. For a more comprehensive understanding of our company and this offering, you should read this entire prospectus carefully, including the information presented under the heading "Risk Factors," "Cautionary Note Regarding Forward-Looking Statements," "Selected Consolidated Financial Information," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and in our consolidated financial statements and notes thereto.

In this prospectus, unless we indicate otherwise or the context requires, "Sotera Health," "Sotera Health Company," "our company," "the company," "we," "our," "ours" and "us" refer to Sotera Health Topco, Inc. and its consolidated subsidiaries and Sotera Health Company following the corporate reorganization as defined herein.

Our Company

Overview



We are a leading global provider of mission-critical sterilization and lab testing and advisory services to the medical device and pharmaceutical industries. We are driven by our mission: Safeguarding Global Health®. We

provide end-to-end sterilization as well as microbiological and analytical lab testing and advisory services to help ensure that medical, pharmaceutical and food products are safe for healthcare practitioners, patients and consumers in the United States and around the world. Our customers include more than 40 of the top 50 medical device companies and eight of the top ten global pharmaceutical companies (based on revenue). Our services are an essential aspect of our customers' manufacturing process and supply chains, helping to ensure sterilized medical products reach healthcare practitioners and patients. Most of these services are necessary for our customers to satisfy applicable government requirements. We give our customers confidence that their products meet regulatory, safety and effectiveness requirements. With a combined tenure across our businesses of nearly 200 years and our industry-recognized scientific and technological expertise, we help to ensure the safety of millions of patients and healthcare practitioners around the world every year. Across our 63 facilities worldwide, we have nearly 2,900 employees who are dedicated to safety and quality. We are a trusted partner to more than 5,800 customers in over 50 countries.

Our Businesses

We serve our customers throughout their product lifecycles, from product design to manufacturing and delivery, helping to ensure the sterility, effectiveness and safety of their products for the end user. We operate across two core businesses: sterilization services and lab services. Each of our businesses has a long-standing record and is a leader in its respective market, supported and connected by our core capabilities including deep end market, regulatory, technical and logistics expertise. The combination of Sterigenics, our terminal sterilization business, and Nordion, our Cobalt-60 ("Co-60") supply business, makes us the only vertically integrated global gamma sterilization provider in the sterilization industry. This provides us with additional insights and allows us to better serve our customers.

- **Sterilization Services (our Sterigenics and Nordion brands):**
  - Under our Sterigenics brand, we provide outsourced terminal sterilization and irradiation services for the medical device, pharmaceutical, food safety and advanced applications markets. Terminal sterilization is the process of sterilizing a product in its final packaging. It is an essential, and often government-mandated, step in the manufacturing process of healthcare products before they are shipped to end-users. These products include medical protective barriers, including personal protective equipment ("PPE"), procedure kits and trays, implants, syringes, catheters, wound care products, laboratory products and pharmaceuticals. We offer our customers a complete range of outsourced terminal sterilization services, primarily using the three major sterilization technologies: gamma irradiation, ethylene oxide ("EO") processing and electron beam ("E-beam") irradiation.
    - **Gamma irradiation:** A process in which products are exposed to gamma rays emitted by Co-60. Gamma rays can penetrate even dense materials to kill microbes. Gamma is particularly effective at sterilizing high-density medical products such as sutures, surgical tools and stents.
    - **EO processing:** A gas sterilization process in which pallets of packaged goods are loaded into a secure chamber that is then injected with EO gas to penetrate the packaging. EO is the most widely used gaseous sterilization agent in the world and has been in use for nearly 90 years. The broad application to a range of medical devices is attributed to the fact that EO is compatible with many materials that cannot tolerate or are degraded by radiation or moist heat sterilization. For this reason, it is commonly the only method available to safely and effectively sterilize procedure kits, PPE and many devices used in cardiac procedures.
    - **E-beam irradiation:** A process in which products are exposed to machine-generated radiation in the form of a stream of electrons. E-beam is particularly effective for low density homogenous products such as glass labware. Several medical devices products also rely on E-beam as an effective form of sterilization, including certain types of syringes. In addition to medical device

sterilization, E-beam can also be used as an effective technology for materials modification, such as the crosslinking of certain polymers or for enriching the color of gemstones.

- Under our Nordion brand, we are the leading global provider of Co-60 and gamma irradiators, which are key components to the gamma sterilization process. Co-60 is a radioactive isotope that is needed by medical device manufacturers and sterilizers including Sterigenics. Co-60 decays and must be replaced over time to produce the desired level of irradiation. We have the most comprehensive access to nuclear power reactor operators around the world which are able to produce Co-60. The capabilities that we provide to Nordion's customers include handling and processing of Co-60, recycling of depleted sources and global logistics enabled by our licensed container fleet. We are integral to our customers' operations due to highly coordinated and complex installation processes. In addition, under our Nordion brand, we are a leading supplier of Co-60 sources for stereotactic radiosurgery devices (such as the Gamma Knife®), which are used for certain oncology applications.

- **Lab Services (our Nelson Labs brand):**
  - Under our Nelson Labs brand, we are a global leader in outsourced microbiological and analytical chemistry testing and advisory services for the medical device and pharmaceutical industries. We provide our customers mission-critical lab testing services, which assess the product quality, effectiveness, patient safety and end-to-end sterility of products. These services are necessary for our customers' regulatory approvals, product releases and ongoing product performance evaluations.
    - Microbiology testing services help to identify and measure the potential risks of microbes to a product and ensure that the quality of the products is maintained.
    - Analytical chemistry lab testing is also a critical part of the pharmaceutical drug and medical device development and manufacturing process. This testing provides first-hand information as to the content, quality and safety of raw materials, intermediates and finished products.
    - We also provide expert advisory services to aid customers in navigating the regulatory requirements applicable throughout the product lifecycle.

    Nelson Labs serves over 3,800 customers across 13 facilities in the United States, Mexico, Asia and Europe. We have a comprehensive array of over 800 laboratory tests supporting our customers from initial product development and sterilization validation, through regulatory approval and ongoing product testing for sterility, safety and quality assurance. Our customers rely on our expertise in their industries to get their medical device and pharmaceutical products to market.
    - Medical device lab testing services include: microbiology, biocompatibility and toxicology assessments, material characterization, sterilization validation, sterility assurance, packaging validation and distribution simulation, reprocessing validations, facility and process validation and performance validation and verification of PPE barriers and material.
    - Pharmaceutical lab testing services include: microbiology, biocompatibility and toxicology assessments, extractables and leachables evaluations of pharmaceutical containers, sterilization validation, sterility assurance, packaging validation and distribution simulation and facility and process validation.

    Nelson Labs is highly complementary to our sterilization services business. In particular, microbiological testing validates the configuration and effectiveness of the sterilization process.

We believe that our sterilization service offerings, our Co-60 supply capabilities and the broad capabilities of our lab services business give us unique insights and technical expertise to serve the mission-critical needs of medical device and pharmaceutical manufacturers. We believe these provide us with a competitive advantage over other outsourced sterilization and lab testing service providers.

Our Markets and Customers

Medical device and pharmaceutical manufacturers often outsource their sterilization and lab services needs, as the technical and regulatory expertise and infrastructure required to establish those capabilities in-house can result in significant cost and resource burden.

We estimate that the total global addressable market for terminal sterilization and outsourced medical device and pharmaceutical lab testing was approximately $33 billion in 2019. Global terminal sterilization accounted for $3 billion of our estimated total addressable market in 2019. Global outsourced medical device and pharmaceutical lab testing services accounted for approximately $29 billion of our estimated total addressable market in 2019. We believe the following secular trends underpin increasing demand for medical devices and pharmaceuticals: an aging population, increased access to, and demand for, healthcare services globally, growth in healthcare R&D spending and innovation, intensifying regulatory requirements and heightened focus on personal safety. As a service provider to manufacturers, we are not directly exposed to risks associated with reimbursement by public or private payors. We expect that increasing utilization of medical devices, including the equipment and consumables that we sterilize and test, expansion in pharmaceutical development and a growing focus on microbial decontamination (including viruses) will continue to drive growth in our business and provide us the opportunity to expand within our markets.

Our customers depend upon the end-to-end services we provide throughout the lifecycle of their products, from research and development, to product manufacturing and sterilization, as well as ongoing quality control. We often maintain long-term relationships with our customers, which average over a decade across our top 25 customers in 2019. Given the critical nature of our services, a significant portion of our revenues is supported by multi-year contracts. More than 90% of our sterilization services revenues in each of the year ended December 31, 2019 and the six months ended June 30, 2020 were from customers under multi-year contracts. The quality of our service offerings is evidenced by close to 100% renewal rates of our top ten sterilization services customers in 2019 over the past five years. Most of our services are government-mandated and mission-critical, and sterilization services generally represent a small fraction of the total end product cost of medical devices.

Our Network and Expertise

All of the services we provide are highly regulated and require significant technical expertise. To manage these strict regulatory requirements safely and effectively, we have a highly trained and skilled workforce that creates, implements and manages complex quality assurance and environmental health and safety programs, procedures and control systems. We coordinate and communicate with numerous regulatory agencies globally across our businesses on an ongoing and regular basis.

With 63 facilities across our businesses located in 13 countries, our network of global facilities represents a significant competitive advantage in serving the healthcare industry. Our sterilization facilities are often strategically located near our healthcare customers' manufacturing sites or distribution hubs, which is intended to decrease our customers' transportation costs and help them optimize their supply chain and logistics. Our laboratory testing facilities are strategically located in order to meet the demanding and often complex needs of our customers. Extensive capital, technical expertise and regulatory knowledge are required to build, maintain and operate facilities like ours. We estimate that one new sterilization facility can cost over $30 million to build, on average, and require extensive and complex licensing approval and regulatory compliance processes. We estimate that the cost to replace the facilities in our network alone could be as high as $1.5 billion or more, in addition to the technical and regulatory requirements.

For the year ended December 31, 2019, we recorded net revenues of $778.3 million, net loss of $20.4 million and Adjusted EBITDA of $379.9 million. In addition, for the six months ended June 30, 2020, we recorded net revenues of $401.3 million, net income of $5.3 million and Adjusted EBITDA of $206.3 million.

For the definition of Adjusted EBITDA and the reconciliation of these measures from net income (loss), please see "Summary—Summary Historical Consolidated Financial and Other Data."

Industry Overview

We expect several positive secular trends to drive increased demand for our services, including:

- **Favorable demographic trends for healthcare worldwide:** Healthcare demand is increasing globally, driven primarily by an aging population and an increased prevalence of chronic diseases. According to data published by the United Nations in 2019, the global population is expected to increase by 1 billion people by 2025. Of that 1 billion, approximately 300 million will reach age 65 or older, as life expectancies increase. In March 2020, the Centers for Medicare & Medicaid Services (the "CMS") estimated that health expenditures in the United States will increase from approximately 18% of gross domestic product in 2018 to approximately 20% in 2028.
- **Increased demand for healthcare services in global markets:** Stricter healthcare standards coupled with heightened regulatory requirements, greater availability of care and increased patient purchasing power are driving increased demand for healthcare services. In emerging markets, rapid urbanization and rising income, combined with an increase in diseases such as diabetes and cancer, have fueled the growth in access to, and demand for, healthcare services. In addition, the coronavirus ("COVID-19") pandemic has also increased awareness of the importance of decontamination and sterilization. In 2018, the CMS estimated global healthcare costs to be approximately $4 trillion in 2019 and projected they would reach more than $6 trillion by 2027.
- **Growth in R&D spending and innovation across healthcare:** The pharmaceutical and medical device industries are continuously innovating and developing new products, which we anticipate will increase the demand for sterilization and lab services. Worldwide pharmaceutical R&D spend is forecasted to grow steadily at a compound annual growth rate ("CAGR") of approximately 3% between 2019 and 2026, reaching $233 billion by 2026 (EvaluatePharma® July 2020, Evaluate Ltd.). In the medical devices market, the global top twenty companies based on R&D spending spent a combined $18 billion on R&D in 2017. This number is expected to grow at a 4% CAGR, reaching approximately $24 billion by 2024.

Key Strengths

We are a critical service provider in the healthcare value chain. Our customers rely on us to help ensure that medical, pharmaceutical and food products are safe for healthcare practitioners, patients and consumers. We provide services, including sterility assurance, product safety and effectiveness validation, that our customers need to get their products to market and into the hands of their end-users. Our breadth of services, technical and regulatory expertise, as well as our global scale, enable us to provide these mission-critical services which are necessary for Safeguarding Global Health®. These key strengths make us a global leader in our markets.

Comprehensive, global provider of mission-critical sterilization and lab services for the healthcare industry

Our customers value our scale and breadth of services. We offer customers comprehensive sterilization, lab testing and expert advisory services on a global scale. Our customers in the healthcare industry require these services to navigate and operate in an increasingly complex and technical regulatory environment, and we believe we provide a differentiated value proposition to our customers by offering these services in an integrated manner. Our robust sterilization capabilities across all key modalities allow our customers to help ensure the safety of their products prior to delivery to their end-users. We offer over 800 microbiology and analytical chemistry lab tests that, together with our expert advisory services, cover the entirety of the medical device and pharmaceutical product lifecycles to evaluate and ensure that our customers' products meet regulatory

requirements. Our frequent interactions with our customers across multiple facets of their products' lifecycles give us deep and often early insights into the evolving needs of the manufacturers of medical devices and pharmaceuticals. We have a large, global and strategically-located network of facilities that allows us to deploy the full array of our services to our customers where they need us. These comprehensive and global services make us an essential player across the medical device and pharmaceutical value chain.

Industry leading participant in large and growing markets, underpinned by trends in global healthcare

We estimate that the total global addressable market for terminal sterilization and outsourced medical device and pharmaceutical lab testing was approximately $33 billion in 2019. Global terminal sterilization accounted for $3 billion of our estimated total addressable market in 2019. Global outsourced medical device and pharmaceutical lab testing services accounted for $29 billion of our total addressable market in 2019.

Given the mission-critical need for our services within the healthcare industry, our growth historically has been impacted by broader global healthcare trends as opposed to macroeconomic trends. Trends including an aging population and increased access to, and demand for, healthcare services globally, have driven increases in volume demand for medical device and pharmaceutical products. In addition, the need for product enhancement and innovation by manufacturers drives further demand for our services. We believe the sterilization and lab services markets will continue to benefit from these trends, as well as from the increasingly complex regulatory and compliance environment and heightened focus by consumers on personal safety. As our customers continue to focus on innovation of their own products, they have increasingly relied on our expertise and our outsourced services to help them get their products to market. We believe our ability to provide end-to-end sterilization and lab services makes us a trusted partner to our customers in these large and growing markets.

Sterilization services business with an established and durable customer base supported by long-term contracts provides highly recurring revenue streams

We provide expertise and end-to-end sterilization services for our customers leading to deep, trusted relationships that allow them to meet their global regulatory compliance needs. Our relationships with our Sterigenics and Nordion customers are typically governed by multi-year contracts with cost pass-through provisions, which have resulted in recurring revenue streams and accretive growth. In addition, these customers often look to us as a long-term provider given switching providers can be costly and burdensome. For example, in most circumstances, switching providers requires additional testing, re-validation and Food and Drug Administration ("FDA") submissions and can take anywhere from six months to three years depending upon the class of product. Our relationships with our top ten sterilization services customers in 2019 had an average tenure of over a decade. Our partnerships with these customers have led to close to 100% renewal rates over the past five years.

Expertise and strong track record in highly regulated markets

We and our customers operate in highly complex and regulated markets that require deep knowledge and technical expertise. We believe that the operational discipline that we employ to manage intricate quality assurance and environmental health and safety ("EH&S") programs in our own operations gives our customers confidence that we are the best partner to support them in their businesses. For example, we design and install emission controls in our EO facilities that often outperform the regulatory standards that we are required to meet. We also have a skilled team which has developed trusted relationships with numerous regulatory bodies around the world. For example, in 2019 we were selected by the FDA as one of eight participants to move to the next stage of a public innovation challenge to encourage the development of new approaches to medical device sterilization and new strategies to reduce EO emissions. We work closely with our customers, the FDA and others to consider enhanced EO cycle design and processes that would reduce EO emissions from the EO

sterilization process to as close to zero as reasonably possible. Our relationships, combined with our thought leadership that is recognized by regulators and customers alike, enable us to inform the process of creating, interpreting and advising on safety standards. They also allow us to educate and advise our customers on current and newly evolving standards and requirements.

Global scale and integrated facility network provide differentiated services to our customers

We have a global network of 63 facilities, consisting of 50 sterilization services facilities and 13 labs, through which we provide services to more than 5,800 customers that have operations in over 50 countries. We have worked to standardize our enterprise resource planning, global quality and EH&S systems to integrate our network of facilities globally. This integration is critical for our customers, who operate globally and look for partners that can provide the same level of service, experience and expertise wherever they operate. We serve many of our sterilization customers at more than one facility, with more than 80% of Sterigenics' net revenues attributable to customers using more than one of our facilities and more than 50% of Sterigenics' net revenues attributable to customers using five or more of our facilities in 2019. The capital to replicate the scale of our global facility network, extensive and complex upfront licensing processes and intense regulatory compliance requirements make it extremely difficult for new competitors to easily enter our markets and replicate our scale. The combination of Sterigenics and Nordion makes us the only vertically integrated global supplier of gamma irradiation services, which allows Nordion to more confidently make long-term investments to expand Co-60 supply for the medical products sterilization industry. We believe our global scale, supported by our integrated facility network and core capabilities including deep end market, regulatory, technical and logistics expertise, will allow us to continue to expand our service offerings and customer base.

Experienced management team with proven track record of execution and financial performance

Our management team has significant industry expertise, an unwavering commitment to operational excellence and a proven track record of delivering financial performance. Our culture of accountability runs throughout the entire organization and has contributed meaningfully to our operational achievements and commercial success. Our management team is supported by nearly 2,900 team members around the world who are dedicated to safety and quality, which is why we are a trusted partner to our customers. We have delivered revenue growth every year since 2003, even through significant economic downturns, and have implemented productivity initiatives which have led to margin expansion. Our team brings extensive experience and is highly skilled at recognizing and acting upon market expansion opportunities. Our disciplined approach to M&A has enabled the successful integration of two transformational and seven bolt-on acquisitions over the past six years. In addition, we are disciplined in our capital deployment strategy, which is focused on achieving attractive returns on investment. We pursue capacity expansions that will allow us to consistently grow earnings.

Our Strategy

Our strategy is designed to deliver on our mission of Safeguarding Global Health®, while generating sustainable growth, margins and cash flows for our business:

Drive organic growth by leveraging our leading capabilities, scale and global network

We believe that our established and durable relationships with our diverse customer base, along with the breadth and depth of our service offerings, provide us with a distinct leadership position within the markets that we serve. Our deep experience in sterilization and lab services allows us to be agile in identifying opportunities and decisive in deploying resources towards these opportunities to drive organic growth. We intend to continue capitalizing on our leadership position and integrated global facility network and capabilities to drive our growth by expanding existing customer relationships and attracting new customers. We also seek to accelerate our penetration in high-growth end-markets such as pharmaceuticals.

Deepen our customer relationships with our comprehensive service offerings in sterilization and lab services

Our customers around the world trust us to provide them with the highest quality sterilization and lab services. We are focused on broadening the number and range of services that each of our customers purchase from us by leveraging our core capabilities. We have continued to work on improving our customer interactions in order to deliver a "one company" experience across our sterilization and lab services so that we can further deepen our customer relationships. We provide comprehensive end-to-end services across our customers' value chains so they can efficiently deliver the safest products to their end-users. We are the only industry player that offers the range of sterilization and lab services at the scale that we do. We strive for the full integration of our global operations to drive consistency across our services and provide our customers with a coordinated and seamless experience, designed to reduce cycle times for our services and improve efficiency. Our offerings facilitate long-term partnerships with our customers and make us an integral part of their product development and commercialization processes. We have multiple decades of deep expertise across key sterilization modalities as well as lab testing services across our customers' full product lifecycles. We provide over 800 laboratory tests, which we believe is multiple times the number of offerings of our nearest competitor.

Expand footprint to meet the local needs of our growing global customer base

We are focused on aligning our facility network to best meet our customers' requirements. We believe our valuable insight into our customers' current and future needs will allow us to efficiently grow our business. Our global presence reflects our commitment to developing our footprint to serve our customers' supply chains. Our integrated network of facilities is important to our customers as they can rely on the same level of service at each of our facilities, regardless of where they are around the world. We believe our sterilization services customers are seeking a partner that can operate near their manufacturing sites and distribution centers around the world, as transportation and logistics costs can be meaningful for our customers. In certain circumstances we will invest in projects to build capacity ahead of demand in alignment with the strategic plans of our customers. Our lab services customers are seeking expertise with both international and U.S. regulatory bodies. As our customers expand their global operations, we are well-equipped to expand with them and serve them where they need us.

Invest in technical and regulatory capabilities to enhance our leadership position

Our customers depend on our deep and extensive technical knowhow to get their products to market. We plan to continue to invest in our technical expertise and regulatory knowhow to stay ahead of the dynamic and increasingly complex regulatory landscape in the healthcare industry. Our combination of technical and regulatory expertise allows us to advance the standards of safety for crucial products whose end-users include healthcare practitioners and patients. As customers look to us for expertise, this landscape creates opportunities for us to drive growth in our advisory services offering. We believe that our position as a key industry thought leader makes us a trusted partner for customers as they are developing new products and a respected industry partner for regulators as they are defining industry standards of safety for the future.

Continue our commitment to operational excellence to drive business efficiency and results

Our focus on operational excellence has allowed us to increase capacity utilization and improve working capital, thereby growing our revenues while expanding margins and improving the customer experience. Our commitment to implementing and improving customer-experience enhancing initiatives and internal processes has been a key driver of our strong financial profile to date. Our customer-facing initiatives around cycle time reduction, quality self-service reporting, purchase order accuracy and scheduling efficiencies highlight our rigorous, detail-oriented approach to operational excellence and connectivity with our long-time customers. These initiatives are designed not only to reduce turnaround times and increase predictability of service for our customers, but also to maximize our financial results. We will continue to address our customers' expectations through our internal processes centered on talent management, quality, EH&S and information technology. We believe that these processes will enable us to continue to deliver growth, profitability and cash generation.

Pursue value creating strategic acquisitions to expand our addressable market and enhance our global capabilities and footprint

Our disciplined approach to M&A has resulted in our successful track record of identifying, completing and integrating strategic acquisitions into our company and we intend to continue to pursue value-creating strategic acquisitions. We have implemented a disciplined framework to support our acquisition efforts that focuses on quality businesses that are well-regarded by our customers and aligned with our culture of accountability, customer service and operating with integrity. Illustrating this highly disciplined acquisition framework are our two transformational acquisitions of Nordion and Nelson Labs. In addition to these major acquisitions, we acquired FTSI, Gammarad, CBE, REVISS, Toxikon Europe NV, Gibraltar Laboratories and Iotron Industries Canada, Inc. ("Iotron"), which provided geographic, technical and service line expansions. Our acquisition of Nelson Labs expanded our capabilities by creating an enhanced lab services platform to provide microbiology testing within our existing customer end-markets and increasing the number of tests we could provide to our customers. We have a strong foundation to continually evaluate acquisition opportunities that would expand our addressable market and enhance our global capabilities and footprint. We are well positioned to evaluate other acquisitions that leverage our core capabilities while expanding our existing customer relationships. We currently have a significant pipeline of targets, ranging from small, owner operated businesses to larger businesses, and believe that we can identify the appropriate targets and integrate them seamlessly into our business.

Risk Factor Summary

Investing in our common stock involves a high degree of risk. These risks are discussed in more detail in "Risk Factors" beginning on page 21, and you should carefully consider these risks before making a decision to invest in our common stock. The following is a summary of some of the principal risks we believe we face:

- disruption in the availability of, or increases in the price of, EO, Co-60 or our direct materials, services and supplies, including as a result of geopolitical instability arising from U.S. relations with Russia and related sanctions;
- changes in industry trends, environmental, health and safety regulations or preferences and general economic, social and business conditions;
- health and safety risks associated with the use, transportation and disposal of potentially hazardous materials such as EO and Co-60;
- the impact and outcome of current and future legal proceedings and liability claims, including those relating to EO;
- compliance with regulatory requirements to which we are subject and the related costs, and any failures to receive or maintain, or delays in receiving, required clearance or approvals;
- competition we face;
- business continuity hazards and other risks associated with our operations;
- our ability to increase capacity at existing facilities, renew leases for our facilities and build new facilities in a timely and cost-effective manner;
- the risks of doing business internationally;
- cyber security breaches and data leaks, and our dependence on information technology systems;
- any inability to pursue strategic transactions, including to find suitable acquisition targets, and our failure to integrate strategic acquisitions successfully into our existing business or realize anticipated cost savings or synergies;

- any inability to implement effective internal controls over financial reporting;
- our substantial leverage could adversely affect our ability to raise additional capital, limit our ability to react to changes in the economy or our industry and prevent us from meeting our obligations under our existing and future indebtedness; and
- the Sponsors will continue to have substantial control over us after this offering, which could limit your ability to influence the outcome of key transactions, including a change of control.

Corporate Information and Structure

Sotera Health Topco, Inc. was incorporated in Delaware in November 2017 as the parent company for Sterigenics, Nordion and Nelson Labs. In May 2015, investment funds and entities affiliated with Warburg Pincus LLC ("Warburg Pincus") and GTCR, LLC ("GTCR") acquired a controlling interest in our predecessor through Sterigenics-Nordion Topco Parent LLC, now known as Sotera Health Topco Parent, L.P. ("Topco Parent"). The issuer in this offering, Sotera Health Topco, Inc., is a Delaware corporation and is a direct wholly owned subsidiary of Topco Parent. Pursuant to the terms of the corporate reorganization that will be completed concurrently with, or prior to, the completion of this offering, Topco Parent will distribute the shares of Sotera Health Topco, Inc. common stock to its partners in accordance with the limited partnership agreement of Topco Parent. For more information on our corporate reorganization and ownership of our common stock, see "Corporate Reorganization" and "Principal Stockholders."

Our principal executive offices are located at 9100 South Hills Blvd, Suite 300 Broadview Heights, Ohio 44147, and our telephone number is (440) 262-1410. On , 2020, we changed our named from Sotera Heath Topco, Inc. to Sotera Health Company. Our corporate website address is www.soterahealth.com. We do not incorporate the information contained on, or accessible through, our corporate website into this prospectus, and you should not consider it part of this prospectus.

Our wholly owned subsidiary, Sotera Health Holdings, LLC ("SHH") is the borrower under our senior secured first lien credit facilities and the issuer of our senior secured first lien notes and our senior secured second lien notes. We and certain of our domestic subsidiaries are guarantors of SHH's obligations under our credit facilities and notes.

Principal Stockholders

Following this offering, certain investment funds and entities affiliates of Warburg Pincus and GTCR, which we refer to collectively as the "Sponsors," will own approximately % of our common stock (approximately % if the underwriters' option to purchase additional shares is exercised in full). Together the Sponsors will own, in the aggregate, approximately % of our common stock (approximately % if the underwriters' option to purchase additional shares is exercised in full).

Warburg Pincus is a global private equity firm focused on growth investing. The firm's active portfolio of more than 185 companies is highly diversified by stage, sector and geography. It has invested approximately $12.3 billion of equity in the healthcare industry, and possesses direct knowledge of the sterilization services industry's end markets and medical device customers through its investments in other healthcare companies. Warburg Pincus is an experienced partner to management teams seeking to build durable companies with sustainable value. Founded in 1966, Warburg Pincus has raised over 20 private equity funds with capital commitments totaling $99 billion and has invested more than $88 billion in over 930 companies across 40 countries. The firm is headquartered in New York with offices in Beijing, Berlin, Hong Kong, Houston, London, Mumbai, San Francisco, São Paulo, Shanghai and Singapore.

Founded in 1980, GTCR is a private equity firm focused on investing in growth companies in the Healthcare, Technology, Media & Telecommunications, Financial Services & Technology and Growth Business Services industries. The Chicago-based firm pioneered The Leaders Strategy™–finding and partnering with management leaders in core domains to identify, acquire and build market-leading companies through transformational acquisitions and organic growth. Since its inception, GTCR has invested more than $18 billion in over 200 companies. GTCR is an active investor in the healthcare products sector and has supported Sotera Health's significant growth since 2011.

Pursuant to certain agreements to be entered into prior to the consummation of this offering in connection with the corporate reorganization, we will be required to take all necessary action to cause our board of directors to include individuals designated by the Sponsors pursuant to certain ownership thresholds. Warburg Pincus and GTCR, individually, will be required to vote all of their shares, and take all other necessary actions, to cause our board of directors to include the individuals designated as directors by Warburg Pincus and GTCR, as applicable. After the completion of this offering, the Sponsors will control a majority of the voting power of shares of our common stock with respect to the election of directors.

Channels for Disclosure of Information

Following the completion of this offering, we intend to announce material information to the public through filings with the SEC, the investor relations page on our website (www.soterahealth.com), press releases, public conference calls and public webcasts.

Any updates to the list of disclosure channels through which we will announce information will be posted on the investor relations page on our website.

Implications of Being an Emerging Growth Company

We qualify as an "emerging growth company" as defined in Section 2(a) of the Securities Act, as modified by the Jumpstart Our Business Startups Act of 2012 (the "JOBS Act"). As an emerging growth company, we may choose to take advantage of specified reduced disclosure and other requirements otherwise applicable generally to public companies that are not emerging growth companies.

We may take advantage of these exemptions until such time that we are no longer an emerging growth company. We will remain an emerging growth company until the earliest of (i) the last day of the fiscal year following the fifth anniversary of the completion of this offering, (ii) the last day of the fiscal year in which we have total annual gross revenue of at least $1.07 billion, (iii) the date on which we are deemed to be a large accelerated filer under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), which means the market value of our common stock that is held by non-affiliates exceeds $700.0 million as of the prior June 30 and (iv) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period. We may choose to take advantage of some but not all of these reduced disclosure obligations in future filings. If we do, the information that we provide to stockholders may be different than you might get from other public companies in which you hold stock.

Under the JOBS Act, emerging growth companies can also delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have elected to take advantage of the extended transition period for complying with new or revised accounting standards until those standards would otherwise apply to private companies or at which time we conclude it is appropriate to avail ourselves of early adoption provisions of applicable standards. As a result, our results of operations and financial statements may not be comparable to the results of operations and financial statements of other companies who have adopted the new or revised accounting standards.

The Offering

Common stock offered by us	shares.
Underwriters' option to purchase additional shares	We may sell up to additional shares if the underwriters exercise their option to purchase additional shares.
Common stock to be outstanding after this offering	shares (or shares if the underwriters exercise their option to purchase additional shares in full).
Use of proceeds	We estimate that our net proceeds from this offering will be approximately $ (or approximately $ if the underwriters exercise their option to purchase additional shares in full) at an assumed initial public offering price of $ per share, the midpoint of the estimated offering price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and offering expenses. We intend to use a portion of the net proceeds of this offering to repay $ of our indebtedness, and the balance for working capital and general corporate purposes, which may include the acquisitions of or investments in complementary products, services, technologies or businesses. See "Use of Proceeds."
Dividend policy	We do not expect to pay dividends on our common stock for the foreseeable future. Instead, we anticipate that all of our earnings in the foreseeable future will be used for the operation and growth of our business and the repayment of indebtedness. See "Dividend Policy."
Risk factors	Investing in our common stock involves a high degree of risk. See "Risk Factors" for a discussion of factors you should carefully consider before deciding to invest in our common stock.
Stockholders' agreement	Following the completion of this offering, we will have a stockholders' agreement with certain holders of our common stock, including the Sponsors, that will provide certain rights to those holders. See "Certain Relationships and Related Party Transactions—Stockholders' Agreement."
Registration rights agreement	Following the completion of this offering, we will have a registration rights agreement with certain holders of our common stock, including the Sponsors, whereby, following this offering and the expiration of the lock-up agreement with the underwriters in this offering, we may be required to register under the Securities Act the sale of shares of our common stock under specified circumstances. See "Certain Relationships and Related Party Transactions—Registration Rights Agreement."
Proposed symbol	" "

The number of shares of common stock to be outstanding after the offering is based on shares of common stock outstanding as of June 30, 2020 and shares to be sold in the offering and an assumed initial public offering price of $ per share (the midpoint of the estimated offering price range set forth on the cover page of this prospectus).

The number of shares of common stock to be outstanding after this offering does not take into account an aggregate of shares of common stock reserved for future issuance under our new equity incentive plan (the "New Equity Plan"), which will become effective in connection with this offering. See "Executive Compensation—Equity Incentive Plan."

In addition, except as otherwise noted, all information in this prospectus:

- gives effect to a -for-1 stock split on our common stock effected on , 2020;
- assumes the completion of our corporate reorganization concurrently with, or prior to, the completion of this offering. See "Corporate Reorganization";
- gives effect to the amendment and restatement of our certificate of incorporation and amendment and restatement of our bylaws upon the closing of this offering; and
- assumes the underwriters do not exercise their option to purchase additional shares of our common stock.

Summary Historical Consolidated Financial and Other Data

The following tables present our summary historical consolidated financial and other data. The summary historical consolidated statements of operations data and statements of cash flows data for the years ended December 31, 2019 and 2018, and the summary historical balance sheet data as of December 31, 2019 and December 31, 2018, have been derived from our audited consolidated financial statements included elsewhere in this prospectus. The summary historical consolidated statements of operations data and statements of cash flows data for the six months ended June 30, 2020 and 2019 and the summary historical consolidated balance sheet data as of June 30, 2020 have been derived from our unaudited interim condensed consolidated financial statements included elsewhere in this prospectus. Our unaudited interim condensed consolidated financial statements have been prepared on the same basis as our audited consolidated financial statements and, in the opinion of our management, reflect all adjustments, including normal recurring items, considered necessary for a fair presentation of this data.

The following summary consolidated financial data should be read in conjunction with the information contained in "Use of Proceeds," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and related notes thereto included elsewhere in this prospectus. Our historical results are not necessarily indicative of our results in any future period and our results for any interim period are not necessarily indicative of results that may be expected for any full fiscal year.

Statement of Operations Data: *(in thousands, except per share amounts)*	**Year Ended December 31,**		**Six Months Ended June 30,**	
	2019	**2018**	**2020**	**2019**
Revenues:				
Service	$673,037	$615,510	$ 341,849	$ 328,482
Product	105,290	130,639	59,436	61,038
Total net revenues	778,327	746,149	401,285	389,520
Cost of revenues:				
Service	333,290	326,559	163,689	164,467
Product	49,606	62,338	22,112	27,087
Total cost of revenues	382,896	388,897	185,801	191,554
Gross profit	395,431	357,252	215,484	197,966
Operating expenses:				
Selling, general and administrative expenses	147,480	133,363	79,737	65,903
Amortization of intangible assets	58,562	57,975	29,140	29,504
Impairment of long-lived assets	5,792	34,981	—	—
Impairment of GA-MURR intangible assets	—	50,086	—	—
Total operating expenses	211,834	276,405	108,877	95,407
Operating income	183,597	80,847	106,607	102,559
Interest expense, net	157,729	143,326	111,812	75,127
Loss on extinguishment of debt	30,168	—	—	—
Foreign exchange (gain) loss	3,862	13,075	(799)	877
Gain on sale of Medical Isotopes business	—	(95,910)	—	—
Other income, net	(7,246)	(3,866)	(1,208)	(4,908)
Income (loss) before income taxes	(916)	24,222	(3,198)	31,463
Provision (benefit) for income taxes	19,509	30,098	(8,464)	18,592
Net income (loss)	(20,425)	(5,876)	5,266	12,871
Less: Net income (loss) attributable to noncontrolling interests	425	(6)	213	186
Net income (loss) attributable to the company	$ (20,850)	$ (5,870)	$ 5,053	$ 12,685

Statement of Operations Data: (in thousands, except per share amounts)	Year Ended December 31, 2019	Year Ended December 31, 2018	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019
Other comprehensive (loss) income, net of tax:				
Pension and post-retirement benefits	$ (12,126)	$ 873	$ 1,240	$ (585)
Interest rate swaps	179	—	(2,014)	—
Foreign currency translation	27,402	(67,917)	(48,527)	25,104
Comprehensive income (loss)	(4,970)	(72,920)	(44,035)	37,390
Less: comprehensive income attributable to noncontrolling interests	310	(186)	212	71
Comprehensive income (loss) attributable to the company	$ (5,280)	$ (72,734)	$ (44,247)	$ 37,319
Earnings (loss) per share:				
Basic and Diluted	$ (6,950)	$ (1,957)	$ 1,684	$ 4,228
Weighted-average shares used to compute earnings (loss) per share:				
Basic and Diluted	3,000	3,000	3,000	3,000
Pro forma earnings (loss) per share (unaudited):(a)				
Basic	$		$	
Diluted	$		$	
Pro forma weighted-average shares used to compute earnings (loss) per share (unaudited):(a)				
Basic				
Diluted				
Pro forma as adjusted earnings (loss) per share (unaudited):(a)(b)				
Basic	$		$	
Diluted	$		$	
Pro forma as adjusted weighted-average shares used to compute earnings (loss) per share (unaudited):(a)(c)				
Basic				
Diluted				
Selected cash flow data:				
Net cash provided by operating activities	$ 149,041	$ 119,563	$ 52,687	$ 78,033
Net cash provided by (used in) investing activities(d)	(57,257)	96,638	(23,438)	(24,868)
Net cash used in financing activities	(126,030)	(191,857)	(6,518)	(17,449)
Other data:				
Adjusted EBITDA(e)	$ 379,932	$ 340,637	$ 206,312	$ 190,039

(a) The pro forma and pro forma as adjusted data give effect to the completion of our corporate reorganization prior to the completion of this offering.

(b) Pro forma as adjusted earnings (loss) per share has been adjusted to reflect $ million and million of lower interest expense, net of taxes, for the year ended December 31, 2019 and the six months ended June 30, 2020, respectively, related to the repayment of $ of principal amount outstanding under our , using a portion of the proceeds of this offering as if such indebtedness had been repaid as of the beginning of the period.

(c) Pro forma as adjusted weighted-average shares include those shares of common stock to be issued in this offering necessary to pay down $ million principal amount outstanding under our , based on an assumed initial public offering price of $ per share (the midpoint of the estimated offering price range set forth on the cover page of this prospectus). Such shares are assumed to have been issued as of the date

such indebtedness was incurred for the year ended December 31, 2019 and as of the beginning of the six months ended June 30, 2020.

(d) Includes purchases of property, plant and equipment of $57,257, $72,613, $23,438 and $24,868, respectively (which includes Co-60 held at gamma irradiation sites).

(e) Adjusted EBITDA is a non-GAAP financial measure. For a definition of Adjusted EBITDA and a reconciliation to net income (loss), see "—Non-GAAP Financial Measures."

	As of December 31,		As of June 30, 2020[a]		
	2019	2018	Actual	Pro Forma[a] (unaudited)	Pro Forma As Adjusted [b][c] (unaudited)
Balance Sheet Data (as of period end): *(in thousands)*					
Cash and cash equivalents	$ 62,863	$ 96,272	$ 86,195	$	$
Working capital[d]	128,364	169,488	144,489		
Total assets	2,580,674	2,708,584	2,558,977		
Total long-term debt (including current portion)	2,817,204	2,204,906	2,816,414		
Total liabilities	3,221,806	2,663,093	3,241,027		
Total equity (deficit) attributable to the company	(642,574)	44,359	(683,704)		
Noncontrolling interests	1,442	1,132	1,654		
Total equity (deficit)	(641,132)	45,491	(682,050)		

(a) The pro forma balance sheet data give effect to the completion of our corporate reorganization prior to the completion of this offering (see "Corporate Reorganization").

(b) The pro forma as adjusted balance sheet data gives further effect to (a) the sale of shares of our common stock in this offering at an assumed initial public offering price of $ per share (the midpoint of the estimated offering price range on the cover of this prospectus), after deducting underwriting discounts and commissions and estimated offering expense, and (b) the application of the net proceeds from this offering to repay $ million of our outstanding indebtedness (as described under "Use of Proceeds").

(c) Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, would decrease or increase each of our total long-term debt and total liabilities by $ million and increase or decrease each of our total equity (deficit) attributable to the company and total equity (deficit) by $ million, assuming no change in the assumed number of shares offered by us, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each increase or decrease of 1.0 million shares in the number of shares offered by us would decrease or increase each of our total long-term debt and total liabilities by $ million and increase or decrease each of our total equity (deficit) attributable to the company and total equity (deficit) by $ million, assuming no change in the assumed initial public offering price and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

(d) Working capital represents current assets less current liabilities.

Non-GAAP Financial Measures

To supplement our consolidated financial statements presented in accordance with GAAP, we consider Adjusted EBITDA, a financial measure that is not based on any standardized methodology prescribed by GAAP.

We define Adjusted EBITDA as net income (loss) before interest expense, net, depreciation and amortization (which includes depreciation of Co-60 used in our operations) and certain other adjustments that we do not consider in our evaluation of our ongoing operating performance from period to period as discussed further below.

We use Adjusted EBITDA, a non-GAAP financial measure, as the principal measure of our operating performance. Management believes Adjusted EBITDA is useful because it allows management to more effectively evaluate our operating performance and compare the results of our operations from period to period without the impact of certain non-cash items and non-routine items that we do not expect to continue at the same level in the future and other items that are not core to our operations. We believe that Adjusted EBITDA is useful to our investors because it provides a more complete understanding of the factors and trends affecting our business than could be obtained absent this disclosure. In addition, we believe Adjusted EBITDA will assist investors in making comparisons to our historical operating results and analyzing the underlying performance of our operations for the periods presented. Our management also uses Adjusted EBITDA in their financial analysis and operational decision-making and it serves as the metric for attainment of our primary annual incentive program. Adjusted EBITDA may be calculated differently from, and therefore may not be comparable to, a similarly titled measure used by other companies.

Adjusted EBITDA should not be considered in isolation from, or as a substitute for, financial information prepared in accordance with GAAP. There are a number of limitations related to the use of Adjusted EBITDA rather than net income (loss), the nearest GAAP equivalent. For example, Adjusted EBITDA excludes:

- certain recurring, non-cash charges such as depreciation of fixed assets, although these assets may have to be replaced in the future, as well as amortization of acquired intangible assets and asset retirement obligations;
- costs of acquiring and integrating businesses, which will continue to be a part of our growth strategy;
- non-cash gains or losses from fluctuations in foreign currency exchange rates, primarily related to remeasurement of intercompany loans denominated in currencies other than subsidiaries' functional currencies, and the mark-to-fair value of embedded derivatives relating to certain customer and supply contracts at Nordion;
- impairment charges on long-lived assets and intangible assets;
- expenses and charges related to the litigation and other activities associated with our ethylene oxide sterilization facilities in Willowbrook, Illinois and Atlanta, Georgia, even though that litigation remains ongoing;
- interest expense or the cash requirements necessary to service interest or principal payments on our indebtedness; and
- share-based compensation expense, which has been, and will continue to be for the foreseeable future, a significant recurring expense and an important part of our compensation strategy.

In evaluating Adjusted EBITDA, you should be aware that in the future, we will incur expenses similar to the adjustments in this presentation. Our presentations of Adjusted EBITDA should not be construed as suggesting that our future results will be unaffected by these expenses or any unusual or non-recurring items. When evaluating our performance, you should consider Adjusted EBITDA alongside other financial performance measures, including our net income (loss) and other GAAP measures.

The following table presents a reconciliation of net income (loss), the most directly comparable financial measure calculated and presented in accordance with GAAP to Adjusted EBITDA, for each of the periods indicated:

(in thousands)	Year Ended December 31, 2019	Year Ended December 31, 2018	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019
Net income (loss)	$ (20,425)	$ (5,876)	$ 5,266	$ 12,871
Interest expense, net	157,729	143,326	111,812	75,127
Provision (benefit) for income taxes	19,509	30,098	(8,464)	18,592
Depreciation and amortization (a)	146,719	146,816	71,057	73,576
Impairment of long-lived assets and intangible assets (b)	5,792	85,067	—	—
Gain on sale of Medical Isotopes business (c)	—	(95,910)	—	—
Share-based compensation (d)	16,882	6,943	3,118	3,454
One-time bonuses (e)	2,040	—	—	—
(Gain) loss on foreign currency and embedded derivatives (f)	2,662	14,095	1,244	(967)
Acquisition and divestiture related charges, net (g)	(318)	1,168	2,289	(558)
Business optimization project expenses (h)	4,195	8,805	1,799	1,165
Plant closure expenses (i)	1,712	—	1,222	—
Loss on extinguishment of debt (j)	30,168	—	—	—
Professional services relating to Willowbrook and Atlanta facilities (k)	11,216	4,739	13,640	5,805
Accretion of asset retirement obligation (l)	2,051	1,366	982	974
COVID-19 expenses (m)	—	—	2,347	—
Adjusted EBITDA	$ 379,932	$ 340,637	$ 206,312	$ 190,039

(a) Includes depreciation of Co-60 held at gamma irradiation sites.

(b) For 2019, represents impairment charges related to the decision to not reopen the Willowbrook facility in September 2019. For 2018, represents impairment charges associated with the withdrawal of the GA-MURR project.

(c) Represents the gain on the divestiture of the Medical Isotopes business in July 2018.

(d) Represents non-cash share-based compensation expense. In 2019, also includes $10.0 million of one-time cash share-based compensation expense related to the Class C Performance Vesting Units, which vested in the third quarter of 2019 based on the achievement of the aggregate distributions to the A Unitholder partners and the approval of the board of Topco Parent for accelerated vesting.

(e) Represents one-time cash bonuses for members of management relating to capital markets activity in 2019.

(f) Represents the effects of (i) fluctuations in foreign currency exchange rates, primarily related to remeasurement of intercompany loans denominated in currencies other than subsidiaries' functional currencies and (ii) non-cash mark-to-fair value of embedded derivatives relating to certain customer and supply contracts at Nordion.

(g) Represents (i) certain direct and incremental costs related to the acquisition of Toxikon Europe NV ("Nelson Europe") in 2017, Gibraltar Laboratories, Inc. ("Nelson Fairfield") in 2018 and Iotron in July 2020, and certain related integration efforts as a result of those acquisitions, (ii) the earnings impact of fair value adjustments (excluding those recognized within amortization expense) resulting from the businesses acquired and (iii) transition services income and non-cash deferred lease income associated with the terms of the divestiture of the Medical Isotopes business in 2018.

(h) Represents professional fees, contract termination and exit costs, severance and other payroll costs, and other costs associated with business optimization and cost savings projects relating to the integrations of

Nordion and Nelson Labs, including the divestiture of our Medical Isotopes business, the withdrawal from the GA-MURR project, the Sotera Health rebranding, operating structure realignment and other process enhancement projects.

(i) Represents professional fees, severance and other payroll costs, and other costs associated with the closure of the Willowbrook facility.

(j) Represents one-time expenses incurred in connection with the refinancing of our debt capital structure in December 2019, including accelerated amortization of prior debt issuance and discount costs, premiums paid in connection with early extinguishment and debt issuance and discount costs incurred for the new debt.

(k) Represents professional fees related to litigation associated with our EO sterilization facilities in Willowbrook and Atlanta and other related professional fees. See “Business—Legal Proceedings.”

(l) Represents the non-cash accretion of asset retirement obligations related to Co-60 and gamma processing facilities, which are based on estimated site remediation costs for any future decommissioning of these facilities (without regard for whether the decommissioning services would be performed by employees of Nordion, instead of by a third party) and are accreted over the life of the asset.

(m) Represents non-recurring costs associated with COVID-19, including donations to related charitable causes and special bonuses for front-line personnel working on-site during lockdown periods.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the following risks before deciding to invest in our common stock. The occurrence of any of the following risks could harm our business, revenue and financial results. In addition, risks and uncertainties that are not presently known to us or that we currently believe are immaterial could also harm our business, revenue and financial results. If any of these risks occur, the value of our common stock could decline and you may lose all or part of your investment.

Risks Related to the Company

We depend on a limited number of counterparties that provide the materials and resources we need to operate our business. Any disruption in the availability of, or increases in the price of, EO, Co-60 or our other direct materials, services and supplies, including as a result of current geopolitical instability arising from U.S. relations with Russia and related sanctions, may have a material adverse effect on our operating results.

We purchase certain direct materials, equipment and services necessary for the provision of our specialized products and services from a sole or limited number of suppliers and subcontractors, and purchase large quantities of product from an individual supplier in certain cases. If one or more of our significant suppliers or service providers were unable to meet their obligations under present arrangements, direct materials or equipment were to become unavailable within the geographic area from which they are now sourced, or supplies were otherwise constrained or disrupted for any reason (including as a result of a natural disaster or other adverse occurrence), we may incur increased costs for our direct materials or equipment and may be unable to accommodate new business or meet our current customer commitments. For example, in the United States there is a single supplier of EO for our sterilization business. Further, our reliance on a single or limited number of suppliers may limit our negotiating power, particularly during times of rising direct material costs.

We source a substantial portion of our Co-60 supply from three nuclear reactor operators in Canada and Russia under contracts that extend to between 2024 and 2064. See “Business—Our Businesses—Nordion—Nuclear Reactor Operators.” If there were a decrease in output or disruption at any of these reactors (including as a result of a natural disaster or other adverse occurrence), the counterparties failed to perform under their agreements with us or declined to enter into renewal contracts with us for our future supply needs and we are unable to obtain supply from other sources, or if such sources begin to compete with us in one or more geographies, this could have a material adverse effect on our business. In addition, a number of reactors that have the capacity to generate Co-60 are government owned. Priorities of governments can change. Any repurposing of a government-owned reactor that generates Co-60 for an alternative use has in the past and could in the future lead to a decrease in Co-60 availability, which could have a material adverse effect on our business, prospects, financial condition or results of operations.

Further, approximately 20% of our supply of Co-60 currently is generated by Russian nuclear reactors. Over the next few years, we expect that there will be periods when, due to planned or unplanned outages and variability in supply from individual reactors, the proportion of our supply from Russian reactors may increase to as much as 50% for a given year. The United States, Canada and the European Union have imposed sanctions against Russian officials and certain Russian companies and individuals. Russia has responded with countermeasures, including limiting the import of certain goods from the United States and other countries. Expanded sanctions could target government-owned operations, including Russian nuclear reactor operators, and could prevent us from doing business with them. The U.S. government has also implemented certain sanctions targeting non-U.S. persons for activities conducted outside the United States that involve specific sanctions targets or certain activities related to sanctioned countries, any of which could prohibit us from conducting routine commercial transactions with Russian entities that are engaged in certain transactions related to sanctioned countries or sanctioned parties. If the U.S. government significantly broadens the scope of, or Canada or the European Union imposes, sanctions against Russia and prevents the importation of Russian-sourced Co-60 or the Russian government responds with further countersanctions, it may make it generally more difficult to do

business with Russian entities. Any sanctions or countermeasures could have a material adverse effect on our business, prospects, financial condition or results of operations.

Any interruptions that we experience with our key suppliers, regarding the availability of Co-60, changes in regulatory requirements regarding the use of Co-60 or unavailability or short-supply of raw materials or services, may disrupt or cause a shutdown of portions of our operations, materially increase our costs or have other adverse consequences on our business, prospects, financial condition or results of operations.

Industry trends could impact the demand for our products and services and could have a material adverse effect on our business.

Industry trends that affect medical device, pharmaceutical or biotechnology companies affect our business. The medical device industry is characterized by frequent product development and technological advances, which may reduce demand for our sterilizing and testing services if our existing services no longer meet our customers' requirements. Any significant decrease in life science research and development expenditures by medical device, pharmaceutical and biotechnology companies, including as a result of a general economic slowdown, could in turn impact the volumes of medical products that require sterilization or lab testing services. Future demand for Co-60 or our sterilization services could also be adversely impacted by changes to preferred sterilization modalities. Our ability to adapt our business to meet evolving customer needs depends upon the development and successful commercialization of new services, new or improved technologies and additional applications of our technology for our customers' new products. We can give no assurance that any such new services will be successful or that they will be accepted in the marketplace. Any failure to develop or commercialize new services and technologies and any decrease in demand for our products or services could have a material adverse effect on our business, prospects, financial condition or results of operations.

If changes in healthcare regulations or other developments in the healthcare industry, including concerns around single-use medical devices, were to lead to a material reduction in medical procedures or use of medical devices, demand for our services could be adversely affected. Demand for our products and services may also be affected by changes from time to time in the laws and regulations that govern our operations and industry, including the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, which in turn impact industry trends. New regulatory requirements could lead to changes in the medical device industry and the behavior of our customers that are difficult to predict but could have a material adverse effect on our business, prospects, financial condition or results of operations. Further, if any significant disposal restrictions or requirements are imposed that materially increase the cost or administrative burden of the disposal process for single-use medical devices, hospitals and other end-users of such devices might decrease their use of such devices in favor of reusable medical products, which would decrease the demand for our services, which could in turn have a material adverse effect on our business, prospects, financial condition or results of operations.

Changes in environmental, health and safety regulations or preferences may negatively impact our business.

Federal, state and international authorities regulate the operation of our gamma irradiation and EO processing plants, as well as the operations of our customers. If any of the regulators that govern our operations or the operations of our customers were to institute severely restrictive policies or regulations that increase our costs or change the preferences or requirements of our customers, demand for our products and services may be materially affected. Additionally, certain regulators, including the FDA, have started initiatives to encourage development of sterilization alternatives to EO processing. We have taken part in some of these initiatives. We have made proactive, voluntary investments to enhance emissions controls. However, new regulations or changes to existing or expected regulations may require additional investments in new emissions control technology or otherwise increase the cost of our gamma irradiation or EO processing. Reconfiguring a gamma irradiation or EO processing plant so that it is suitable for a different sterilization technology, in response to changes in demand or other factors, would require significant capital investment and require us to suspend operations at the affected

facility during the conversion. Any of the foregoing could have a material adverse effect on our business, prospects, financial condition or results of operations.

Safety risks associated with the use and disposal of potentially hazardous materials, such as EO and Co-60, may result in accidents or liabilities that materially affect our results of operations.

Because EO is flammable and explosive in uncontrolled environments, a significant explosion or fire can occur at the sterilization facilities at which we use EO, including due to an accidental ignition of EO. The use of certain types of environmental control equipment at some facilities requires the use of heat or open flames, and particular care must be exercised in order to avoid inadvertently causing an explosion or fire, which could interrupt our normal operations at or cause a shut-down of the affected facility while repairs are made. Any EO explosion or similar incident could result in the closure of our facilities, workplace injuries, property damage or otherwise adversely affect our business.

Because Co-60 is radioactive, its containment is very important in preventing contamination or improper exposure. If the double-encapsulated Co-60 pencils were to become damaged or corroded, Co-60 sources could develop a source leak, leading to radioactive contamination requiring comprehensive clean-up of the storage pool. Similarly, physical damage to the protective stainless-steel covering during the process of adding or removing Co-60 rods from an irradiator could also result in a source leak and contamination incident. Clean-up and disposal costs for damaged Co-60 rods and radioactive contamination could be significant. If any liability claims are made against us in the future, we could be liable for damages that are alleged to have resulted from such exposure or contamination.

In addition, these materials are harmful if handled or disposed of improperly. Accidents involving disposal or handling of these substances, including accidents resulting from employees failing to follow safety protocols, have in the past and could in the future cause damage or injury to property, the environment and human health, as well as possible disruptions, restrictions or delays in production. For example, members of our workforce in the past have been injured in our facilities. Any injuries or damage to persons, equipment or property or other disruption in the disposal, production, processing or distribution of products could result in a significant decrease in operating revenue, a significant increase in costs to replace or repair and insure our assets and substantial reputational harm, which could materially adversely affect our business, prospects, financial condition or results of operations, and could have legal consequences that affect our ability to continue to operate the affected facility. Our customers served by an affected facility could choose to switch to an alternative sterilization service provider.

Any incident occurring at any of our EO or gamma facilities that causes harm to workers or others or the interruption of normal operations at the affected facility could result in substantial liability to us. We are currently the subject of lawsuits alleging that purported EO emissions from certain of our current and former facilities have resulted in toxicological or health-related impact on the environment, the communities that surround our facility and a customer’s employees. We deny these allegations and intend to vigorously defend against these claims. We have also from time to time been involved with workers’ compensation claims relating to potentially hazardous materials. We may be subject to similar claims in the future, and one or more adverse judgments could result in significant liability for us and have a material adverse effect on our business, financial condition and results of operations. See “—We are currently defending certain litigation, and we are likely to be subject to additional litigation in the future” and “—Health risks associated with the use of EO and Co-60 may subject us to future liability claims.”

Nordion contracts for the activation of Co-59 “targets” (cobalt pellets and slugs) into Co-60 in certain nuclear reactors in Canada and Russia. Our Co-59 targets (and in Canada, adjuster rods our supplier provides to us) function as part of the reactors’ reactivity control systems. While national laws or international conventions generally channel liability for nuclear incidents exclusively to reactor operators, equipment suppliers could be subject to lawsuits for damage to the nuclear installation or damages allegedly intentionally caused. While we

make efforts to protect our interests through contractual provisions, quality assurance programs and the nature of our commercial relationships, there is no assurance that any of these measures will prove effective in shielding us from liability, and any such liability or consequences could have a material adverse impact on our business, results of operation and financial condition.

We currently carry pollution liability insurance for all our facilities and related operations and liability insurance for third party bodily injury or property damage arising from the storage, use, transportation or accident involving EO and Co-60 sources throughout our operations. However, such insurance may not cover all risks associated with the hazards of our business and is subject to limitations, including deductibles and maximum liabilities covered. We may incur losses beyond the limits, or outside the coverage, of our insurance policies. Additionally, our ability to increase pollution liability insurance limits or replace any policies upon their expiration without exclusions for claims related to EO exposure may be adversely impacted by claims against us, including current claims alleging that purported EO emissions from certain of our facilities have resulted in toxicological or health-related impact on the environment, the communities that surround our facility and a customer's employees. We deny these allegations and are vigorously defending against these claims. To the extent any pollution liability is not covered by our insurance or able to be recovered from other parties, our business, financial condition or results of operations could be materially adversely affected.

Safety risks associated with the transportation of potentially hazardous materials, such as EO and Co-60, may result in accidents or liabilities that materially affect our results of operations.

Our products, supplies and by-products are transported through a combination of ground, sea and air transport. Co-60 and EO are radioactive and potentially combustible, respectively, and must be handled carefully and in accordance with applicable laws and regulations. An incident in the transportation of our raw materials, products and by-products or our failure to comply with laws and regulations applicable to the transfer of such products could lead to human injuries or significant property damage, regulatory repercussions or could make it difficult to fulfill our obligations to our customers, any of which could have a material adverse effect on our business, prospects, financial condition or results of operations.

Our EO and Co-60 raw materials are potentially hazardous and could make our facilities and transportation vehicles targets for terrorists, which could have a material adverse effect on our operations. We are subject to stringent requirements regarding how we secure these materials. If our failure to adequately secure these materials leads to their being stolen or materially damaged, our licenses to operate could be suspended resulting in a material adverse effect to our business, prospects, financial condition or results of operations. Any such incident could also have legal consequences, such as violations of regulatory requirements and/or lawsuits for personal injuries, property damage or diminution, and similar claims could result in substantial liability to us. Additionally, loss of control of Co-60 sources by a customer could result in contamination and significant public health consequences.

Health risks associated with the use of EO may subject us to future liability claims and other adverse effects.

Potential health risks associated with exposure to EO under certain conditions subject us to the risk of liability claims being made against us by workers, contractors and others, including individuals who reside or have resided near our EO processing facilities and employees of our customers, who may have been exposed to or come into contact with EO. Assessments of the potential health risks of exposure to EO have evolved over time. For example, although EO is present in the environment from a variety of sources and naturally produced by the human body, the U.S. Environmental Protection Agency ("USEPA") has identified a potential for increased risk of certain cancers from exposure to EO. In 2016, the USEPA published its Integrated Risk Information System toxicity assessment of EO (the "IRIS Assessment"), and in 2018, the USEPA published its most recent National Air Toxics Assessment, which utilized the IRIS Assessment and data collected in 2014, identifying EO as a potential cancer concern in several areas across the country, including areas surrounding our Willowbrook facility and our facilities in Atlanta and Santa Teresa, New Mexico. Another organization has

disagreed with aspects of the IRIS Assessment on the carcinogenic potency of EO, and we expect risk assessments related to EO will continue to evolve. We can give no assurance as to their impact on our business, prospects, financial condition or results of operations.

We are currently the subject of tort lawsuits alleging personal injury by purported exposure to emissions and releases of EO from our facility in Willowbrook and our facility in Atlanta. Additionally, we are defendants in a lawsuit by certain employees of a contract sterilization customer in Georgia who allege personal injury by workplace exposure to EO. We deny the allegations and are vigorously defending these claims. See "—We are currently defending certain litigation, and we are likely to be subject to additional litigation in the future." and "Business—Legal Proceedings." There can be no assurance that other claims will not be made in the future by similar groups of plaintiffs relating to any of our current or former facilities. In addition, we have encountered and will likely continue to encounter resistance, protests or other actions in communities where our existing facilities are located or where we seek to establish or expand facilities based on the perceptions of the risk associated with exposure to EO held by some residents and regulators of these communities. This publicity may also have other adverse impacts, including damage to our reputation and public pressure against our facilities that may affect our ability to conduct our business.

Our liability insurance coverage may not be adequate to cover such liabilities or remain available to us at acceptable costs. A successful claim brought against us in excess of the insurance coverage then available to us could have a material adverse effect on our business, prospects, financial condition or results of operations.

We are currently defending certain litigation, and we are likely to be subject to additional litigation in the future.

Our business exposes us to significant potential risk from lawsuits, investigations and other legal proceedings. We are currently pursuing and defending various proceedings and will likely be subject to additional proceedings in the future, including potential litigation regarding the products and services we provide or which we or our predecessors have provided.

We are currently the subject of tort lawsuits alleging personal injury by purported exposure to emissions and releases of EO from our facility in Willowbrook and our facility in Atlanta. Additionally, we are defendants in a lawsuit by certain employees of a contract sterilization customer in Georgia who allege personal injury by purported workplace exposure to EO. We deny the allegations and are vigorously defending against the claims; however, one or more adverse judgments could result in significant liability for us and have a material adverse effect on our business, financial condition and results of operations. In addition, we have been involved in litigation against local officials to reopen our Atlanta facility that had been closed while we installed enhancements to our EO emissions control systems, as well as to challenge unsupported claims of loss of neighboring residential property value. See "Business—Legal Proceedings" for more detail on our pending litigation.

In litigation, including those described above, plaintiffs may seek various remedies, including without limitation declaratory and/or injunctive relief; compensatory or punitive damages; restitution, disgorgement, civil penalties, abatement, attorneys' fees, costs and/or other relief. Settlement demands may seek significant monetary and other remedies, or otherwise be on terms that we do not consider reasonable under the circumstances. In some instances, even if we comply with applicable laws and regulations, including those relating to emission standards, an adverse judgment or outcome may occur based on other applicable laws or principles of common law, including negligence and strict liability, and result in significant liability and reputational damage for us. There can be no assurance that other claims in addition to those described above will not be made in the future by similar groups of plaintiffs relating to our facilities or activities. In addition, awards against and settlements by our competitors or publicity associated with our current litigation could incentivize parties to bring additional claims against us.

Any claim brought against us, regardless of its merits, could be costly to defend and could result in an increase of our insurance premiums and exhaust our available insurance coverage. The financial impact of litigation, particularly class action and mass action lawsuits, is difficult to assess or quantify. Some claims brought against us might not be covered by our insurance policies or might exhaust our available insurance coverage for such occurrences. Furthermore, an insurer might refuse coverage, and even where the claim should be covered by insurance, we have significant self-insured retention amounts, which we would have to pay in full before obtaining any insurance proceeds. To the extent our insurance coverage is inadequate and we are not successful in identifying or purchasing additional coverage for such claims, we would have to pay the amount of any settlement or judgment that is in excess of policy limits. We have reached the per occurrence limit of our insurance coverage for claims related to Willowbrook's EO emissions due to legal costs associated with such claims and have not yet been and likely will not be successful in identifying or purchasing additional coverage for such claims. If any judgments are rendered against us and are upheld on appeal, we would not have insurance coverage to cover such judgment. Claims against us that result in entry of a judgment or we settle that are not covered or not sufficiently covered by insurance policies, or which fall within retained liability under our policies, could have a material adverse impact on our business, prospects, financial condition or results of operations.

Our business is highly competitive, and if we fail to compete successfully, our business, prospects, financial condition or results of operations may be adversely affected.

We face competition from other providers of outsourced sterilization and lab services. In addition, some manufacturers have in-house sterilization and lab testing and related capabilities, and further consolidation within our industry and within our customers' industries could impact our ability to compete. Further, our competitors and potential competitors are attempting to develop alternate technologies, in particular improved x-ray sterilization technology, which would not be reliant on the availability of Co-60. If any of our competitors significantly expand their sterilization or lab testing facility capacity, including as a result of these alternative technologies, it could lead to price fluctuations and competitive pricing pressure, diminish our profitability or lead to changes in our customer relationships across our business segments. We generally compete on the basis of quality, reputation, the cost of sterilization services, the cost of transportation to and from the sterilization facility and processing turnaround time. If our services, supply, support, distribution or cost structure do not enable us to compete successfully, including against alternative technologies, or we are unable to successfully develop and adopt alternative technologies ourselves, our business, prospects, financial condition or results of operations could be materially adversely affected. The expansion of alternative sterilization technologies may require us to build new facilities, which can be time-consuming and costly.

If Co-60 source suppliers in other countries, including China, India or Russia, significantly increase their involvement in the global Co-60 sources market, it could have a material adverse effect on our business, prospects, financial condition or results of operations. Additionally, several customers of our Nordion business are themselves providers of sterilization services and therefore are competitors of our Sterigenics business. If these customers were to shift to a different source for their supply of Co-60 sources, because they prefer to use a supplier not affiliated with us or for any other reason, it could materially adversely affect our business, prospects, financial condition or results of operations. Further, if a Nordion customer were to lose market share to a competitor using an alternative sterilization provider, we would similarly lose sales volumes, which may have a material adverse effect on our business, prospects, financial condition or results of operations.

Additionally, Nelson Labs faces a wide variety of competitors, including small, specialized niche players, large, broad multinational corporations and internal laboratories that can perform the services that we provide. Shifts in the market that diminish our customers' preference for outsourcing their testing and large, well-funded competitors entering more directly into the specialized lab services that we provide may adversely affect our business.

Certain of our long-term contracts include variable price clauses and are subject to market changes, which could have a material adverse effect on our business.

The aggregate cost of our direct materials and energy represents a significant portion of our cost of revenues. The prices of the direct materials we utilize vary with market conditions and may be highly volatile. Additionally, the cost of energy for some of our facilities is regulated, and we are required to work with the local utility provider, which prevents us from contracting for a lower rate or seeking an alternate supplier. Although we have attempted, and will continue to attempt, to match increases in the prices of direct materials or energy with corresponding increases in prices for our products and services, our ability to pass through increases in the cost of direct materials or energy to customers is highly dependent upon market conditions and we may not be able to immediately raise such prices, if at all. Most of our customer contracts for sterilization services allow us to pass through our direct material costs, but we may not be able to immediately or completely implement increases in the prices of our products and services. Specifically, there is a risk that raising prices charged to our customers could result in a loss of sales volume. Reactions by our customers and competitors to our price increases could cause us to reevaluate and possibly reverse or reduce such price increases. Any increase in the price of one of these materials or energy could have a material adverse effect on our business, prospects, financial condition or results of operations.

Allegations of our failure to properly perform our services may expose us to potential product liability claims and recalls or could otherwise cause a material adverse effect on our business.

We face the risk of financial exposure to product and other liability claims alleging that our failure to adequately perform our services resulted in adverse effects, including product recalls or seizures, adverse publicity and safety alerts. In our Sterigenics business, for example, while our customers are generally responsible for determining the cycle parameters (the levels of temperature, humidity and EO concentration to which products are exposed during the sterilization process and the duration of such exposure) or dosage specifications (the amount of gamma or E-beam irradiation to which products are exposed) for their products, we are required to certify that such cycle or dosage parameters were achieved. If we fail to process a customer's product in accordance with the cycle parameters, dosage specifications or testing requirements prescribed by the customer, our standard contract requires us to inform our customer of the nonconformance, to reprocess or retest the product if that is a feasible alternative and to reimburse the customer (subject to a maximum) for the cost of any such product which is damaged as a result of the nonconformance. We could be held liable in the future for personal injury, contractual or other damages that are alleged to result from improper or incorrect processing, cycle parameters or dosage specifications, testing or product damage. Even where processing occurred within cycle parameters, we have faced in the past and may face in the future claims of personal injury resulting from processing. In our Nelson Labs business, we could also face claims that we performed erroneous or out-of-specification testing or data integrity complaints, and on which our customers could require retesting or and claim economic or other loss or which could result in personal injury. In our Nordion business, our processing and sale of medical-grade Co-60 used for radiation therapy involve an inherent risk of exposure to product liability claims, product recalls and product seizures. In addition, our installation of irradiators for our customers could expose us to design defect product liability claims, whether or not such claims are valid. A product liability judgment against us could also result in substantial and unexpected costs, affect customer confidence in our products, damage our reputation and divert management's attention from other responsibilities.

Although we maintain product and professional liability insurance coverage in amounts we believe are customary, there can be no assurance that this level of coverage is adequate or that we will be able to continue to maintain our existing insurance or obtain comparable insurance at a reasonable cost, if at all. Our product and professional liability insurance also does not cover matters related to EO emissions. A product recall or seizure or a partially or completely uninsured judgment against us could have a material adverse effect on our business, prospects, financial condition or results of operations.

We are subject to extensive regulatory requirements and routine regulatory audits in our operations. We must receive permits, licenses and/or regulatory clearance or approval for our operations. Compliance with these regulations is costly, and failure to comply with all laws and regulations or to receive or maintain permits, licenses, clearances or approvals may hurt our revenues, profitability, financial condition or value.

Our industry is characterized by evolving regulations, and our operations are subject to extensive regulation in the United States and other countries where we do business. We are regulated by national and local agencies with jurisdiction over a number of areas directly or indirectly related to our businesses, including environmental, nuclear safety, homeland or national security, worker safety and health, food, drug and device manufacturing and marketing, transportation, drug enforcement (governing the handling of controlled substances) and agriculture, fish and wildlife. These laws and regulations regulate our use of potentially hazardous materials, such as EO and Co-60, and can require us to carefully manage, control emissions of or limit human exposure to, these materials. For example, Occupational Safety and Health Administration ("OSHA") regulations and similar laws in other jurisdictions limit worker exposure to EO. In addition, FDA regulations dictate the acceptable amount of EO residue on different types of sterilized products. In most jurisdictions, we are required to maintain and operate pollution control equipment to minimize emissions and releases of EO. Regulations issued by OSHA, the U.S. Nuclear Regulatory Commission (the "NRC") and other agencies also require that equipment used at our facilities be designed and operated in a manner that is safe. The use of EO for medical device sterilization is regulated by the USEPA under the Federal Insecticide, Fungicide and Rodenticide Act ("FIFRA") and the Clean Air Act (the "CAA"). We expect to incur capital costs for enhancements to our equipment and to implement process automation to comply with changing requirements. If the future regulations differ from our current expectation, they may require additional modifications and capital costs beyond what we have budgeted for, which could be material.

In the United States, our gamma irradiation facilities are heavily regulated, including by the NRC and state regulations. These laws and regulations specify the requirements for, among other things, maximum radiation doses, system designs, safety features and alarms and employee monitoring, testing and reporting. While some specific requirements are different in the various jurisdictions other than the United States, the fundamental concepts are consistent, since all are signatories to the International Atomic Energy Agency ("IAEA") conventions and have adopted safety standards from the IAEA and recommendations from the International Commission on Radiological Protection. The design, construction and operation of sterilization and lab testing facilities are highly regulated and require government licenses, including environmental approvals and permits, and may be subject to the imposition of related conditions that vary by jurisdiction. In some cases, these approvals and permits entail periodic review. We cannot predict whether all licenses required for a new facility will be granted or whether the conditions associated with such licenses will be achievable. Changes in these laws and regulations have the potential to increase our costs.

Additionally, our operations in the United States and the majority of our facilities outside the United States (to the extent we are processing a product in that facility that will end up in the U.S. market) are regulated by the FDA. We are also regulated by other health regulatory authorities in other countries. Specifically, these operations include some of our sterilization and product testing activities that may constitute "manufacturing" activities and are subject to FDA requirements. The FDA may issue 483 findings or warning letters or take other administrative actions for noncompliance with FDA laws and regulations and the issues raised by such warning letters require significant resources and time to correct. Failure to comply with regulatory requirements could have a material adverse effect on our business.

To the extent Nordion in the future ceases to operate its facility in Kanata, Canada, Nordion will be responsible for the radiological decommissioning of such facility, including in respect of the portion leased by BWX Technologies, Inc. ("BWXT") in connection with its acquisition of the Medical Isotopes business to the extent any contamination precedes such transaction. In addition, if Sterigenics in the future ceases to operate any of its irradiation facilities, it will be responsible for decommissioning costs in respect of such facilities. We currently provide financial assurance for approximately $50 million of such decommissioning liabilities in the

aggregate in the form of letters of credit, surety bonds or other surety. Such potential decommissioning liabilities may be greater than currently estimated if additional irradiation facilities are licensed, unexpected radioactive contamination of those facilities occur, regulatory requirements change, waste volume increases, or decommissioning cost factors such as waste disposal costs increase.

See “Business—Regulation” for more information on the regulatory requirements of our businesses.

Compliance with these regulations, as well as our own voluntary programs that relate to maintaining the safety of our employees and facilities as well as the environment, may be difficult, burdensome or expensive. Any change in these regulations, the interpretation of such regulations as well as our customers’ perception of such changes will require us to make adaptations that may subject us to additional costs, and ultimate costs and the timing of such costs may be difficult to accurately predict and could be material. Regulatory agencies may refuse to grant approval or clearance or may require the provision of additional data, and regulatory processes may be time consuming and costly, and their outcome may be uncertain in certain of the countries in which we operate. Regulatory agencies may also change policies, adopt additional regulations or revise existing regulations, each of which could impact our ability to provide our services or increase our costs. Additionally, local regulatory authorities may change the way in which they interpret and apply local regulations in response to negative public pressure about our facilities. For example, officials stopped operations at one of our facilities purportedly to review our fire and building code status and certificate of occupancy.

Our failure to comply with the regulatory requirements of these agencies may subject us to administratively or judicially imposed sanctions. These sanctions include, among others, warning letters, fines, civil penalties, criminal penalties, injunctions, debarment, product seizure or detention and total or partial suspension of operations, sale and/or promotion. While we strive to comply with these regulatory requirements, we have not always been and may not always be in compliance and, as a result, can be subject to significant civil and criminal fines and penalties, including the shutdown of our operations. See “Business—Legal Proceedings” and “—Health risks associated with the use of EO may subject us to future liability claims and other adverse effects.” The failure to receive or maintain, or delays in the receipt of, relevant U.S. or international regulatory qualifications could have a material adverse effect on our business, prospects, financial condition or results of operations.

Our operations are subject to a variety of business continuity hazards and risks, including our reliance on the use and sale of products and services from single locations, any of which could interrupt production or operations or otherwise adversely affect our performance, results or value.

In addition to the other risks described in this prospectus, our operations are subject to business continuity hazards and risks that include explosions, fires, earthquakes, inclement weather and other natural disasters; utility or other mechanical failures; unscheduled downtime; labor difficulties; disruption of communications; terrorist, security breach or other workplace violence event; changes in the use of government-owned reactors, including repurposing nuclear facilities; and pandemics or other public health crises.

It can be costly to ship products long distances for the purpose of sterilization; therefore, our ability to offer a full range of sterilization services close to our customers’ manufacturing and distribution centers worldwide is critical for our business. An adverse occurrence at one of our facilities or the facilities of a supplier or customer could damage our business. While other facilities in our network may have the capacity to service our customers that had been served by an affected facility, we may not be able to transfer all interrupted services. The stringent regulations and requirements we are subject to regarding the manufacture of our products and provision of services and the complexities involved with processing of Co-60 may prevent or delay us from establishing additional or replacement sources for our production facilities. Any event, including those listed above or other circumstances that results in a prolonged business disruption or shutdown to one or more of our facilities, could create conditions that prevent, or significantly and adversely affect, our receiving, processing, manufacturing or shipping products at existing levels, or at all. Such events could adversely affect our sales, increase our expenses, create potential liabilities and/or damage our reputation, any of which could have a material adverse effect on our business, prospects, financial condition or results of operations.

In addition, since we obtain Co-60 from a limited number of reactors, if any of their facilities were to be seriously damaged or have their production materially decrease due to a natural disaster or other adverse occurrence, our access to Co-60 would be materially affected and we may be unable to meet all the needs of our customers. See "—We depend on a limited number of counterparties that provide the materials and resources we need to operate our business. Any disruption in the availability of, or increases in the price of, EO, Co-60 or our other direct materials, services and supplies, including as a result of current geopolitical instability arising from U.S. relations with Russia and related sanctions, may have a material adverse effect on our operating results."

Further, governmental action may disrupt the operations of our facilities that process potentially hazardous materials. For example, in February 2019 the Illinois Environmental Protection Agency ("IEPA") issued a seal order temporarily shutting down our sterilization activities at our Willowbrook facility, and in October 2019, county officials ordered our Atlanta facility, the operations of which we had voluntarily suspended at the time, remain closed until county approval is obtained. Although our Atlanta facility was allowed to reopen under a Temporary Restraining Order imposed on county officials in April 2020, our facility could be forced to close again upon the resolution of related litigation. The occurrence of any of these or other events might disrupt or shut down operations or otherwise adversely impact the production or profitability of a particular facility or our operations as a whole.

While we maintain insurance policies covering, among other things, physical damage, business interruptions and liability resulting from our services in amounts that we believe are customary for our industries, our insurance coverage may be inadequate or unavailable and we could incur uninsured losses and liabilities arising from such events.

The COVID-19 pandemic has had and could continue to have adverse effects on our business, financial condition and results of operations, which could be material.

The global impact of the COVID-19 pandemic, including the governmental responses, has had a negative effect on the global economy, disrupting the financial markets and creating increasing volatility, and has disrupted our operations. For example, during the pandemic, there has been an increase in deferred elective procedures, which negatively impacts demand for some of our products and services as a result of a decrease in the need for sterilized medical devices used in these procedures. Further, although our operations are considered "essential" in all locations where we operate, we have experienced, and may experience in the future, temporary facility closures while awaiting appropriate government approvals in certain jurisdictions or delays in delivering products or services to customers. The extent to which our operations will be impacted by the outbreak will largely depend on future developments, which are highly uncertain and cannot be accurately predicted, including mandatory closures of our facilities imposed by government authorities, work-from-home orders and social distancing protocols or other currently unforeseen restrictions that could adversely affect our ability to adequately staff and maintain our operations, and those effects could be material. For example, we experienced delayed deliveries at certain locations as a result of governmental travel restrictions enacted in response to the COVID-19 pandemic. We have implemented business continuity planning, including to transition staff off-site to decrease exposure risk and to manage supply chain risk for critical materials, but we cannot guarantee that these measures will be successful. If the COVID-19 outbreak disrupts our supply chain, it could adversely impact our ability to secure supplies for our facilities, which could adversely affect our operations, and those effects could be material. The pandemic and the response thereto continue to evolve, and we cannot at this time forecast its ultimate duration, severity or impact to our business, our customers or our supply chain. This negative impact could continue for an extended period of time or more severely impact our financial condition and results of operations, and continued weak or worsening economic conditions could negatively impact consumer demand for our products and services. Future pandemics and public crises could impact our business in a similar or worse manner. See "—Our operations are subject to a variety of business continuity hazards and risks, including our reliance on the use and sale of products and services from single locations, any of which could interrupt production or operations or otherwise adversely affect our performance, results or value."

If we are unable to increase capacity at existing facilities and build new facilities in a timely and cost-effective manner, we may not achieve our expected revenue growth or profitability or such revenue growth and profitability, if any, could be delayed.

Our growth strategy depends on expanding capacity in Europe, the Americas and Asia, which may include building new facilities and expanding existing facilities. The construction or expansion of modern and safe sterilization facilities requires significant expenditures. Delay in the review and licensing process for a new facility could impair or delay our ability to develop that facility or increase the cost so substantially that the facility becomes unattractive to us. Any failure to procure and maintain the necessary licenses would adversely affect ongoing development, construction and continuing operation of our facilities. Additionally, even when we maintain the necessary licenses and are in compliance with applicable regulations, we may be unable to maintain or expand our operations at existing facilities, or otherwise execute on our growth strategy, due to negative publicity or community resistance. Suspensions and closures of our facilities have in the past and may continue to impact our results of operations, and the effects could be material. Those new facilities that are constructed and begin operations may not meet our return expectations due to schedule delays, cost overruns or revenue shortfalls, or they may not generate the capacity that we anticipate or result in the receipt of revenue in the originally anticipated time period or at all. We may not maintain revenue growth or profitability, or such growth, if any, could be delayed if we are not successful in continuing to expand capacity. Additionally, if future demand trends warrant capacity in geographic areas that we have not targeted for new growth, we may be unable to capitalize on opportunities in a timely manner.

We occupy many of our facilities under long-term leases, and we may be unable to renew our leases at the end of their terms.

Many of our facilities, including many of our EO facilities and some of our gamma facilities, are located on leased premises. The terms of our leases vary in length and expire over a period ranging from 2020 to 2040, with options to renew for specified periods of time. At the end of the lease term and any renewal period for a facility, we may be unable to renew the lease without substantial additional cost, if at all. For example, in September 2019, we were unable to reach an agreement to renew the lease on our EO processing facility in Willowbrook, following community pressure resulting from negative publicity surrounding our Willowbrook facility. If we are unable to renew our facility leases, we may be required to relocate or close a facility. Relocating a facility involves significant expense in connection with the movement and installation of specialized equipment and any necessary recertification or licensing with regulatory authorities. Closing a facility, even briefly to relocate, would reduce the sales that such facility would have contributed to our revenues and could negatively impact our customer relations. Any such relocation or closure could have a material adverse effect on our business, prospects, financial condition or results of operations.

We conduct sales and distribution operations on a worldwide basis and are subject to a variety of risks associated with doing business outside the United States.

We maintain significant international operations, including operations in China, Brazil, Canada, Mexico, Costa Rica and other countries in Europe and Asia. As a result, we are subject to a number of risks and complications associated with international sales, services and other operations, as well as risks associated with U.S. foreign policy. These include:

- difficulties associated with compliance with numerous, potentially conflicting and frequently complex and changing laws in multiple jurisdictions, e.g., with respect to environmental matters, intellectual property, privacy and data protection, corrupt practices, embargoes, trade sanctions, competition, employment and licensing;
- general economic, social and political conditions in countries where we operate, including international and U.S. trade policies and currency exchange rate fluctuations;
- tax and other laws that restrict our ability to use tax credits, offset gains or repatriate funds;

- currency restrictions, transfer pricing regulations and adverse tax consequences, which may affect our ability to transfer capital and profits;
- inflation, deflation and stagflation in any country in which we have a manufacturing facility;
- foreign customers with longer payment cycles than customers in the United States; and
- imposition of or increases in customs duties and other tariffs.

We operate in a number of countries throughout the world, including in countries that do not have as strong a commitment to anti-corruption and ethical behavior that is required by U.S. laws or by our corporate policies. Based on the nature of our products, these activities involve potential interaction with government agencies, public officials or state-owned enterprises. We are subject to the risk that we, our U.S. employees or our employees located in other jurisdictions or any third party that we engage to do work on our behalf may take action determined to be in violation of anti-corruption laws in any jurisdiction in which we conduct business. The U.S. Foreign Corrupt Practices Act (the "FCPA") and the Canadian Corruption of Foreign Public Officials Act (the "CFPOA") prohibit corruptly providing anything of value to foreign officials for the purposes of obtaining or retaining business or securing any improper business advantage. We may deal with both governments and government-owned business enterprises, the employees of which are considered foreign officials for purposes of the FCPA and other applicable anti-corruption laws. The provisions of the Bribery Act extend beyond bribery of foreign public officials and are more onerous than the FCPA in a number of other respects. Any violation of the FCPA, the CFPOA, the U.K. Bribery Act of 2010 (the "Bribery Act") or any similar anti-corruption law or regulation could result in substantial fines, sanctions or civil and/or criminal penalties, debarment from business dealings with certain governments or government agencies or restrictions on the marketing of our products in certain countries, which could harm our business, financial condition or results of operations. If these anticorruption laws or our internal policies were to be violated, our reputation and operations could also be substantially harmed. Further, detecting, investigating and resolving actual or alleged violations is expensive and can consume significant time and attention of our senior management.

Compliance with multiple, and potentially conflicting, international laws and regulations, including anticorruption laws and exchange controls may be difficult, burdensome or expensive. While our employees and agents are required to comply with these laws, our internal policies and procedures may not always prevent violations. Further, in connection with past and future acquisitions by us, there is a risk of successor liability relating to such laws in connection with prior actions or alleged actions of an acquired company. Such matters or allegations related to such matters could adversely affect our reputation and the burden and cost associated with defending or resolving such matters could adversely affect our business, prospects, financial condition or results of operations.

Further, as a result of our global operations, we generate a significant portion of our revenue and incur a significant portion of our expenses in currencies other than the U.S. dollar, including the euro, the Brazilian real, the British pound sterling, the Chinese yuan, the Thai baht, the Mexican peso, the Danish krone, the Costa Rica colon and the Canadian dollar. Our results of operations are impacted by currency exchange rate fluctuations to the extent that we are unable to match net revenues received in foreign currencies with expenses incurred in the same currency. For example, where we have significantly more expenses than net revenues generated in a foreign currency, our profit from operations in that location would be adversely affected in the event that the U.S. dollar depreciates against that foreign currency.

We may be adversely affected by global and regional economic and political instability.

We may be adversely affected by global and regional economic and political conditions. The uncertainty or deterioration of the global economic and political environment could adversely affect us. Customers may modify, delay or cancel plans to purchase our products and services and suppliers may significantly and rapidly increase their prices or reduce their output because of cash flow problems. Any inability of current or potential customers

to purchase or pay for our products due to, among other things, declining economic conditions as a result of inflation, rising interest rates, changes in spending patterns at medical device, pharmaceutical and biotechnology companies and the effects of governmental initiatives to manage economic conditions may have a negative impact on our business, prospects, financial condition or results of operations. Overall demand for our products could be reduced as a result of a global economic recession or political unrest, especially in such areas as the medical device, pharmaceutical, food safety and other end markets that we serve.

We depend upon our key personnel, the loss of whom could adversely affect our operations. If we fail to attract and retain the talent required for our business, our business could be materially harmed.

We depend to a significant degree on our ability to hire and retain highly qualified personnel with expertise in our industries. The loss of services from any of our key personnel may significantly delay or prevent the achievement of our business objectives. Competition for qualified employees in the industries in which we operate is intense. We may not be able to attract and retain these individuals on acceptable terms or at all, and our inability to do so could have a material adverse effect on our business, prospects, financial condition or results of operations.

We are subject to significant regulatory oversight of our import and export operations due to the nature of some of our product offerings.

Our products are subject to U.S. laws and regulations that may limit, restrict or require a license to import or export (or re-export from other countries). We are also subject to the export and import laws of those foreign jurisdictions in which we operate, sell our products into and from which we source our materials, including Co-60. In addition, if we introduce new products, we may need to obtain licenses or approvals from the United States and other governments to ship them into foreign countries. Because of increasing security controls and regulations regarding the shipment of materials including Co-60, it is likely that we may encounter additional regulations affecting the transportation, storage, sale and import/export of radioactive materials. Further, any delay or inability to obtaining these permits and licenses could delay our prevent us from fulfilling our obligations to our customers, which could harm our business, financial condition or results of operations.

Additionally, the U.S. Department of the Treasury’s Office of Foreign Assets Control and other relevant agencies of the U.S. government administer certain laws and regulations that restrict U.S. persons and, in some instances, non-U.S. persons, from conducting activities, transacting business with or making investments in certain countries, or with governments, entities and individuals subject to U.S. economic sanctions. Our international operations subject us to these laws and regulations, which are complex, restrict our business dealings with certain countries, governments, entities and individuals and are constantly changing. Penalties for non-compliance with these complex laws and regulations can be significant and include substantial fines, sanctions or civil and/or criminal penalties and violations can result in adverse publicity, which could harm our business, financial condition or results of operations.

Our business may be subject to system interruptions, cyber security breaches and unauthorized data disclosures.

We increasingly rely upon technology systems and infrastructure. Our technology systems and infrastructure are potentially vulnerable to breakdowns or other interruptions by fire, power loss, system malfunction, unauthorized access and other events. Likewise, data privacy breaches by employees and others with both permitted and unauthorized access to our systems may pose a risk that sensitive data may be exposed to unauthorized persons or to the public, rendered inaccessible or permanently lost. The increasing use and evolution of technology creates additional opportunities for the unintentional dissemination or intentional destruction of confidential or proprietary information stored in our systems or portable media or storage devices. We could also experience a business interruption, information theft or reputational damage from industrial espionage attacks, malware or other cyber incidents or data breaches, which may compromise our system

infrastructure or lead to data breaches, either internally or at our third-party providers or other business partners. Such incidents could compromise our trade secrets or other confidential information and result in such information being disclosed to third parties and becoming less valuable. Additionally, in response to the COVID-19 pandemic, a majority of our office employees are working remotely, which may increase the risk of cyber incidents or data breaches. Breaches in security, system interruptions and unauthorized disclosure of data, whether perceived or actual, could adversely affect our businesses, assets, revenues, brands and reputation and result in fines, litigation, regulatory proceedings and investigations, increased insurance premiums, remediation efforts, indemnification expenditures, lost revenues and other potential liabilities. We have taken steps to protect the security and integrity of the information we collect and have policies and procedures in place dealing with data privacy and security, but there can be no assurance that our efforts will prevent breakdowns, system failures, breaches in our systems or other cyber incidents or otherwise be fully effective. Any such breakdown, breach or incident could adversely affect our business, prospects, financial condition or results of operations, and our cyber insurance may not cover such risks or may be insufficient to compensate us for losses that may occur.

Part of our growth strategy is to pursue strategic transactions, including acquisitions, which subjects us to risks that could harm our business and we may not be able to find suitable acquisition targets or integrate strategic acquisitions successfully into our existing business.

As part of our strategy, we have in the past and may in the future seek to grow our business through acquisitions, and any such acquisition may be significant. Any future growth through acquisitions will depend in part upon the continued availability of suitable acquisition candidates at favorable prices and upon advantageous terms and conditions, which may not be available to us, as well as sufficient funds from our cash on hand, cash flow from operations, existing debt facilities and additional indebtedness to fund these acquisitions.

Not only is the identification of such suitable acquisition candidates difficult and competitive, but these transactions, including the acquisitions completed in recent years also involve numerous risks, including the diversion of management's attention and their ability to:

- successfully integrate acquired facilities, companies, products, systems or personnel into our existing business, especially with respect to businesses or operations that are outside of the United States;
- minimize any potential interruption to our ongoing business;
- successfully enter categories and markets in which we may have limited or no prior experience;
- achieve expected synergies and obtain the desired financial or strategic benefits;
- detect and address any financial or control deficiencies of the acquired company;
- retain key relationships with employees, customers, partners and suppliers of acquired companies as well as our own employees, customers, partners and suppliers; and
- maintain uniform compliance standards, controls, procedures and policies throughout acquired companies.

Companies, businesses or operations acquired or joint ventures created may not be profitable or may not achieve revenue and profitability levels that would justify the investments made. Recent and future acquisitions could also result in the incurrence of indebtedness, subject to the restrictions contained in the documents governing our then-existing indebtedness. See "—Our substantial leverage could adversely affect our ability to raise additional capital to fund our operations, limit our ability to react to changes in the economy or our industry, expose us to interest rate risk to the extent the interest rate on variable rate debt increases and prevent us from meeting our obligations under our existing and future indebtedness."

Recent and future acquisitions could also result in the assumption of contingent liabilities, material expenses related to certain intangible assets, increased operating expenses and compliance issues under international laws

and regulations, including antitrust laws, anti-corruption laws, the FCPA and similar anti-bribery laws, which could adversely affect our business, prospects, financial condition or results of operations. In addition, to the extent that the economic benefits associated with any of our acquisitions diminish in the future, we may be required to record additional write-downs of goodwill, intangible assets or other assets associated with such acquisitions, which could adversely affect our business, prospects, financial condition or results of operations.

Certain of the acquisition agreements by which we have acquired companies require the former owners to indemnify us against certain liabilities related to the operation of the company before we acquired it. In most of these agreements, however, the liability of the former owners is limited, and certain former owners may be unable to meet their indemnification responsibilities. We cannot assure you that these indemnification provisions will protect us fully or at all, and as a result we may face unexpected liabilities that adversely affect our business, prospects, financial condition or results of operations.

In particular, as part of the acquisition by BWXT of our Medical Isotopes business, we lease one of our Canadian facilities to BWXT through July 2038, and BWXT operates under our Canadian Nuclear Safety Commission ("CNSC") license in an arrangement we expect to continue through 2021. If BWXT fails to comply with CNSC regulations, we could be liable, and although we are indemnified by BWXT for any such failures, such indemnification may be insufficient to cover any liabilities.

Our ability to realize the benefits we anticipate from our strategic transactions, including acquisition activities, anticipated cost savings and additional sales opportunities, will depend in large part upon whether we are able to integrate such businesses efficiently and effectively. If we are unable to successfully integrate the operations of acquired businesses into our business or on the timeline we expect, including with respect to our ongoing integration of Iotron, we may be unable to realize the sales growth, cost synergies and other anticipated benefits we expect to achieve as a result of such transactions and our business, prospects, financial condition or results of operations could be adversely affected.

Our internal controls over financial reporting may not be effective and our independent registered public accounting firm may not be able to certify as to their effectiveness, which could have a significant and adverse effect on our business and reputation.

Pursuant to the Sarbanes-Oxley Act, we will be required to furnish a report by our management on the effectiveness our internal control over financial reporting beginning with our second filing of an Annual Report on Form 10-K with the SEC after we become a public company. This assessment will need to include disclosure of any material weaknesses identified by our management in our internal control over financial reporting. However, we may not be required to have our independent registered public accounting firm attest to the effectiveness of our internal controls until as late as our annual report for the fiscal year ending December 31, 2025. At such time, if we then have a material weakness, we would receive an adverse opinion regarding our internal control over financial reporting from our independent registered accounting firm.

We have begun the process to identify and implement actions to improve the effectiveness of our internal control over financial reporting and disclosure controls and procedures. The process of reviewing and improving our internal controls is both costly and challenging. We will need to (i) continue to dedicate internal resources, including through hiring additional financial and accounting personnel, (ii) potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, (iii) continue steps to improve control processes as appropriate, (iv) validate through testing that controls are functioning as documented and (v) implement a continuous reporting and improvement process for internal control over financial reporting. This process may also require substantial attention from our management team, which may negatively impact other matters that are important to our business.

If we identify a material weakness in connection with this ongoing assessment and we fail to remediate these identified material weaknesses within the prescribed period, we will be unable to assert that our internal

controls over financial report are effective. We cannot assure you that there will not be material weaknesses or significant deficiencies in our internal control over financial reporting in the future. Any failure to maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition or results of operations. In addition, we may be required to incur costs in improving our internal control system and the hiring of additional personnel. If we are unable to conclude that our internal control over financial reporting is effective, or if our independent registered public accounting firm determines we have a material weakness or significant deficiency in our internal control over financial reporting, we could lose investor confidence in the accuracy and completeness of our financial reports, the market price of shares of our common stock could decline and we could be subject to sanctions or investigations by the , the SEC or other regulatory authorities. Failure to remedy any material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

We rely on intellectual property rights to maintain our competitive position and third parties may claim that we infringe or misappropriate their intellectual property rights.

We rely on proprietary technology and are dependent on our ability to protect such technology. We rely primarily on trade secrets and non-disclosure and confidentiality arrangements to protect our intellectual property rights, including such rights that relate to our Nelson Labs business and its lab testing services. The efforts we have taken to protect our intellectual property and proprietary technology may not be sufficient or effective. Third parties, including current or former employees, consultants, contractors, customers or partners, who have access to our confidential information (including our trade secrets and know-how), may unintentionally or willfully disclose our confidential information to others, and there can be no assurance that our trade secret rights and non-disclosure and confidentiality arrangements will provide meaningful protection of our proprietary technology. There can also be no assurance that others will not independently develop similar or superior technologies or duplicate any technology developed by us. Effective protection of intellectual property rights may not be available in every jurisdiction in which our products and services are made available, and monitoring unauthorized use and disclosures of our proprietary technology or confidential information can be difficult and expensive. Actions to enforce our intellectual property rights could lead to disputes with third parties, including our customers, and could impact our future ability to gain business. Furthermore, legal proceedings to protect or enforce our intellectual property rights could result in narrowing the scope of our intellectual property rights or substantial cost to us, and they may be time consuming and divert resources and the attention of management and key personnel, and the outcomes of such actions may be unpredictable.

Additionally, we cannot be certain that the conduct of our business does not and will not infringe or misappropriate intellectual property rights of others. From time to time, we may become subject to claims, allegations and legal proceedings, including by means of counterclaims, that we infringe or misappropriate intellectual property or other proprietary rights of third parties. Such legal proceedings involving intellectual property rights are highly uncertain, can involve complex legal and scientific questions and may divert resources and the attention of management and key personnel. Our failure to prevail against infringement or misappropriation claims brought against us could also result in judgments awarding substantial damages against us, including possible treble damages and attorneys' fees, and could result in reputational harm. Judgments that result in equitable or injunctive relief could cause us to delay or cease selling or providing certain products or services or otherwise harm our operations. We also may have to seek third party licenses to intellectual property, which may be unavailable, require payment of significant royalties or be available only at commercially unreasonable, unfavorable or otherwise unacceptable terms.

If we are unable to adequately protect, establish, maintain or enforce our intellectual property rights or if we are subject to any infringement or misappropriation claims, our business, prospects, financial condition or results of operations may be adversely affected.

We are subject to complex and rapidly evolving data privacy and security laws and regulations and any ineffective compliance efforts with such laws and regulations may adversely impact our business.

We must comply with laws and regulations in federal and state governments in multiple jurisdictions governing the collection, dissemination, retention, access, use, protection, security and disposal of personal data, which mostly consists of our employees' data. The interpretation and application of many existing or recently enacted privacy and data protection laws and regulations in the United States, the European Union and elsewhere are uncertain and fluid, and it is possible that such laws and regulations may be interpreted or applied in a manner that is inconsistent with our existing practices. Companies are under increased regulatory scrutiny relating to data privacy and security. Any actual or perceived breach of such laws or regulations may subject us to claims and may lead to administrative, civil or criminal lability, as well as reputational harm. Moreover, these laws are evolving and are generally becoming stricter. For example, activities conducted from our EU facilities or related to products and services that we may offer to EU users or customers are subject the General Data Protection Regulation (Regulation (EU) 2016/679), which provides for enhanced data privacy obligations and fines of up to the higher of 4% of annual worldwide revenues or €20 million. Outside of the United States and the European Union, many jurisdictions have adopted or are adopting new data privacy laws that impose further onerous compliance requirements, such as data localization, which prohibit companies from storing outside the jurisdiction data relating to resident individuals. The proliferation of such laws may result in conflicting and contradictory requirements and there can be no assurance that the measures we have taken will be sufficient for compliance with such various laws and regulations. Complying with these various laws is an ongoing commitment and could cause us to incur substantial costs or require us to change our business practices in a manner adverse to our business. Privacy-related claims or lawsuits initiated by governmental bodies, employees, customers or third parties, whether meritorious or not, could adversely affect our businesses, assets, revenues, brands and reputation and result in fines, litigation, regulatory proceedings, regulatory investigations, increased insurance premiums, remediation efforts, indemnification expenditures, lost revenues and other potential liabilities. We take steps to comply with applicable data privacy and security laws, regulations and standards and applicable privacy policies, but there can be no assurance that our compliance efforts will be effective. Any such failure to comply could adversely affect our business, prospects, financial condition or results of operations.

We have a history of net losses and may not achieve or maintain profitability in the future.

We have a history of significant net operating losses, including a net loss of $20.8 million and $5.9 million for the years ended December 31, 2019 and 2018, respectively. We may not be able to achieve or maintain profitability for the current or any future fiscal year. Our ability to achieve and maintain profitability depends on a number of factors, including the growth rate of the sterilization and lab services industries, the price of our products and services, the cost to provide our products and services and the competitiveness of our products and services. We may incur significant losses in the future for a number of reasons, including due to principal and interest expense related to our substantial indebtedness and the other risks described in this prospectus, and we may encounter unforeseen expenses, difficulties, complications and delays and other unknown events. In addition, as a public company, we will incur significant legal, accounting and other expenses that we did not incur as a private company. As a result, our operations may not achieve profitability in the future and, even if we do achieve profitability, we may not be able to maintain or increase it.

We may incur impairment charges on our goodwill and other intangible assets with indefinite lives, which could negatively impact our business, financial condition or results of operations.

We are subject to Accounting Standards Codification Topic 350, Intangibles—Goodwill and Other, which requires that goodwill and other intangible assets that have an indefinite useful life be evaluated at least annually for impairment. Goodwill and other intangible assets with indefinite lives must also be evaluated for impairment between the annual tests if an event or change in circumstance occurs that would more likely than not reduce the fair value of the asset below its carrying amount. If in the future, we determine that there has been an impairment, our financial results for the relevant period would be reduced by the amount of the non-cash

impairment charge, net of any income tax effects, which could have an adverse effect on our financial condition or results of operations.

Unionization efforts and labor regulations in certain countries in which we operate could materially increase our costs or limit our flexibility.

Certain of our employees in non-U.S. markets are represented by works councils or labor unions and work under collective bargaining or similar agreements, some of which are subject to periodic renegotiation. Efforts have been made from time to time to unionize portions of our workforce in the United States. Unionization efforts, new collective bargaining agreements or work stoppages could materially increase our costs, reduce our net revenues or limit our flexibility. Certain legal obligations in these markets require us to contribute amounts to retirement funds and pension plans and restrict our ability to dismiss employees. Future regulations or court interpretations established in the countries in which we conduct our operations could increase our costs and materially adversely affect our business, financial condition or results of operations. Both of the collective bargaining agreements applicable to Brazilian employees were finalized and certified by the Ministry of Labor in 2017. The collective bargaining agreement applicable to Canadian employees located in Kanata expired on March 31, 2020. Negotiations have been postponed during the COVID-19 pandemic and are expected to resume in September 2020. Failure to renew the agreements on similar terms could result in labor disruptions and/or increased labor costs, which could negatively affect our business and operations.

Our business is subject to a variety of laws involving the cannabis industry, many of which are unsettled and still developing and which could subject us to claims or otherwise harm our business.

We provide bioburden reduction irradiation services for the processing of cannabis, primarily in Canada and certain European countries. The commercial recreational cannabis industry is a relatively new industry in Canada, and in Canada, the Cannabis Regulations is a regime that has only been in effect in its current form since October 2018. Likewise, laws and regulations governing cannabis in European countries have evolved rapidly over recent years. In the United States cannabis is a Schedule I controlled substance under federal law. Our activity related to cannabis in the United States is de minimis and has been limited to the irradiation of cannabis for clinical research under Drug Enforcement Administration authorization in compliance with applicable U.S. federal law. In other countries in which the cultivation and use of marijuana is legalized, most notably in Canada, our operations include irradiation services for recreational and medical marijuana. As laws in the United States, Canada, Europe and other jurisdictions evolve, our activities in these spaces may face additional regulations that may be costly or burdensome to be in compliance.

Government or private civil antitrust actions could harm our business, results of operations, financial condition and cash flows.

The antitrust laws prohibit, among other things, any joint conduct among competitors that would lessen competition in the marketplace. We believe that we are in compliance with the legal requirements imposed by the antitrust laws. However, a governmental or private civil action alleging the improper exchange of information, or unlawful participation in price maintenance or other unlawful or anticompetitive activity, even if unfounded, could be costly to defend and could harm our business, prospects, financial condition or results of operations.

Challenges to our tax positions in U.S. or non-U.S. jurisdictions, the interpretation and application of recent U.S. tax legislation or other changes in U.S. or non-U.S. taxation of our operations could harm our business, revenue and financial results.

We operate in a number of tax jurisdictions globally, including in the United States at the federal, state and local levels, and in many other countries, and we therefore are subject to review and potential audit by tax authorities in these various jurisdictions. Significant judgment is required in determining our worldwide provision for income taxes and other tax liabilities, and tax authorities may disagree with tax positions we take

and challenge our tax positions. Successful unilateral or multi-jurisdictional actions by various tax authorities, including in the context of our current or future corporate operating structure and third-party and intercompany arrangements, may increase our worldwide effective tax rate, result in additional taxes or other costs or have other material consequences, which could harm our business, revenue and financial results.

Our effective tax rate may also change from year to year or vary materially from our expectations based on changes or uncertainties in the mix of activities and income allocated or earned among various jurisdictions, changes in tax laws and the applicable tax rates in these jurisdictions (including future tax laws that may become material), tax treaties between countries, our eligibility for benefits under those tax treaties and the valuation of deferred tax assets and liabilities. Such changes could result in an increase in the effective tax rate applicable to all or a portion of our income, impose new limitations on deductions, credits or other tax benefits or make other changes that may adversely affect our business, cash flows or financial performance.

In particular, on December 22, 2017, the Tax Cuts & Jobs Act ("TCJA") was signed into law. The legislation significantly changed U.S. tax law by, among other things, lowering the U.S. federal corporate income tax rate from 35% to 21%, implementing a modified territorial tax system and imposing a transition tax on deemed repatriated earnings of foreign subsidiaries. Certain changes established by the TCJA increased our effective tax rate in prior years, including a new income inclusion item for global intangible low-taxed income ("GILTI") and a one-time tax on accumulated offshore earnings held in cash and illiquid assets. Additional changes have impacted the timing of our recognition of certain items of loss and deduction, including a new limitation on the company's deduction for business interest expense and increased bonus depreciation from 50% to 100% for certain qualified property.

Furthermore, the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") was enacted on March 27, 2020 in response to the outbreak of COVID-19 and its consequences. The CARES Act introduced substantial changes to the U.S. tax code, the overall impact of which on our business is uncertain. For example, among other changes, the CARES Act increased the interest expense deductibility limitations and waived certain limitations on the use of net operating losses, in each case, temporarily.

On July 23, 2020, final regulations were published that exempt certain income subject to a high rate of foreign tax from inclusion under GILTI for tax years beginning after December 31, 2017.

The cumulative impact of these and other changes in tax law is uncertain and our business and financial condition could be adversely affected.

Risks Related to Our Indebtedness and Liquidity

Our substantial leverage could adversely affect our ability to raise additional capital to fund our operations, limit our ability to react to changes in the economy or our industry, expose us to interest rate risk to the extent the interest rate on our variable rate debt increases and prevent us from meeting our obligations under our existing and future indebtedness.

We are highly leveraged. As of July 31, 2020, on an adjusted basis after giving effect to this offering and the application of the net proceeds therefrom, our total indebtedness (including that of our wholly owned subsidiaries) was approximately $ million, of which approximately $ million of such indebtedness of Sotera Health Holdings, LLC is secured indebtedness that is guaranteed by the company and certain of its other subsidiaries. We also had an additional $ million of unutilized capacity under our Revolving Credit Facility at that date (without giving effect to $ million of letters of credit that were outstanding). See "Description of Certain Indebtedness."

Our high degree of leverage could have important consequences for you, including:

- making it more difficult for us to satisfy our obligations;

- increasing our vulnerability to general economic and industry conditions;
- requiring a substantial portion of cash flow from operations to be used to pay off principal and interest on our indebtedness, thereby reducing our ability to use our cash flow to fund our operations, capital expenditures and future business opportunities;
- exposing us to the risk of increased interest rates as our indebtedness is at variable interest rates;
- restricting us from making strategic acquisitions or causing us to make non-strategic divestitures;
- limiting our ability to obtain additional financing for working capital, capital expenditures, product development, debt service requirements, acquisitions and general corporate or other purposes;
- limiting our ability to adjust to changing market conditions and placing us at a disadvantage compared to our competitors that are less highly leveraged; and
- causing us to pay higher rates if we need to refinance our indebtedness at a time when prevailing market interest rates are unfavorable.

We and our subsidiaries may obtain substantial additional indebtedness in the future, subject to the restrictions contained in SHH's senior secured credit facilities (the "Senior Secured Credit Facilities") and the indentures governing SHH's senior secured first-lien notes (the "First Lien Notes") and SHH's senior secured second-lien notes (the "Second Lien Notes"). If new indebtedness is added to our current debt levels, the related risks that we now face could intensify.

Because we are exposed to interest rate risk through our variable-rate borrowings, we have entered into and may, in the future, enter into additional interest rate swaps that involve the exchange of floating for fixed rate interest payments in order to reduce interest rate volatility and interest rate cap agreements. However, we may not maintain interest rate swaps with respect to any of our variable rate indebtedness, and any swaps we enter into may not fully mitigate our interest rate risk. Further, current interest rates are relatively low. If interest rates increase, our debt service obligations on any variable rate indebtedness will increase even if the amount borrowed remains the same, and our net income and cash flows, including cash available for servicing our indebtedness, will correspondingly decrease. Assuming all capacity under our Senior Secured Credit Facilities is fully drawn, based on our indebtedness outstanding as of , 2020, on an adjusted basis after giving effect to this offering and the application of the net proceeds therefrom, each quarter point change in interest rates would result in an approximately $ million increase in total annual interest expense under the Senior Secured Credit Facilities.

Our debt agreements contain restrictions that limit our flexibility in operating our business.

The Senior Secured Credit Facilities and the indentures governing the First Lien Notes and the Second Lien Notes contain various covenants that limit our ability to engage in specified types of transactions. These covenants limit our ability and our restricted subsidiaries' ability to, among other things:

- incur additional indebtedness or issue certain shares of preferred stock;
- pay dividends on, repurchase or make distributions in respect of our capital stock or make other restricted payments;
- make certain investments and acquisitions;
- sell or transfer assets;
- grant liens on our assets;
- consolidate, merge, sell or otherwise dispose of all or substantially all of our assets; and
- enter into certain transactions with our affiliates.

In addition, under certain circumstances we are required to satisfy and maintain specified financial ratios and other financial condition tests under certain covenants in our Senior Secured Credit Facilities. See “Description of Certain Indebtedness.” Our ability to meet those financial ratios and tests can be affected by events beyond our control, including prevailing economic, financial market and industry conditions, and we cannot give assurance that we will be able to satisfy such ratios and tests when required.

A breach of any of these covenants could result in a default under each of our Senior Secured Credit Facilities and/or the indentures governing the First Lien Notes and the Second Lien Notes. Upon the occurrence of an event of default, the lenders and/or noteholders, as applicable, could elect to declare all amounts outstanding under the Senior Secured Credit Facilities, the First Lien Notes and the Second Lien Notes to be immediately due and payable and terminate all commitments to extend further credit. If we were unable to repay those amounts, the lenders under the Senior Secured Credit Facilities or the indentures governing the First Lien Notes and Second Lien Notes could foreclose on the collateral granted to them to secure each such indebtedness. We have pledged substantially all of our assets as collateral under the Senior Secured Credit Facilities and the indentures governing the First Lien Notes and Second Lien Notes.

Our cash flows may not be sufficient to service our indebtedness, and if we are unable to satisfy our obligations under our indebtedness, we may be required to seek other financing alternatives, which may not be successful.

Our ability to make timely payments of principal and interest on our debt obligations, including our obligations under the Senior Secured Credit Facilities, the First Lien Notes and the Second Lien Notes, depends on our ability to generate positive cash flows from operations, which is subject to general economic conditions, competitive pressures and certain financial, business and other factors beyond our control. If our cash flows and capital resources are insufficient to make these payments, we may be required to seek additional financing sources, reduce or delay capital expenditures, sell assets or operations or refinance our indebtedness. These actions could have a material adverse effect on our business, financial conditions and results of operations. In addition, we may not be able to take any of these actions, and even if successful, these actions may not permit us to meet our scheduled debt service obligations. Our ability to restructure or refinance our existing indebtedness will depend on, among other things, the condition of the capital markets and our financial condition at the time. We may not be able to restructure or refinance any of our indebtedness on commercially reasonable terms or at all. If we cannot make scheduled payments on our debt, we will be in default and the outstanding principal and interest on our debt could be declared to be due and payable, in which case we could be forced into bankruptcy or liquidation or required to substantially restructure or alter our business operations or debt obligations.

A lowering or withdrawal of the ratings assigned to our debt by rating agencies may increase our future borrowing costs and reduce our access to capital.

Any rating assigned to our debt by a rating agency could be lowered or withdrawn entirely if, in that rating agency’s judgment, future circumstances relating to the basis of the rating, such as adverse changes to our ability to service our debt obligations or our general financial condition, so warrant. Any future lowering of our ratings likely would make it more difficult or more expensive for us to obtain additional debt financing. Additionally, we enter into various forms of hedging arrangements against currency, interest rates or commodity price fluctuations. Financial strength and credit ratings are also important to the availability and pricing of any hedging activities we decide to undertake, and a downgrade of our credit ratings may make it more costly for us to engage in these activities.

LIBOR and certain other interest “benchmarks” may be subject to regulatory guidance and/or reform that could cause interest rates under our current or future debt agreements to perform differently than in the past or cause other unanticipated consequences.

Because our Senior Secured Credit Facilities, First Lien Notes and Second Lien Notes bear interest at variable interest rates, based on the London Interbank Offered Rate (“LIBOR”) and certain other benchmarks,

fluctuations in interest rates could have a material effect on our business. We currently utilize, and may in the future utilize, derivative financial instruments such as interest rate swaps or interest rate caps to hedge some of our exposure to interest rate fluctuations, but such instruments may not be effective in reducing our exposure to interest fluctuations, and we may discontinue utilizing them at any time. As a result, we may incur higher interest costs if interest rates increase. These higher interest costs could have a material adverse impact on our financial condition and the levels of cash we maintain for working capital.

In addition, LIBOR and certain other interest "benchmarks" may be subject to regulatory guidance and/or reform that could cause interest rates under our current or future debt agreements to perform differently than in the past or cause other unanticipated consequences. The United Kingdom's Financial Conduct Authority, which regulates LIBOR, has announced that it intends to stop encouraging or requiring banks to submit LIBOR rates after 2021, and it is unclear if LIBOR will cease to exist or if new methods of calculating LIBOR will evolve. If LIBOR ceases to exist or if the methods of calculating LIBOR change from their current form, interest rates on our current or future debt obligations may be adversely affected. If a published U.S. dollar LIBOR rate is unavailable, the interest rates on our first and second lien secured notes indexed to LIBOR will be determined in a manner that gives due consideration to the then prevailing market convention for determining a rate of interest for high yield notes in the United States at such time, and the interest rates on our Senior Secured Credit Facilities debt indexed to LIBOR will be determined in a manner that gives due consideration to the then prevailing market convention for determining a rate of interest for syndicated loans in the United States at such time; any of which could result in interest obligations that are more than or that do not otherwise correlate over time with the payments that would have been made on this debt if U.S. dollar LIBOR were available in its current form. Any of these proposals or consequences could have a material adverse effect on our financing costs. Moreover, the phaseout of LIBOR may adversely affect our assessment of effectiveness or measurement of ineffectiveness for accounting purposes of any future interest rate hedging agreements indexed to LIBOR.

Sotera Health Holdings, LLC is a holding company, and therefore its ability to make any required payment on our credit agreements depends upon the ability of its subsidiaries to pay it dividends or to advance it funds.

Sotera Health Holdings, LLC, the borrower under our Senior Secured Credit Facilities and the issuer of our First Lien Notes and Second Lien Notes, has no direct operations and no significant assets other than the equity interests of its subsidiaries. Because it conducts its operations through its operating subsidiaries, Sotera Health Holdings, LLC depends on those entities to generate the funds necessary to meet its financial obligations, including its required obligations under our Senior Secured Credit Facilities. The ability of our subsidiaries to make transfers and other distributions to Sotera Health Holdings, LLC will be subject to, among other things, the terms of any debt instruments of such subsidiaries then in effect and applicable law. If transfers or other distributions from our subsidiaries to Sotera Health Holdings, LLC were eliminated, delayed, reduced or otherwise impaired, our ability to make payments on the obligations under our credit agreements would be substantially impaired.

Risks Related to this Offering and Ownership of Our Common Stock

There is no current trading market for our common stock and an active market may never develop or be sustained.

Before this initial public offering, there has been no public market for our common stock. An active public trading market may not develop after completion of this offering or, if developed, may not be sustained. The lack of an active market may impair your ability to sell your shares at the time you wish to sell them or at a price that you consider reasonable. An inactive market may also impair our ability to raise capital by selling shares and may impair our ability to acquire other businesses or assets using our shares as consideration. Furthermore, although we have been approved to list our common stock on the , even if listed, there can be no guarantee that we will continue to satisfy the continued listing standards of the . If we fail to satisfy the continued listing standards, we could be de-listed, which would have a negative effect on the price of our common stock.

The market and trading volume of our common stock may be volatile, and you could lose all or part of your investment.

The initial public offering price for our common stock will be determined through negotiations between the underwriters and us and may vary substantially from the market price of our common stock following this offering. This price may not reflect the public trading price of our common stock following this offering. If the market price of our common stock declines significantly, you may be unable to resell your shares at or above your purchase price, if at all. The market price of our common stock may fluctuate or decline significantly in the future. Some of the factors that could negatively affect our share price or result in fluctuations in the price or trading volume of our common stock include those listed in "—Risks Related to the Company," "—Risks Related to Our Indebtedness and Liquidity" and the following, some of which are beyond our control:

- volatility or economic downturns in the markets in which we, our suppliers or our customers are located caused by pandemics, including the COVID-19 pandemic, and related policies and restrictions undertaken to contain the spread of such pandemics or potential pandemics;
- developments in our litigation matters and governmental investigations or additional significant lawsuits or governmental investigations relating to our services or facilities;
- regulatory or legal developments in the jurisdictions in which we operate;
- adverse publicity about us or the industries in which we participate;
- variations in our quarterly or annual results of operations, or in those of our competitors or of companies in the medical device and pharmaceutical industries;
- the financial projections we may provide to the public, any changes in these projections or our failure to meet these projections;
- sales of our common stock by us or our stockholders in the future or the perception that such sales may occur;
- publication of research reports about the industries in which we participate;
- changes in analysts' estimates, investors' perceptions, recommendations by securities analysts, our failure to achieve analysts' estimates or failure of analysts to maintain coverage of us;
- volatility in the trading prices and trading volumes of companies similar to us;
- changes in operating performance and stock market valuations of companies in our industry;
- changes in accounting principles, policies, guidance, interpretations or standards; and
- general market conditions and other factors unrelated to our operating performance or the operating performance of our competitors.

Certain broad market and industry factors may decrease the market price of our common stock, regardless of our actual operating performance. The stock market in general has from time to time experienced extreme price and volume fluctuations, including in recent months. In addition, in the past, following periods of volatility in the overall market and the market price of a company's securities, securities class action litigation has often been instituted against these companies. This litigation, if instituted against us, could result in substantial costs and a diversion of our management's attention and resources.

If securities or industry analysts do not publish research or reports about our business, or publish negative reports about our business, our share price and trading volume could decline.

The trading market for our common stock will depend in part on the research and reports that securities or industry analysts publish about us or our business, our market and our competitors. We do not have any control over these analysts. If one or more of the analysts who cover us downgrade our shares or change their opinion of

our business, our share price would likely decline. If one or more of these analysts cease coverage of us or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

If you purchase our common stock in this offering, you will incur immediate and substantial dilution.

The assumed initial public offering price of $ per share (the midpoint of the estimated offering price range set forth on the cover page of this prospectus) will be substantially higher than the pro forma net tangible book value per share of our outstanding common stock of $ per share as of , 2020 after this offering. Investors purchasing shares of our common stock in this offering will pay a price per share that substantially exceeds the book value of our tangible assets after subtracting our liabilities. As a result, investors purchasing common stock in this offering will incur immediate dilution of $ per share, based on the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus.

This dilution is due to the substantially lower price paid by our stockholders who purchased shares prior to this offering as compared to the price offered to the public in this offering. As a result of the dilution to investors purchasing shares in this offering, investors may receive less than the purchase price paid in this offering, if anything, in the event of our liquidation. See “Dilution.”

The future issuance of additional common stock in connection with our incentive plans, acquisitions or otherwise will dilute all other stockholdings.

After this offering, we will have an aggregate of shares of common stock authorized but unissued and not reserved for issuance under our incentive plans. We may issue all of these shares of common stock without any action or approval by our stockholders, subject to certain exceptions. We also intend to continue to evaluate acquisition opportunities and may issue common stock in connection with these acquisitions. Any common stock issued in connection with our incentive plans, acquisitions or otherwise would dilute the percentage ownership held by the investors who purchase common stock in this offering.

Future offerings of debt or equity securities by us may adversely affect the market price of our common stock.

In the future, we may attempt to obtain financing or to further increase our capital resources by issuing additional shares of our common stock or offering debt or other equity securities. Future acquisitions could require substantial additional capital in excess of cash from operations. We would expect to finance any future acquisitions through a combination of additional issuances of equity, corporate indebtedness, asset-backed acquisition financing and/or cash from operations.

Issuing additional shares of our common stock or other equity securities or securities convertible into equity may dilute the economic and voting rights of our existing stockholders or reduce the market price of our common stock or both. Upon liquidation, holders of such debt securities and preferred shares, if issued, and lenders with respect to other borrowings would receive a distribution of our available assets prior to the holders of our common stock. Debt securities convertible into equity could be subject to adjustments in the conversion ratio pursuant to which certain events may increase the number of equity securities issuable upon conversion. Preferred shares, if issued, could have a preference with respect to liquidating distributions or a preference with respect to dividend payments that could limit our ability to pay dividends to the holders of our common stock. Our decision to issue securities in any future offering will depend on market conditions and other factors beyond our control, which may adversely affect the amount, timing or nature of our future offerings. Thus, holders of our common stock bear the risk that our future offerings may reduce the market price of our common stock and dilute their stockholdings in us. See “Description of Capital Stock.”

A sale of a substantial number of shares of our common stock, or the perception that such sales might occur, may cause the price of our common stock to decline.

Future sales of substantial amounts of our common stock in the public market after the lapse of lock-up and other legal restrictions on resale discussed in this prospectus, or the perception that such sales might occur, could cause the trading price of our common stock to decline. These sales, or the possibility that these sales may occur, also might make it more difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate.

Upon the completion of this offering, we will have a total of shares of our common stock outstanding based on the number of shares outstanding as of , 2020 and based on an assumed initial public offering price of $ per share (the midpoint of the estimated offering price range set forth on the cover page of this prospectus). Of these shares, all of the shares of common stock sold in this offering will be freely tradable, without restriction, in the public market immediately after the offering. Each of our directors and officers and substantially all of our other stockholders have entered into a lock-up agreement with the underwriters that restricts their ability to sell or transfer their shares. The lock-up agreements pertaining to this offering will expire 180 days from the date of this prospectus. , however, may, in their sole discretion, waive the contractual lock-up prior to the expiration of the lock-up agreements. After the lock-up agreements expire, shares of common stock, plus any shares purchased in this offering by our existing investors, will be eligible for sale in the public market, of which shares will be held by directors, by executive officers and other affiliates and will be subject to volume limitations under Rule 144 under the Securities Act and various vesting agreements. We intend to file a registration statement on Form S-8 under the Securities Act covering all of the shares of common stock subject to options outstanding and reserved for issuance under our New Equity Plan. This registration statement will become effective immediately upon filing, and shares covered by this registration statement will be eligible for sale in the public markets, subject to Rule 144 limitations applicable to affiliates and any lock-up agreements described above. If these additional shares are sold, or if it is perceived that they will be sold, in the public market, the trading price of our common stock could decline.

After this offering, the holders of an aggregate of shares of our outstanding common stock as of , 2020, will have rights, subject to some conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or our stockholders. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares held by our affiliates as defined in Rule 144 under the Securities Act. Any sales of securities by these stockholders could have a material adverse effect on the market price of our common stock. See “Certain Relationships and Related Party Transactions—Registration Rights Agreement.”

In connection with this offering, we intend to enter into a stockholders’ agreement with certain holders of our common stock, including investment funds and entities affiliated with Warburg Pincus and GTCR and members of our management team, which we refer to as the Stockholders’ Agreement. Under the Stockholders’ Agreement, stockholders party to the agreement are subject to additional contractual restrictions on the transfer of shares of our common stock. Those restrictions, however, may be waived at any time by the mutual agreement of certain investment funds and entities affiliated with Warburg Pincus and GTCR. See “Certain Relationship and Related Party Transactions—Stockholders’ Agreement.”

In the future, we may also issue securities in connection with investments or acquisitions. In particular, the number of shares of our common stock issued in connection with an investment or acquisition could constitute a material portion of our then-outstanding shares of our common stock. Any such issuance of additional securities in the future may result in additional dilution to you or may adversely impact the price of our common stock.

We expect to be a "controlled company" within the meaning of the corporate governance standards and would qualify for exemptions from certain corporate governance requirements.

Because the Sponsors will own a majority of our outstanding common stock following the completion of this offering, we expect to be a "controlled company" as that term is set forth in the corporate governance standards. Under these rules, a company of which more than 50% of the voting power is held by another person or group of persons acting together is a "controlled company" and may elect not to comply with certain corporate governance requirements, including:

- the requirement that a majority of our board of directors consist of independent directors;
- the requirement that our nominating and governance committee be composed entirely of independent directors with a written charter addressing the committee's purpose and responsibilities;
- the requirement that our compensation committee be composed entirely of independent directors with a written charter addressing the committee's purpose and responsibilities; and
- the requirement that we conduct an annual performance evaluation of the nominating and corporate governance and compensation committees.

These requirements will not apply to us as long as we remain a "controlled company." Following this offering, we may utilize some or all of these exemptions. Accordingly, you may not have the same protections afforded to stockholders of companies that are subject to all of the corporate governance requirements. The Sponsors' significant ownership interest could adversely affect investors' perceptions of our corporate governance.

If the ownership of our common stock continues to be highly concentrated, it may prevent minority stockholders from influencing significant corporate decisions and may result in conflicts of interest.

Following the completion of this offering, the Sponsors will own approximately % of our outstanding common stock, or % if the underwriters' option to purchase additional shares is fully exercised, in each case based on an assumed initial public offering price of $ per share (the midpoint of the estimated offering price range set forth on the cover page of this prospectus). As a result, the Sponsors will own shares sufficient for the majority vote over all matters requiring a stockholder vote, including the election of directors; mergers, consolidations and acquisitions; the sale of all or substantially all of our assets and other decisions affecting our capital structure; the amendment of our existing amended and restated certificate of incorporation and our existing bylaws; and our winding up and dissolution. This concentration of ownership may delay, deter or prevent acts that would be favored by our other stockholders. The interests of the Sponsors may not always coincide with our interests or the interests of our other stockholders. This concentration of ownership may also have the effect of delaying, preventing or deterring a change in control. As a result, the market price of our common stock could decline or stockholders might not receive a premium over the then-current market price of our common stock upon a change in control. In addition, this concentration of share ownership may adversely affect the trading price of our common stock because investors may perceive disadvantages in owning shares in a company with significant stockholders.

Certain of our stockholders have the right to engage or invest in the same or similar businesses as us.

The Sponsors have other investments and business activities in addition to their ownership of us. The Sponsors have the right, and have no duty to abstain from exercising such right, to engage or invest in the same or similar businesses as us, do business with any of our customers or suppliers or employ or otherwise engage any of our officers, directors or employees. If the Sponsors or any of their officers, directors or employees acquire knowledge of a potential transaction that could be a corporate opportunity, they have no duty, to the fullest extent permitted by law, to offer such corporate opportunity to us, our stockholders or our affiliates. This

right could adversely impact our business, prospects, financial condition or results of operations if attractive business opportunities are procured by the Sponsors or another party for their own benefit rather than for ours.

In the event that any of our directors and officers who is also a director, officer or employee of any Sponsor acquires knowledge of a corporate opportunity or is offered a corporate opportunity, such person is deemed to have fully satisfied such person's fiduciary duties owed to us and is not liable to us, to the fullest extent permitted by law, if such Sponsor pursues or acquires the corporate opportunity or does not present the corporate opportunity to us, provided that this knowledge was not acquired solely in such person's capacity as our director or officer and such person acts in good faith.

The requirements of being a public company, including compliance with the reporting requirements of the Exchange Act and the requirements of the Sarbanes-Oxley Act, may strain our resources, increase our costs and distract management, and we may be unable to comply with these requirements in a timely or cost-effective manner.

As a public company with shares listed on a U.S. exchange, we will need to comply with new laws, regulations and requirements, certain corporate governance provisions of the Sarbanes-Oxley Act, the Dodd-Frank Act, related regulations of the SEC, the requirements of the and other applicable rules and regulations, with which we are not required to comply as a private company. Complying with these statutes, regulations and requirements will occupy a significant amount of time of our board of directors and management and will significantly increase our legal and financial compliance costs and expenses. We will need to:

- institute a more comprehensive compliance function;
- comply with rules promulgated by the ;
- prepare and distribute periodic public reports in compliance with our obligations under the federal securities laws;
- establish new internal policies, such as those relating to insider trading; and
- involve and retain, to a greater degree, outside counsel and accountants in the above activities.

In addition, as a result of becoming a public company, we intend to add independent directors and create additional board committees. We also expect that being a public company subject to these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be required to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. As a result, it may be more difficult for us to attract and retain qualified individuals to serve on our board of directors or as executive officers. We are currently evaluating and monitoring developments with respect to these rules and regulations, and we cannot predict or estimate the amount of additional costs we may incur or the timing of such costs and the material effect they could have on our business, prospects, financial condition or results of operations.

Because a substantial portion of our proceeds from this offering will be used to repay outstanding indebtedness, only a portion of our proceeds from this offering may be used to further invest in our business. We will have broad discretion in the use of net proceeds from this offering and may not use them effectively.

Our management will have broad discretion to use our net proceeds from this offering, and you will be relying on the judgment of our management regarding the application of these proceeds. We expect to use a portion of the approximately $ million of our net proceeds from this offering to repay $ million of our outstanding indebtedness, with the balance, if any, to be used for working capital and other general corporate purposes. As a result, a significant portion of our net proceeds of this offering will not be invested in our business, and therefore the value of your investment may not be increased. Because we will have broad discretion in the application of the net proceeds from this offering, our management may fail to apply these funds effectively, which could adversely affect our ability to operate and grow our business. You will not have the opportunity to influence our decisions on how to use our net proceeds from this offering.

The reduced disclosure requirements applicable to us as an "emerging growth company" under the JOBS Act may make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act and may remain an emerging growth company until the earliest of (a) the last day of the fiscal year during which we had total annual gross revenues of $1.07 billion or more, (b) the last day of our fiscal year following the fifth anniversary of this offering, (c) the date on which we have issued more than $1.0 billion in non-convertible debt during the previous three-year period or (d) the date on which we are deemed a "large accelerated filer" as defined under the federal securities laws. For as long as we remain an "emerging growth company," we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies, including, but not limited to, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements and exemptions from the requirements of holding a nonbinding advisory vote on certain executive compensation matters, such as "say on pay" and "say on frequency" and stockholder approval of any golden parachute payments not previously approved. As a result, our stockholders may not have access to certain information that they may deem important.

We cannot predict if investors will find our common stock less attractive as a result of our taking advantage of these exemptions. If they do, there may be a less active trading market for our common stock and our stock price may be more volatile.

Under the JOBS Act, emerging growth companies can also delay adopting new or revised accounting standards until such time as those standards apply to private companies. We are choosing to take advantage of this extended transition period and, as a result, we will comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for private companies or at which time we conclude it is appropriate to avail ourselves of early adoption provisions of applicable standards. Accordingly, our financial statements may not be comparable to companies that comply with public company effective dates, and our stockholders and potential investors may have difficulty in analyzing our operating results by comparing us to such companies.

Anti-takeover provisions in our amended and restated certificate of incorporation and amended and restated bylaws, and Delaware law, could discourage a change in control of our company or a change in our management.

Our amended and restated certificate of incorporation and amended and restated bylaws and our Stockholders' Agreement will contain provisions that might enable our management to resist a takeover. These provisions include:

- the right to issue preferred stock without stockholder approval, which could be used to dilute the stock ownership of a potential hostile acquirer;
- limiting the liability of, and providing indemnification to, our directors and officers;
- controlling the procedures for the conduct and scheduling of board of directors and stockholder meetings; and
- providing our board of directors with the express power to postpone previously scheduled annual meetings and to cancel previously scheduled special meetings.

These provisions might discourage, delay or prevent a change in control of our company or a change in our management. The existence of these provisions could adversely affect the voting power of holders of common stock and limit the price that investors might be willing to pay in the future for shares of our common stock. See "Description of Capital Stock."

We do not anticipate paying any dividends on our common stock in the foreseeable future, and, consequently, your ability to achieve a return on your investment will depend on appreciation in the price of our common stock.

We do not expect to declare or pay dividends on our common stock in the foreseeable future. We currently expect to use any cash flow generated by operations to pay for our operations, repay existing indebtedness and grow our business. Any decisions to declare and pay dividends in the future will be made at the discretion of our board of directors and will depend on, among other things, our results of operations, financial condition, cash requirements, contractual restrictions, restrictions imposed by applicable law and other factors that our board of directors may deem relevant. Our ability to pay dividends on our common stock is limited by the terms of the Senior Secured Credit Facilities and the First Lien Notes and Second Lien Notes. As a result, capital appreciation, if any, of our common stock will be the sole source of potential gain for the foreseeable future, and you will have to sell some or all of your common stock to generate cash flow from your investment. See “Dividend Policy.”

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Some of the statements made under the headings “Summary,” “Business” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” in the financial statements and elsewhere in this prospectus contains forward-looking statements that reflect our plans, beliefs, expectations and current views with respect to, among other things, future events and financial performance. Forward-looking statements are often characterized by the use of words such as “believes,” “estimates,” “expects,” “projects,” “may,” “intends,” “plans” or “anticipates,” or by discussions of strategy, plans or intentions. Such forward-looking statements involve known and unknown risks, uncertainties and other important factors that could cause our actual results, performance or achievements, or industry results, to differ materially from historical results or any future results, performance or achievements expressed, suggested or implied by such forward-looking statements. Such risks and uncertainties include, but are not limited to:

- any disruption in the availability of, or increases in the price of, EO, Co-60 or our other direct materials, services and supplies, including as a result of current geopolitical instability arising from U.S. relations with Russia and related sanctions;
- adverse changes in industry trends;
- adverse changes in environmental, health and safety regulations;
- accidents resulting from the safety risks associated with the use and disposal of potentially hazardous materials such as EO and Co-60;
- accidents resulting from the safety risks associated with the transportation of potentially hazardous materials such as EO and Co-60;
- liability claims relating to health risks associated with the use of EO and Co-60;
- current and future legal proceedings;
- the intensity of competition we face;
- any market changes that impact our long-term supply contracts with variable price clauses;
- allegations of our failure to properly perform our services and any potential product liability claims and recalls;
- the regulatory requirements to which we are subject, and any failures to receive or maintain, or delays in receiving, required clearance or approvals;
- business continuity hazards and other risks associated with our operations, including our reliance on the use and sale of products and services from a single location;
- the impact of the COVID-19 pandemic;
- our ability to increase capacity at existing facilities and build new facilities in a timely and cost-effective manner;
- our ability to renew the long-term leases for our facilities at the end of their terms;
- the risks of doing business internationally;
- instability in global and regional economic and political conditions;
- our failure to retain key personnel and attract talent;
- the significant regulatory oversight to which our import and export operations are subject, and any failure to comply with applicable regulations;
- any cyber security breaches and data leaks as a result of our dependence on information technology systems;

- the risks of pursuing strategic transactions, including acquisitions, and our ability to find suitable acquisition targets or integrate strategic acquisitions successfully into our business;
- our ability to implement effective internal controls over financial reporting;
- our reliance on intellectual property to maintain our competitive position and the risk of claims from third parties that we infringe or misappropriate their intellectual property rights;
- the data privacy and security laws and regulations to which we are subject, and any ineffective compliance efforts with such laws and regulations;
- our ability to maintain profitability in the future;
- impairment charges on our goodwill and other intangible assets with indefinite lives;
- unionization efforts and labor regulations in certain countries in which we operate;
- the variety of laws involving the cannabis industry to which we are subject, and any failure to comply with those laws;
- the risk of government or private civil antitrust actions;
- adverse changes to our tax positions in U.S. or non-U.S. jurisdictions, the interpretation and application of recent U.S. tax legislation or other changes in U.S. or non-U.S. taxation of our operations;
- our substantial leverage could adversely affect our ability to raise additional capital, limit our ability to react to changes in the economy or our industry and prevent us from meeting our obligations under our existing and future indebtedness;
- our ability to generate sufficient cash flows or access sufficient additional capital to meet our debt obligations or to fund our other liquidity needs; and
- the other risks described in the “Risk Factors” section of this prospectus.

These statements are based on current plans, estimates and projections, and therefore you should not place undue reliance on them. Forward-looking statements speak only as of the date they are made, and we undertake no obligation to update them publicly in light of new information or future events. The inclusion of this forward-looking information should not be regarded as a representation by us, the Sponsors, the underwriters or any other person that the future plans, estimates or expectations contemplated by us will be achieved.

You should carefully consider the “Risk Factors” and subsequent public statements, or reports filed with or furnished to the SEC, before making any investment decision with respect to our securities. If any of these trends, risks or uncertainties actually occurs or continues, our business, financial condition or operating results could be materially adversely affected, the trading prices of our securities could decline and you could lose all or part of your investment. All forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by this cautionary statement.

USE OF PROCEEDS

We estimate that our net proceeds from the sale of shares of common stock offered by us will be approximately $ or approximately $ if the underwriters exercise their option to purchase additional shares in full (at an assumed initial public offering price of $ per share of common stock, the midpoint of the estimated offering price range set forth on the cover of this prospectus), after deducting underwriting discounts and estimated offering expenses payable by us of approximately $ or approximately $ if the underwriters exercise their option to purchase additional shares in full.

We intend to use a portion of the net proceeds of this offering to repay $ million of indebtedness. We plan to use the balance of the net proceeds of this offering for working capital and other general corporate purposes. In addition, we believe that opportunities may exist from time to time to expand our current business through acquisitions of or investments in complementary products, services, technologies or businesses. While we have no current agreements, commitments or understandings or any specific acquisitions at this time, we may use a portion of our net proceeds for these purposes. Pending use of the proceeds as described above, we intend to invest the proceeds in short-term, interest-bearing, investment-grade securities.

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, would increase or decrease the net proceeds to us from this offering by approximately $ million, assuming no change in the assumed number of shares offered by us and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each increase or decrease of 1.0 million in the number of shares offered by us would increase or decrease the net proceeds to us from this offering by approximately $ million, assuming no change in the assumed initial public offering price and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. To the extent we raise more proceeds in this offering than currently estimated, we will repay additional amounts of our indebtedness. To the extent we raise less proceeds in this offering than currently estimated, we will reduce the amount of indebtedness we repay.

DIVIDEND POLICY

We do not currently expect to pay any dividends on our common stock. Instead, we intend to use any future earnings for the operation and growth of our business and the repayment of indebtedness.

Future cash dividends, if any, will be at the discretion of our board of directors and will depend upon, among other things, our financial condition, earnings, capital requirements, level of indebtedness, statutory and contractual restrictions applicable to the payment of dividends and other considerations that our board of directors deems relevant. The timing and amount of future dividend payments will be at the discretion of our board of directors.

Because we are a holding company and have no direct operations, we will only be able to pay dividends from our available cash on hand and any funds we receive from our subsidiaries. The agreements governing our existing indebtedness contain negative covenants that limit, among other things, our ability to pay cash dividends on our common stock, and the terms of any future loan agreement into which we may enter or any additional debt securities we may issue are likely to contain similar restrictions on the payment of dividends. In addition, Delaware law may impose requirements that may restrict our ability to pay dividends. See “Description of Certain Indebtedness” and “Risk Factors—Risks Related to this Offering and Ownership of Our Common Stock—We do not anticipate paying any dividends on our common stock in the foreseeable future, and, consequently, your ability to achieve a return on your investment will depend on appreciation in the price of our common stock.”

In 2019, we paid dividends to Topco Parent in the aggregate amount of $691.2 million. We do not currently intend to declare or pay any similar special dividends in the foreseeable future.

For a discussion of the application of withholding taxes on dividends, see “Material U.S. Federal Income Tax Considerations for Non-U.S. Holders.”

CAPITALIZATION

The following table sets forth our cash and cash equivalents and our capitalization as of June 30, 2020:

- on an actual basis;
- on a pro forma basis to give effect to the completion of our corporate reorganization prior to the completion of this offering (see "Corporate Reorganization"); and
- on a pro forma as adjusted basis to reflect:
  - the sale of shares of our common stock in this offering at an assumed initial public offering price of $ per share (the midpoint of the estimated offering price range on the cover of this prospectus), after deducting underwriting discounts and commissions and estimated offering expenses; and
  - the application of the net proceeds from this offering to repay $ million of our outstanding indebtedness (and as otherwise described under the heading "Use of Proceeds").

You should read the following table in conjunction with the sections titled "Use of Proceeds," "Selected Consolidated Financial Information," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and related notes included elsewhere in this prospectus.

	As of June 30, 2020		
	Actual	Pro Forma	Pro Forma As Adjusted
		(In thousands) (unaudited)	
Cash and cash equivalents	$	$	$
Long-term debt, including current portion:			
Revolving credit facility			
Term loan			
First lien notes			
Second lien notes			
Capital lease obligations			
Other long-term debt			
Total debt			
Stockholders' equity:			
Common stock, with $0.01 par value per share, 3,000 shares authorized, 3,000 shares issued and outstanding, actual; shares authorized, shares issued and outstanding, pro forma; shares authorized, shares issued and outstanding, pro forma as adjusted			
Additional paid-in capital			
Retained earnings (deficit)			
Accumulated other comprehensive loss			
Total equity (deficit) attributable to the company			
Noncontrolling interests			
Total equity (deficit)			
Total capitalization	$	$	$

Numbers in table may not foot, due to rounding.

The pro forma as adjusted information is illustrative only and will change based on the actual initial public offering price and other final terms of this offering. To the extent we raise more proceeds in this offering than currently estimated, we will repay additional amounts of our indebtedness. To the extent we raise less proceeds in this offering than currently estimated, we will reduce the amount of indebtedness we repay. Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, would decrease or increase our long-term debt by $ million, increase or decrease our additional paid-in capital and total equity (deficit) by $ million and decrease or increase total capitalization by $ million, assuming no change in the assumed number of shares offered by us, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable. Each increase or decrease of 1.0 million shares in the number of shares offered by us would decrease or increase our long-term debt by $ million, increase or decrease our additional paid-in capital and total equity (deficit) by $ million and decrease or increase total capitalization by $ million, assuming no change in the assumed initial public offering price and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted to the extent of the difference between the initial public offering price per share of our common stock and the net tangible book value per share of our common stock after this offering. Dilution results from the fact that the per share offering price of the common stock is substantially in excess of the net tangible book value per share attributable to the existing equity holders. Net tangible book value per share represents the amount of stockholders' equity excluding intangible assets, divided by the number of shares of common stock outstanding at that date.

Our historical net tangible book value as of , 2020 was $ million, or approximately $ per share of common stock (assuming shares of common stock outstanding).

The dilution per share to new investors represents the difference between the amount per share paid by purchasers of common stock in this offering and the net tangible book value per share of common stock immediately after completion of this offering. Investors participating in this offering will incur immediate, substantial dilution. After giving effect to the corporate reorganization and our sale of shares of common stock in this offering at an assumed initial public offering price of $ per share, the midpoint of the estimated offering price range set forth on the cover of this prospectus, and after deducting the estimated underwriting discounts and commissions and offering expenses, our net tangible book value as of , 2020 would have been approximately $ or approximately $ per share. This amount represents an immediate increase in net tangible book value of $ per share to existing stockholders and an immediate dilution in net tangible book value of $ per share to purchasers of common stock in this offering, as illustrated in the following table.

Assumed initial public offering price per share		$
Net tangible book value per share as of , 2020	$	
Increase in net tangible book value per share attributable to new investors in this offering		
Net tangible book value per share after this offering		
Dilution in net tangible book value per share to investors in this offering		$

This dilution information is illustrative only, and following the completion of this offering, will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing. Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus would increase or decrease, as applicable, our net tangible book value by approximately $ or approximately $ per share, and the dilution in the net tangible book value per share to investors in this offering by approximately $ per share, assuming no change in the assumed number of shares offered by us, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each increase or decrease of 1.0 million shares in the number of shares offered by us would increase or decrease our net tangible book value per share after this offering by $, and increase or decrease dilution per share to new investors by $, assuming no change in the initial public offering price and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us.

To the extent the underwriters' option to purchase additional shares is exercised, there will be further dilution to new investors.

The following table summarizes, as of , 2020, on the basis described above, the differences between existing stockholders and new investors with respect to the number of shares of common stock purchased from us, the total consideration paid and the average price per share of our common stock paid by existing stockholders. The calculation with respect to shares purchased by new investors in this offering reflects the issuance of shares of our

common stock in this offering at an assumed initial public offering price of $ per share, the midpoint of the range set forth on the cover of this prospectus, before deducting the estimated underwriting discounts and commissions and offering expenses.

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders		%	$	%	$
New investors		%	$	%	$
Total		100%		100%	$

If the underwriters exercise their option to purchase additional shares in full, the number of shares of common stock held by new investors will increase to , or percent, of the total number of shares of our common stock outstanding after this offering.

The discussion and table above assume no issuance of shares reserved for issuance under our equity incentive plans. Following the closing of this offering, there will be shares of common stock reserved for future issuance under the New Equity Plan.

SELECTED CONSOLIDATED FINANCIAL INFORMATION

The following tables present our selected historical consolidated financial and other data. The selected historical consolidated statements of operations data and statements of cash flows data for the years ended December 31, 2019 and 2018, and the selected historical balance sheet data as of December 31, 2019 and December 31, 2018, have been derived from our audited consolidated financial statements included elsewhere in this prospectus. The selected historical consolidated statements of operations data and statements of cash flows data for the six months ended June 30, 2020 and 2019 and the selected historical consolidated balance sheet data as of June 30, 2020 have been derived from our unaudited interim condensed consolidated financial statements included elsewhere in this prospectus. Our unaudited interim condensed consolidated financial statements have been prepared on the same basis as our audited consolidated financial statements and, in the opinion of our management, reflect all adjustments, including normal recurring items, considered necessary for a fair presentation of this data.

The following selected consolidated financial data should be read in conjunction with the information contained in "Use of Proceeds," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and related notes thereto included elsewhere in this prospectus. Our historical results are not necessarily indicative of our results in any future period and our results for any interim period are not necessarily indicative of results that may be expected for any full fiscal year.

Statement of Operations Data: *(in thousands, except per share amounts)*	**Year Ended December 31,**		**Six Months Ended June 30,**	
	2019	**2018**	**2020**	**2019**
Revenues:				
Service	$ 673,037	$ 615,510	$ 341,849	$ 328,482
Product	105,290	130,639	59,436	61,038
Total net revenues	778,327	746,149	401,285	389,520
Cost of revenues:				
Service	333,290	326,559	163,689	164,467
Product	49,606	62,338	22,112	27,087
Total cost of revenues	382,896	388,897	185,801	191,554
Gross profit	395,431	357,252	215,484	197,966
Operating expenses:				
Selling, general and administrative expenses	147,480	133,363	79,737	65,903
Amortization of intangible assets	58,562	57,975	29,140	29,504
Impairment of long-lived assets	5,792	34,981	—	—
Impairment of GA-MURR intangible assets	—	50,086	—	—
Total operating expenses	211,834	276,405	108,877	95,407
Operating income	183,597	80,847	106,607	102,559
Interest expense, net	157,729	143,326	111,812	75,127
Loss on extinguishment of debt	30,168	—	—	—
Foreign exchange (gain) loss	3,862	13,075	(799)	877
Gain on sale of Medical Isotopes business	—	(95,910)	—	—
Other income, net	(7,246)	(3,866)	(1,208)	(4,908)
Income (loss) before income taxes	(916)	24,222	(3,198)	31,463
Provision (benefit) for income taxes	19,509	30,098	(8,464)	18,592
Net income (loss)	(20,425)	(5,876)	5,266	12,871
Less: Net income (loss) attributable to noncontrolling interests	425	(6)	213	186
Net income (loss) attributable to the company	$ (20,850)	$ (5,870)	$ 5,053	$ 12,685

Statement of Operations Data: (in thousands, except per share amounts)	Year Ended December 31, 2019	Year Ended December 31, 2018	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019
Other comprehensive (loss) income, net of tax:				
Pension and post-retirement benefits	$ (12,126)	$ 873	$ 1,240	$ (585)
Interest rate swaps	179	—	(2,014)	—
Foreign currency translation	27,402	(67,917)	(48,527)	25,104
Comprehensive income (loss)	(4,970)	(72,920)	(44,035)	37,390
Less: comprehensive income attributable to noncontrolling interests	310	(186)	212	71
Comprehensive income (loss) attributable to the company	$ (5,280)	$ (72,734)	$ (44,247)	$ 37,319
Earnings (loss) per share:				
Basic and Diluted	$ (6,950)	$ (1,957)	$ 1,684	$ 4,228
Weighted-average shares used to compute earnings (loss) per share:				
Basic and Diluted	3,000	3,000	3,000	3,000
Pro forma earnings (loss) per share (unaudited)[a]				
Basic	$		$	
Diluted	$		$	
Pro forma weighted-average shares used to compute earnings (loss) per share (unaudited)[a]				
Basic				
Diluted				
Pro forma as adjusted earnings (loss) per share (unaudited)[a][b]				
Basic	$		$	
Diluted	$		$	
Pro forma as adjusted weighted-average shares used to compute earnings (loss) per share (unaudited)[a][c]				
Basic				
Diluted				
Selected cash flow data:				
Net cash provided by operating activities	$ 149,041	$ 119,563	$ 52,687	$ 78,033
Net cash provided by (used in) investing activities[d]	(57,257)	96,638	(23,438)	(24,868)
Net cash used in financing activities	(126,030)	(191,857)	(6,518)	(17,449)
Other data:				
Adjusted EBITDA[e]	$ 379,932	$ 340,637	$ 206,312	$ 190,039

(a) The pro forma and pro forma as adjusted data give effect to the completion of our corporate reorganization prior to the completion of this offering.

(b) Pro forma as adjusted earnings (loss) per share has been adjusted to reflect $ million and million of lower interest expense, net of taxes, for the year ended December 31, 2019 and the six months ended June 30, 2020, respectively, related to the repayment of $ of principal amount outstanding under our , using a portion of the proceeds of this offering as if such indebtedness had been repaid as of the beginning of the period.

(c) Pro forma as adjusted weighted-average shares include those shares of common stock to be issued in this offering necessary to pay down $ million principal amount outstanding under our , based on an assumed initial public offering price of $ per share (the midpoint of the estimated offering price range set forth on the cover page of this prospectus). Such shares are assumed to have been issued as of the date

such indebtedness was incurred for the year ended December 31, 2019 and as of the beginning of the six months ended June 30, 2020.

(d) Includes purchases of property, plant and equipment of $57,257, $72,613, $23,438 and $24,868, respectively (which includes Co-60 held at gamma irradiation sites).

(e) Adjusted EBITDA is a non-GAAP financial measure. For a definition of Adjusted EBITDA and a reconciliation to net income (loss), see "Summary Historical Consolidated Financial and Other Data—Non-GAAP Financial Measures."

	As of December 31,		As of June 30,
	2019	2018	2020
Balance Sheet Data (as of period end):			
(in thousands)			
Cash and cash equivalents	$ 62,863	$ 96,272	$ 86,195
Working capital[(a)]	128,364	169,488	144,489
Total assets	2,580,674	2,708,584	2,558,977
Total long-term debt (including current portion)	2,817,204	2,204,906	2,816,414
Total liabilities	3,221,806	2,663,093	3,241,027
Total equity (deficit) attributable to the company	(642,574)	44,359	(683,704)
Noncontrolling interests	1,442	1,132	1,654
Total equity (deficit)	(641,132)	45,491	(682,050)

(a) Working capital represents current assets less current liabilities.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis in conjunction with our selected consolidated financial information and consolidated financial statements and related notes included elsewhere in this prospectus. This discussion and analysis contains forward-looking statements that are based on management's current expectations, estimates and projections about our business and operations. Our actual results may differ materially from those currently anticipated and expressed in such forward-looking statements as a result of various factors, including the factors we describe in the section entitled "Risk Factors" and elsewhere in this prospectus.

OVERVIEW

We are a leading global provider of mission-critical sterilization and lab testing and advisory services to the medical device and pharmaceutical industries. We are driven by our mission: Safeguarding Global Health®. We provide end-to-end sterilization as well as microbiological and analytical lab testing and advisory services to help ensure that medical, pharmaceutical and food products are safe for healthcare practitioners, patients and consumers in the United States and around the world. Our customers include more than 40 of the top 50 medical device companies and eight of the top ten global pharmaceutical companies (based on revenue). Our services are an essential aspect of our customers' manufacturing process and supply chains, helping to ensure sterilized medical products reach healthcare practitioners and patients. Most of these services are necessary for our customers to satisfy applicable government requirements. We give our customers confidence that their products meet regulatory, safety and effectiveness requirements. With a combined tenure across our businesses of nearly 200 years and our industry-recognized scientific and technological expertise, we help to ensure the safety of millions of patients and healthcare practitioners around the world every year. Across our 63 facilities worldwide, we have nearly 2,900 employees who are dedicated to safety and quality. We are a trusted partner to more than 5,800 customers in over 50 countries.

We serve our customers throughout their product lifecycles, from product design to manufacturing and delivery, helping to ensure the sterility, effectiveness and safety of their products for the end user. We operate across two core businesses: sterilization services and lab services. Each of our businesses has a longstanding record and is a leader in its respective market, supported and connected by our core capabilities including deep end market, regulatory, technical and logistics expertise. The combination of Sterigenics, our terminal sterilization business, and Nordion, our Co-60 supply business, makes us the only vertically integrated global gamma sterilization provider in the sterilization industry. This provides us with additional insights and allows us to better serve our customers. For financial reporting purposes, our sterilization services business consists of two reportable segments, Sterigenics and Nordion, and our lab services business consists of one reportable segment, Nelson Labs.

- **Sterilization Services (Sterigenics and Nordion):**
  - Under our Sterigenics brand, we provide outsourced terminal sterilization and irradiation services for the medical device, pharmaceutical, food safety and advanced applications markets. Terminal sterilization is the process of sterilizing a product in its final packaging. It is an essential, and often government-mandated, step in the manufacturing process of healthcare products before they are shipped to end-users. These products include medical protective barriers, including PPE, procedure kits and trays, implants, syringes, catheters, wound care products, laboratory products and pharmaceuticals. Our sterilization facilities are often strategically located near our healthcare customers' manufacturing sites or distribution hubs, which is intended to decrease our customers' transportation costs and help them optimize their supply chain and logistics. We offer our customers a complete range of outsourced terminal sterilization services, primarily using the three major sterilization technologies: gamma irradiation, EO processing and E-beam irradiation.
  - Under our Nordion brand, we are the leading global provider of Co-60 and gamma irradiators, which are key components to the gamma sterilization process. Co-60 is a radioactive isotope that

is needed by medical device manufacturers and sterilizers including Sterigenics. Co-60 decays and must be replaced over time to produce the desired level of irradiation. We have the most comprehensive access to nuclear power reactor operators around the world, which are able to produce Co-60. The capabilities that we provide to Nordion's customers include handling and processing of Co-60, recycling of depleted sources and global logistics enabled by our licensed container fleet. We are integral to our customers' operations due to highly coordinated and complex installation processes. In addition, under our Nordion brand, we are a leading supplier of Co-60 sources for stereotactic radiosurgery devices (such as the Gamma Knife®), which are used for certain oncology applications.

- **Lab Services (Nelson Labs):**
  - Under our Nelson Labs brand, we are a global leader in outsourced microbiological and analytical chemistry testing and advisory services for the medical device and pharmaceutical industries. We provide our customers mission-critical lab testing services, which assess the product quality, effectiveness, patient safety and end-to-end sterility of products. These services are necessary for our customers' regulatory approvals, product releases and ongoing product performance evaluations.

    Microbiology testing services help to identify and measure the potential risks of microbes to a product and ensure that the quality of the products is maintained. Analytical chemistry lab testing is also a critical part of the pharmaceutical drug and medical device development and manufacturing process. This testing provides first-hand information as to the content, quality and safety of raw materials, intermediates and finished products. We also provide expert advisory services to aid customers in navigating the regulatory requirements applicable throughout the product lifecycle.

    Nelson Labs serves over 3,800 customers across 13 facilities in the United States, Mexico, Asia and Europe. We have a comprehensive array of over 800 laboratory tests supporting our customers from initial product development and sterilization validation, through regulatory approval and ongoing product testing for sterility, safety and quality assurance. Our customers rely on our expertise in their industries to get their medical device and pharmaceutical products to market.

For the year ended December 31, 2019, we recorded net revenues of $778.3 million, net loss of $20.4 million and Adjusted EBITDA of $379.9 million. In addition, for the six months ended June 30, 2020, we recorded net revenues of $401.3 million, net income of $5.3 million and Adjusted EBITDA of $206.3 million. For the definition of Adjusted EBITDA and the reconciliation of these measures from net income (loss), please see "Summary—Summary Historical Consolidated Financial and Other Data." More than 90% of our sterilization services revenues in each of the year ended December 31, 2019 and the six months ended June 30, 2020 were from customers under multi-year contracts.

TRENDS AND KEY FACTORS AFFECTING OUR RESULTS OF OPERATIONS

We expect that our performance and financial condition will continue to be driven by the key trends impacting our industries, customers and their end markets, as outlined in "Business—Industry Overview." In addition, we believe the following trends and key factors have underpinned our recent operating results and may continue to affect our performance and financial condition in future periods.

- **Continue to drive organic growth**. We drive organic growth through increasing utilization of our existing capacity and expanding our capacity and service offerings. In our Sterigenics business, we are investing in additional capacity at existing facilities and building new facilities. In our Nordion business, we are developing further supply relationships and expanding our capabilities to source Co-60 from additional types of reactors. In our Nelson Labs business, we are investing to expand our

geographic reach, technical expertise and regulatory knowhow to stay ahead of the dynamic and increasingly stringent regulatory landscape in the healthcare industry, and drive growth in our advisory services offering.

- **Disciplined and strategic M&A activity**. We have completed several strategic transactions that have expanded our addressable market and enhanced our global capabilities and footprint. In 2017, we acquired Toxikon Europe NV, a lab services business with extractable and leachables testing services. In 2018, we acquired Gibraltar Laboratories, Inc. (now known as Nelson Laboratories Fairfield, Inc.) ("Nelson Fairfield"), a provider of microbiological and analytical chemistry testing. In July 2020, we acquired Iotron Industries Canada, Inc., an E-beam processing services and equipment provider. We also completed the sale of our former Medical Isotopes business to a subsidiary of BWX Technologies, Inc. in 2018 to monetize a noncore asset, the proceeds from which we reinvested in our core businesses. We are continuing to pursue strategic acquisitions to grow our footprint and expand our capabilities. In the contract sterilization business, we believe there are several attractive consolidation opportunities that could allow us to grow our footprint. We strategically pursue acquisitions that expand the reach and capabilities of Nelson Labs.

- **Business optimization and cost savings initiatives**. We have conducted several business optimization and cost savings projects in connection with the integrations of Nordion and Nelson Labs, the divestiture of the Medical Isotopes business and the creation of the Sotera Health "One Company" platform. These projects included consolidation of certain back office functions into a shared service model, optimization and harmonization of certain systems, insurance lines and benefits programs and rebranding the company under the name Sotera Health. Additionally, we have realigned our operating structure and made enhancements to certain processes. We also withdrew from the GA-MURR project in 2018. These projects have resulted in more efficient operations, working capital improvement and a more integrated and robust control and governance environment. In 2018, 2019 and through June 30, 2020, we incurred $8.8 million, $4.2 million and $1.8 million, respectively, in connection with implementing these projects. These measures have contributed in part to our 12.8% operating margin improvement and 3.2% of Adjusted EBITDA margin improvement in 2019. For the definition of Adjusted EBITDA and the reconciliation of these measures from net income (loss), please see "Summary—Summary Historical Consolidated Financial and Other Data."

- **Exit activities and litigation costs**. We are currently the subject of a series of tort lawsuits alleging personal injury by purported exposure to EO emitted by our facility in Willowbrook, Illinois. We deny these allegations and are vigorously defending against these claims. In addition, we have been involved in litigation with local officials related to claims of loss of neighboring property value and to reopen our Atlanta facility that had been closed to enhance our EO emissions control equipment. We expect that our litigation costs will increase during the pendency of these cases as the per occurrence limit of our environmental liability insurance had been reached for the Willowbrook litigation as of June 30, 2020 and as we prepare for the commencement of the first personal injury trials currently scheduled to occur in 2021. See "Business—Legal Proceedings." On September 30, 2019, we announced plans to exit our EO sterilization operations in Willowbrook and recorded a fixed asset impairment and have continued to incur certain closure costs including lease costs, payroll and utility expenses. For the six months ended June 30, 2020 and the year ended December 31, 2019, we recorded costs of $1.2 million and $1.7 million, respectively, relating to the closure of our Willowbrook facility.

- **Impacts of being a public company**. Following this offering, as a public company we will incur significant expenses on an ongoing basis that we did not incur as a private company. Those costs include additional director and officer liability insurance expenses, as well as third-party and internal resources related to accounting, auditing, Sarbanes-Oxley Act compliance, legal, and investor and public relations expenses. These costs will generally be classified as Selling, General & Administrative ("SG&A") expenses. Additionally, in connection with this offering, we expect to implement a long-term equity incentive plan to align our equity compensation program with public company plans and practices.

- **Borrowings, financing costs and financial leverage**. In December 2019, SHH entered into new Senior Secured Credit Facilities (which consist of a senior secured first lien term loan and senior secured first lien revolving credit facility) and issued $770.0 million of senior secured second lien notes to refinance SHH's previously outstanding term loan and the redemption of the senior notes issued by us and SHH. In July 2020, SHH also issued $100.0 million of senior secured first lien notes to finance, in part, the Iotron acquisition. In connection with the 2019 refinancing, we wrote-off $13.5 million of debt issuance and discount costs and recognized $14.6 million representing premiums paid in connection with the early extinguishment of the senior notes. We also recognized an additional $2.1 million of expense related to debt issuance and discount costs. As a result, the majority of our long-term debt, all of which is prepayable, is not due until 2026. Going forward, absent any changes in interest rates, we expect a decrease in cash interest expense in future periods following this offering due to lower debt balances outstanding, as we intend to use a portion of the net proceeds of this offering to repay a portion of our outstanding indebtedness.

- **Impact of U.S. tax reform**. On December 22, 2017, the Tax Cuts & Jobs Act ("TCJA") was signed into law. The legislation significantly changed U.S. tax law by, among other things, lowering corporate income tax rates to 21%, implementing an inclusion item for global intangible low-taxed income ("GILTI") and limiting interest expense deductions to 30% of U.S. adjusted taxable income. The CARES Act was signed into law on March 27, 2020 and temporarily increases the interest expense deduction limitation to 50% of U.S. adjusted taxable income for both 2019 and 2020. On July 23, 2020, final regulations were published that exempt income subject to a high rate of foreign tax from inclusion under GILTI for tax years beginning after December 31, 2017.

  We currently estimate a 2020 GILTI current tax expense of approximately $12.7 million. In 2019 and 2018, we recognized GILTI current tax expense of $10.3 million and $4.9 million, respectively. We are analyzing the impact of the final GILTI regulations on our 2018, 2019 and 2020 income tax expense and will include the impact, if any, on our consolidated financial statements for the period ended September 30, 2020.

  Although the TCJA limits the deductibility of interest expense in any given year, any amounts not currently deductible may be carried forward indefinitely. At December 31, 2019 we had $41.5 million of deferred tax assets, of which $5.6 million had a valuation allowance, relating to interest expense from 2019 and prior years that was not deductible in the originating period. As a result of the increased limitation provided by the CARES Act, we reversed the $5.6 million valuation allowance for the period ended March 31, 2020 and recorded a reduction in our 2019 and 2020 current income tax liability of $9.1 million in each period. We do not expect to fully realize the benefit of interest expense incurred in future periods and therefore may recognize a valuation allowance on any related deferred tax assets generated in those future periods that will impact our annual effective income tax rate.

- **Foreign currency exchange rates.** As a result of our global operations, we generate a significant portion of our revenue and incur a significant portion of our expenses in currencies other than the U.S. dollar. We translate the assets, liabilities, net revenues and expenses of all of our operations into U.S. dollars at applicable exchange rates, and therefore we experience gains and losses related to exchange rate fluctuations. See "—Quantitative and Qualitative Disclosures About Market Risk—Foreign Currency Risk." From time to time, as and when we determine it is appropriate and advisable to do so, we may seek to mitigate the cash effect of exchange rate fluctuations through the use of derivative financial instruments.

- **Impact of COVID-19 pandemic.** The global impact of the COVID-19 pandemic, including the governmental responses, has affected our operations beginning in the first quarter of 2020. There has been an increase in deferred elective procedures, which has negatively impacted demand for some of our products and services as a result of a decrease in the need for sterilized medical devices used in these procedures. Although our operations are considered "essential" in all locations where we operate, we have experienced, and may experience in the future, temporary facility closures while awaiting appropriate government approvals in certain jurisdictions or delays in delivering products or services to

customers. We have experienced delayed deliveries, primarily in our Nordion business, at certain locations as a result of governmental travel restrictions enacted in response to the COVID-19 pandemic. The extent to which our operations will continue to be impacted by the pandemic will largely depend on future developments, which are highly uncertain and cannot be predicted.

COMPONENTS OF OUR RESULTS OF OPERATIONS

Net Revenues

Service revenues consist of revenue generated from contract sterilization and lab testing and advisory services within our Sterigenics and Nelson Labs segments, respectively. Service revenues also consist of Co-60 installation and disposal revenues and production irradiator refurbishments and installation services within our Nordion segment. Product revenues consist of revenues generated from sales of Co-60 radiation sources and production irradiators. Provisions for discounts, rebates to customers, and other adjustments are provided for as reductions in net revenues. Refunds, returns, warranties and other related obligations are not material to any of our business units, nor do we incur material incremental costs to secure customer contracts.

Cost of Revenues

Our cost of revenues consists primarily of direct materials, utilities, labor and related benefit costs, and depreciation and amortization. Although the cost of utilities and direct materials can fluctuate, the remaining components of cost of revenues are generally more stable. Direct material costs relating to service revenues primarily includes EO gas, nitrogen gas and Co-60. The physical decay of Co-60 assets is included within depreciation expense as a cost of revenue. Direct material costs relating to product revenues also include the costs associated with acquiring Co-60 in finished or semi-finished form, acquiring Co-59 in a form ready for insertion into reactors for conversion into Co-60, the reactor time and associated services to convert Co-59 into Co-60, and parts and equipment associated with building and maintaining production irradiators.

Operating Expenses

SG&A Expenses

SG&A primarily consists of compensation and benefits costs and general operating and administrative expenses, including professional service fees (which include finance and legal costs), travel and entertainment expenses, and other general and administrative expenses. Share-based compensation expense is also included in SG&A. At December 31, 2019, unvested awards have remaining unrecognized share-based compensation expense of $11.1 million, which consists of $6.0 million related to time vesting awards to be recognized over a weighted average period of 0.8 years and $5.1 million related to performance vesting awards. We expect to recognize the remaining expense associated with the performance vesting awards upon the listing and public trading of our common stock.

Amortization of Intangible Assets

Amortization of intangible assets primarily consists of expense associated with customer relationship intangibles, the majority of which relate to the fair values attributed to these assets upon the recapitalization of the Company in connection with the acquisition by the Sponsors in 2015. These customer relationship intangibles were initially assigned a useful life of ten years and have a remaining useful life of approximately five years. These customer relationship intangible assets account for $49.1 million of our current annual amortization expense and are expected to be fully amortized in 2025. Amortization expense fluctuates when we have an acquisition, disposition, impairment charge, or as their useful lives expire. We expect intangible assets related to future acquisitions and the associated amortization expense will increase over time as we execute on our strategy to pursue acquisition targets that are complementary to our businesses.

Impairment

We review tangible and intangible assets for impairment on a regular basis. Impairment charges in 2018 represented charges associated with our withdrawal from the Nordion GA-MURR project (as described below) and the divestiture of the Medical Isotopes business. Impairment charges in 2019 were incurred primarily in connection with the closure of the Willowbrook facility.

Operating Income

Operating income represents gross profit, less SG&A, amortization of intangible assets and impairment charges.

Interest Expense, Net

Interest expense, net, represents interest paid or accruing on our outstanding indebtedness and the amortization of debt discount and debt issuance costs. Interest expense is affected by changes in average outstanding indebtedness (including capital lease obligations) and variable interest rates. We present interest expense net of interest income, which primarily consists of interest earned on cash on hand.

Other Income, Net

Other income, net primarily consists of changes in the fair value of the embedded derivatives in Nordion's contracts, the net impact of pension related benefits and income related to deferred income on a lease associated with the divestiture of the Medical Isotopes business.

Provision (Benefit) for Income Taxes

Provision for income taxes consists primarily of income taxes in foreign jurisdictions and U.S. federal and state income taxes.

Net Income (Loss) Attributable to Noncontrolling Interests

We conduct our operations through our subsidiaries. As of December 31, 2019, our subsidiaries were wholly owned by us, except for outstanding noncontrolling interests of 15% and 33% at our two China subsidiaries, respectively, as well as the remaining 15% related to the August 2018 acquisition of Nelson Fairfield. Pursuant to the terms of the transaction, we acquired 85% of the equity interests of Nelson Fairfield and are required to acquire the 15% noncontrolling interest within three years from the date of the acquisition. For accounting purposes, we consolidate the results of operations of these subsidiaries with our results of operations and reflect the noncontrolling interests of our two China subsidiaries on our consolidated statements of operations and comprehensive income (loss) as net income (loss) attributable to noncontrolling interests. Because the purchase obligation for the remaining 15% ownership of Nelson Fairfield is mandatory (valued at $13.6 million as of June 30, 2020), none of its earnings are allocated to noncontrolling interests.

Constant Currency Sales Growth

"Constant currency" is a non-GAAP financial measure we use to assess performance excluding the impact of foreign currency exchange rate changes. Constant currency sales growth is calculated by translating prior year sales in local currency at the average exchange rates applicable for the current period. The translated results are then used to determine year-over-year percentage increases or decreases. We generally refer to such amounts calculated on a constant currency basis as excluding the impact of foreign currency exchange rates. These results should be considered in addition to, not as a substitute for, results reported in accordance with U.S. GAAP. Results on a constant currency basis, as we present them, may not be comparable to similarly titled measures used by other companies and are not measures of performance presented in accordance with U.S. GAAP.

Adjusted EBITDA

We use Adjusted EBITDA, a non-GAAP financial measure, as the principal measure of our operating performance. Management believes Adjusted EBITDA is useful because it allows management to more effectively evaluate our operating performance and compare the results of our operations from period to period without the impact of certain non-cash items and non-routine items that we do not expect to continue at the same level in the future and other items that are not core to our operations. We believe that Adjusted EBITDA is useful to our investors because it provides a more complete understanding of the factors and trends affecting our business than could be obtained absent this disclosure. In addition, we believe Adjusted EBITDA will assist investors in making comparisons to our historical operating results and analyzing the underlying performance of our operations for the periods presented. Our management also uses Adjusted EBITDA in their financial analysis and operational decision-making and it serves as the metric for attainment of our primary annual incentive program. Adjusted EBITDA may be calculated differently from, and therefore may not be comparable to, a similarly titled measure used by other companies.

For more information regarding our definition and calculation of Adjusted EBITDA, including information about its limitations as a tool for analysis, please see "Summary—Summary Historical Consolidated Financial and Other Data."

Segment Income

Segment Income is the primary earnings measure we use to evaluate the performance of our reportable segments, as disclosed in the *Segment and Geographic Information* note to our consolidated financial statements included elsewhere in this prospectus. Costs associated with support functions that are not directly associated with one of the three reportable segments, such as corporate operating expenses for executive management, accounting, information technology, legal, human resources, treasury, corporate development, tax, purchasing, and marketing are allocated to the segments based on net revenue. Segment Income excludes certain items which are included in income (loss) before tax as determined in our consolidated statement of operations and comprehensive income (loss).

CONSOLIDATED RESULTS OF OPERATIONS

Six Months Ended June 30, 2020 as compared to Six Months Ended June 30, 2019

The following table sets forth the components of our results of operations for the six months ended June 30, 2020 and 2019.

(thousands of U.S. dollars)	**2020**	2019	$ Change	% Change
Total net revenues	**$401,285**	$389,520	$11,765	3.0%
Total cost of revenues	**185,801**	191,554	(5,753)	(3.0)%
Total operating expenses	**108,877**	95,407	13,470	14.1%
Operating income	**106,607**	102,559	4,048	3.9%
Net income	**5,266**	12,871	(7,605)	(59.1%)
Adjusted EBITDA(1)	**206,312**	190,039	16,273	8.6%

(1) Adjusted EBITDA is a non-GAAP financial measure. For more information regarding our calculation of Adjusted EBITDA, including information about its limitations as a tool for analysis and a reconciliation of net income, the most directly comparable financial measure calculated and presented in accordance with GAAP, to Adjusted EBITDA, please see "Summary—Summary Historical Consolidated Financial and Other Data."

Total Net Revenues

The following table compares our revenues by type for the six months ended June 30, 2020 to the six months ended June 30, 2019.

(thousands of U.S. dollars)

Net revenues for the Six Months Ended June 30,	**2020**	2019	$ Change	% Change
Service	**$341,849**	$328,482	$ 13,367	4.1%
Product	**59,436**	61,038	(1,602)	(2.6%)
Total net revenues	**$401,285**	$389,520	$ 11,765	3.0%

Net revenues were $401.3 million in the six months ended June 30, 2020, an increase of $11.8 million, or 3.0%, as compared with the same period in the prior year. Excluding the impact of foreign currency exchange rates, net revenues in the six months ended June 30, 2020 increased approximately 4.5% compared with the same period in the prior year.

Service revenues

Service revenues increased $13.4 million, or 4.1%, to $341.8 million for the six months ended June 30, 2020 as compared to $328.5 million for the same period in the prior year. The increase in net service revenues reflects favorable impact from pricing and increased demand for services related to personal protective equipment used to provide protection against COVID-19, partially offset by the impact of the temporary closure at our Atlanta facility and the closure of the Willowbrook facility.

Product revenues

Product revenues decreased $1.6 million, or 2.6%, to $59.4 million for the six months ended June 30, 2020 as compared to $61.0 million for the same period in the prior year. Product revenues were impacted by delays in delivery of medical-use Co-60 as a result of COVID-19 disruptions, as revenue is recognized when delivery is completed, and the weakening of the Canadian dollar compared to the U.S. dollar, partially offset by the favorable impact of price and mix.

Total Cost of Revenues

The following table compares our cost of revenues by type for the six months ended June 30, 2020 to the six months ended June 30, 2019.

(thousands of U.S. dollars)

Cost of revenues for the Six Months Ended June 30,	**2020**	2019	$ Change	% Change
Service	**$163,689**	$164,467	$ (778)	(0.5%)
Product	**22,112**	27,087	(4,975)	(18.4%)
Total cost of revenues	**$185,801**	$191,554	$(5,753)	(3.0%)

Total cost of revenues accounted for approximately 46.3% and 49.2% of our consolidated net revenues for the six months ended June 30, 2020 and 2019, respectively.

Cost of service revenues

Cost of service revenues decreased $0.8 million, or 0.5%, for the six months ended June 30, 2020 as compared to the prior year period. The decrease in cost of service revenues was primarily attributable to the closure of the Willowbrook facility.

Cost of product revenues

Cost of product revenues decreased $5.0 million, or 18.4%, for the six months ended June 30, 2020 as compared to the prior year period. The decrease in cost of revenues is attributable to delays in delivery of medical-use Co-60 as a result of COVID-19 disruptions described above, as well as a favorable mix of Co-60 suppliers.

Operating Expenses

The following table compares our operating expenses for the six months ended June 30, 2020 to the six months ended June 30, 2019.

(thousands of U.S. dollars)

Operating expenses for the Six Months Ended June 30,	**2020**	2019	$ Change	% Change
Selling, general and administrative expenses	**$ 79,737**	$65,903	$13,834	21.0%
Amortization of intangible assets	**29,140**	29,504	(364)	(1.2%)
Total operating expenses	**$108,877**	$95,407	$13,470	14.1%

Operating expenses accounted for approximately 27.1% and 24.5% of our consolidated net revenues for the six months ended June 30, 2020 and 2019, respectively.

SG&A

SG&A increased $13.8 million, or 21.0%, for the six months ended June 30, 2020 as compared to the prior year period. The increase was driven primarily by the following:

- an $8.3 million increase in third party professional fees, including $7.8 million of legal expenses, associated with EO litigation; the majority of these expenses were recorded in the second quarter of 2020, as the per occurrence limit of our environmental liability insurance had been reached for the Willowbrook litigation as of June 30, 2020;
- $2.3 million in costs directly associated with COVID-19 in the second quarter, including donations to related charitable causes and special bonuses for front-line personnel working on-site during lockdown periods; and
- $3.4 million in professional fees associated with the July 2020 acquisition of Iotron Industries Canada, Inc. and the realignment of our operating structure.

Amortization of intangible assets

Amortization of intangible assets was $29.1 million for the six months ended June 30, 2020 or 1.2% below the prior year period. The change was insignificant as there were no significant changes to our finite-lived intangible assets.

Interest Expense, Net

Interest expense, net increased $36.7 million, or 48.8%, for the six months ended June 30, 2020 as compared to the prior year. The increase was largely due to a higher outstanding debt balance as a direct result of the December 2019 refinancing and other 2019 incremental borrowings in which we assumed aggregate incremental debt of approximately $660.0 million, as well as a $50.0 million borrowing on the revolver during the first quarter of 2020, which was subsequently repaid in the second quarter of 2020. The weighted average interest rate was 6.93% and 6.20% at June 30, 2020 and 2019, respectively.

Other Income, Net

Other income, net was $1.2 million for the six months ended June 30, 2020 and $4.9 million for the six months ended June 30, 2019. The fluctuation was primarily driven by the change in the fair value of the embedded derivatives in Nordion's contracts. For the six months ended June 30, 2020, we recorded an unrealized loss on embedded derivatives of $2.0 million as compared to an unrealized gain on embedded derivatives of $1.8 million for the six months ended June 30, 2019.

Provision for Income Taxes

For the six months ended June 30, 2020 we had an income tax benefit of $8.5 million, compared to tax expense of $18.6 million recorded in the prior year period. The change is driven primarily by the tax benefit attributable to a loss before income taxes for the six months ended June 30, 2020 and the $5.6 million tax benefit realized associated with the increased limitation on the deductibility of interest expense in conjunction with the CARES Act enacted in March 2020.

Provision for income taxes for the six months ended June 30, 2020 and 2019 differed from the statutory rate of 21% primarily due to the foreign rate differential, GILTI and the increased limitation on the deductibility of interest expense.

Net Income and Adjusted EBITDA

Net income for the six months ended June 30, 2020 was $5.3 million, as compared to $12.9 million for the six months ended June 30, 2019. Adjusted EBITDA was $206.3 million for the six months ended June 30, 2020, as compared to $190.0 million for the six months ended June 30, 2019, due to the factors described above. Please see "Summary—Summary Historical Consolidated Financial and Other Data" for a reconciliation of Adjusted EBITDA to its most directly comparable financial measure calculated and presented in accordance with GAAP.

Fiscal 2019 as compared to Fiscal 2018

The following table sets forth the components of our results of operations for the years ended December 31, 2019 and 2018.

(thousands of U.S. dollars)	**2019**	2018	$ Change	% Change
Total net revenues	**$778,327**	$746,149	$ 32,178	4.3%
Total cost of revenues	**382,896**	388,897	(6,001)	1.5%
Total operating expenses	**211,834**	276,405	(64,571)	(23.4%)
Operating income	**183,597**	80,847	102,750	127.1%
Net loss	**(20,425)**	(5,876)	(14,549)	(247.6%)
Adjusted EBITDA(1)	**379,932**	340,637	39,265	11.5%

(1) Adjusted EBITDA is a non-GAAP financial measure. For more information regarding our calculation of Adjusted EBITDA, including information about its limitations as a tool for analysis and a reconciliation of net loss, the most directly comparable financial measure calculated and presented in accordance with GAAP, to Adjusted EBITDA, please see "Summary—Summary Historical Consolidated Financial and Other Data."

Total Net Revenues

The following table compares our revenues by type for the year ended December 31, 2019 to the year ended December 31, 2018. Results from the Nelson Fairfield acquisition are included in the Nelson Labs segment for

the post-acquisition periods beginning August 7, 2018. The Medical Isotopes business was included in 2018 through the date of its divestiture in July 2018.

(thousands of U.S. dollars) **Net revenues for the year ended December 31,**	**2019**	2018	$ Change	% Change
Service	**$673,037**	$615,510	$ 57,527	9.3%
Product	**105,290**	130,639	(25,349)	(19.4)%
Total net revenues	**$778,327**	$746,149	$ 32,178	4.3%

Net revenues were $778.3 million in the year ended December 31, 2019, an increase of $32.2 million, or 4.3%, as compared with the prior year. Excluding the impact of foreign currency exchange rates, net revenues in the year ended December 31, 2019 increased approximately 5.9% compared with the same period in 2018.

Service revenues

Service revenues increased $57.5 million, or 9.3%, to $673.0 million in 2019 as compared to $615.5 million in 2018. The increase in net service revenues was primarily driven by favorable impact from pricing, organic volume growth and mix. Those factors were partly offset by unfavorable foreign currency exchange rates and the impact of the closure of the Willowbrook facility.

Product revenues

Product revenues decreased $25.3 million, or 19.4%, to $105.3 million in 2019 as compared to $130.6 million in 2018. The decrease in product revenues was almost entirely attributable the divestiture of the Medical Isotopes business in July 2018, which resulted in a decrease in revenues of $25.4 million.

Total Cost of Revenues

The following table compares our cost of revenues by type for the year ended December 31, 2019 to the year ended December 31, 2018.

(thousands of U.S. dollars) **Cost of revenues for the year ended December 31,**	**2019**	2018	$ Change	% Change
Service	**$333,290**	$326,559	$ 6,731	2.1%
Product	**49,606**	62,338	(12,732)	(20.4)%
Total cost of revenues	**$382,896**	$388,897	$ (6,001)	(1.5)%

Total cost of revenues accounted for approximately 49.2% and 52.1% of our consolidated net revenues for the years ended December 31, 2019 and 2018, respectively.

Cost of service revenues

Cost of service revenues increased $6.7 million, or 2.1%, for the year ended December 31, 2019 as compared to the prior year period. The increase was primarily attributable to increased labor and other variable costs associated with higher sterilization processing and testing volumes. These increases were partially offset by lower costs associated with the closure of the Willowbrook facility.

Cost of product revenues

Cost of service revenues decreased $12.7 million, or 20.4%, for the year ended December 31, 2019 as compared to the prior year period. The decrease was primarily attributable to the divestiture of the Medical Isotopes business in July 2018.

Operating Expenses

The following table compares our operating expenses for the year ended December 31, 2019 to the year ended December 31, 2018:

(thousands of U.S. dollars) **Operating expenses for the Year Ended December 31,**	**2019**	2018	$ Change	% Change
Selling, general and administrative expenses	**$147,480**	$133,363	$ 14,117	10.6%
Amortization of intangible assets	**58,562**	57,975	587	1.0%
Impairment of long-lived assets	**5,792**	34,981	(29,189)	(83.4%)
Impairment of GA-MURR intangible assets	—	50,086	(50,086)	(100%)
Total operating expenses	**$211,834**	$276,405	$(64,571)	(23.4%)

Operating expenses accounted for approximately 27.2% and 37.0% of our consolidated net revenues for the year ended December 31, 2019 and 2018, respectively.

SG&A

SG&A increased $14.1 million, or 10.6%, for the year ended December 31, 2019 as compared to the prior year period. The increase was driven primarily by the following:

- a $10.0 million increase in share-based compensation expense related to the Class C Performance Vesting Units, which vested in the third quarter of 2019 based on the achievement of the aggregate distributions to the A Unitholder partners and the approval of the Board of Sotera Health Topco Parent, L.P. for accelerated vesting;
- an $8.6 million increase in third party professional fees, including $6.5 million of legal expenses, associated with EO litigation; and
- $2.0 million of costs associated with preparation for an initial public offering.

The increase was partially offset by the following items which were expensed in 2018 but did not recur in 2019:

- a $4.3 million settlement with a vendor in our sterilization services; and
- $2.4 million of contract termination and exits costs related to GA-MURR (as described below).

Asset impairments

In 2019, we recorded long-lived asset impairment expenses due to the exit of our Willowbrook facility citing the unstable legislative and regulatory landscape in Illinois, as well as the expiration of the primary Willowbrook facility lease.

In 2018, we recorded aggregate long-lived asset and intangible asset impairments expense of $35.0 million and $50.1 million, respectively, primarily due to the withdrawal from the GA-MURR project in early April 2018, which resulted in impairment of the associated long-lived assets (approximately $32.7 million) and intangible asset related to our MURR supply agreement (approximately $50.1 million). As a result of a strategic review of the Medical Isotopes business and other factors, we withdrew from the GA-MURR project which was intended to replace our supply of Molybdenum-99 (“Mo-99”) utilized in our former Medical Isotopes business.

Amortization of intangible assets

Amortization of intangible assets was $58.6 million for the year ended December 31, 2019, or 1.0% above the prior year. The change was insignificant as there were no significant changes to our finite-lived intangible assets.

Interest Expense, Net

Interest expense, net increased $14.4 million, or 10.0%, for the year ended December 31, 2019 as compared to the prior year. The increase was largely due to an increase in the outstanding amount of the Term Loan (due to a $320.0 million incremental borrowing in August 2019), the debt refinancing in December 2019 and an increase in the LIBOR rate in 2019. The weighted average interest rate was 6.08% and 5.92% at December 31, 2019 and 2018, respectively.

Other Income, Net

Other income, net was $7.2 million for the year ended December 31, 2019 and $3.9 million for the year ended December 31, 2018. The fluctuation was primarily driven by changes in the fair value of the embedded derivatives in Nordion's contracts. We recorded an unrealized gain on embedded derivatives of $1.2 million for the year ended December 31, 2019 as compared to an unrealized loss on embedded derivatives of $1.0 million for the year ended December 31, 2018. Also, we recognized an additional $0.9 million of income associated with deferred income on a lease for the year ended December 31, 2019 versus the year ended December 31, 2018. The prior year only included approximately a half a year's income compared to a full year in 2019.

Provision for Income Taxes

Provision for income tax expense decreased $10.6 million, or 35.2%, to $19.5 million for the year ended December 31, 2019 as compared to $30.1 million in the prior year primarily due to the income tax expense recognized on the sale of assets related to the Medical Isotopes business during 2018.

Provision for income taxes for the year ended December 31, 2019 differed from the statutory rate of 21% primarily due to the foreign rate differential, the partial valuation allowance against our excess interest expense carryforward balance, GILTI expense referenced above and non-deductible expenses. Provision for income taxes for the year ended December 31, 2018 differed from the statutory rate of 21% primarily due to the foreign rate differential, GILTI expense referenced above, an increase to our tax liability associated with the TCJA toll charge on unremitted foreign earnings, and the impact of the TCJA tax rate reduction on our deferred tax balances.

Net Loss and Adjusted EBITDA

Net loss for the year ended December 31, 2019 was $20.4 million, as compared to $5.9 million for the year ended December 31, 2018. Adjusted EBITDA was $379.9 million for the year ended December 31, 2019, as compared to $340.6 million for the year ended December 31, 2018, due to the factors described above. Please see "Summary—Summary Historical Consolidated Financial and Other Data" for a reconciliation of Adjusted EBITDA to its most directly comparable financial measure calculated and presented in accordance with GAAP.

SEGMENT RESULTS OF OPERATIONS

We currently have three reportable segments: Sterigenics, Nordion and Nelson Labs. Our chief operating decision maker evaluates performance and allocates resources within our business based on Segment Income, which excludes certain items which are included in income (loss) before tax as determined in our consolidated statement of operations and comprehensive income (loss). The accounting policies for our reportable segments are the same as those for the consolidated Company.

Our Segments

Sterigenics

Our Sterigenics business provides outsourced terminal sterilization and irradiation services for the medical device, pharmaceutical, food safety and advanced applications markets using three major technologies: gamma irradiation, EO processing and E-beam irradiation.

Nordion

Our Nordion business is a global provider of Co-60 and gamma irradiators, which are the key components to the gamma sterilization process.

As a result of the time required to meet regulatory and logistics requirements for delivery of radioactive products, combined with accommodations made to our customers to minimize disruptions to their operations during the installation of Co-60, Nordion sales patterns can often vary significantly from one quarter to the next. However, timing-related impacts on our sales performance tend to be resolved within several quarters, resulting in more consistent performance over longer periods of time. In addition, sales of production irradiators occur infrequently and tend to be for larger amounts.

Results for our Nordion segment are also impacted by Co-60 supplier mix, harvest schedules and product and service mix.

Nelson Labs

Our Nelson Labs business provides outsourced microbiological and analytical chemistry testing and advisory services for the medical device and pharmaceutical industries.

Other

The Other reportable segment consisted of the Medical Isotopes business, a global supplier of medical isotopes for research, healthcare diagnostic and therapeutic uses, prior to its divestiture on July 30, 2018. We finalized the sale of the assets of the Medical Isotopes business for $213.0 million.

For more information regarding our reportable segments please refer to “Business” and the *Segment and Geographic Information* note to consolidated financial statements elsewhere in this prospectus.

Segment Results for the six months ended June 30, 2020 and 2019

The following tables compare the net revenues and segment income of our reportable segments for the six months ended June 30, 2020 to the same period in the prior year:

	Six Months Ended June 30,			
	2020	2019	$ Change	% Change
Net Revenues				
Sterigenics	**$ 237,652**	$ 229,945	$ 7,707	3.4%
Nordion	**65,766**	67,243	(1,477)	(2.2%)
Nelson Labs	**97,867**	92,332	5,535	6.0%
Segment Income				
Sterigenics	**$ 126,121**	$ 117,490	$ 8,631	7.3%
Nordion	**40,431**	37,132	3,299	8.9%
Nelson Labs	**39,760**	35,417	4,343	12.3%

Segment Income margin	2020	2019
Sterigenics	**53.1%**	51.1%
Nordion	**61.5%**	55.2%
Nelson Labs	**40.6%**	38.4%

Net Revenues

Sterigenics net revenues were $237.7 million for the six months ended June 30, 2020, an increase of $7.7 million, or 3.4%, as compared to the same prior year period. The increase reflects favorable impact from pricing and organic volume growth, which were partially offset by the temporary closure of the Atlanta facility and unfavorable fluctuations in currencies. Net revenues were also adversely impacted by mix, as COVID-19 resulted in reduced demand for medical devices associated with elective procedures, which tend to be more profitable than other medical devices.

Nordion net revenues were $65.8 million for the six months ended June 30, 2020, a decrease of $1.5 million, or 2.2%, as compared to the same prior year period. Net revenues were impacted by the impact of delays in delivery of medical-use Co-60 as a result of COVID-19 disruptions and the weakening of the Canadian dollar compared to the U.S. dollar, partially offset by the favorable impact of price and mix.

Nelson Labs net revenues were $97.9 million for the six months ended June 30, 2020, an increase of $5.5 million, or 6.0%, as compared to the same prior year period. The increase in net revenues was driven by increased demand for testing services related to personal protective equipment used to provide protection against COVID-19.

Segment Income

Sterigenics segment income was $126.1 million for the six months ended June 30, 2020, an increase of $8.6 million, or 7.3%, as compared to the same prior year period. The 2.0% increase in segment margin was a result of favorable pricing and organic volume growth referenced above.

Nordion segment income was $40.4 million for the six months ended June 30, 2020, an increase of $3.3 million, or 8.9%, as compared to the same prior year period. The 6.3% increase in segment margin was a result of favorable pricing and mix referenced above, partially offset by the delays in delivery of medical-use Co-60 as a result of COVID-19 disruptions.

Nelson Labs segment income was $39.8 million for the six months ended June 30, 2020, an increase of $4.3 million, or 12.3%, as compared to the same prior year period. The increase in the current year was primarily due to higher net revenues referenced above. The 2.2% increase in segment margin was driven by favorable operating leverage.

Segment Results for the years ended December 31, 2019 and 2018

The following tables compare segment net revenue and segment income for the year ended December 31, 2019 to the year ended December 31, 2018:

	Year Ended December 31,			
	2019	2018	$ Change	% Change
Net Revenues				
Sterigenics	**$ 471,708**	$ 435,733	$ 35,975	8.3%
Nordion	**116,165**	118,829	(2,664)	(2.2%)
Nelson Labs	**190,454**	166,217	24,237	14.6%
Other	**—**	25,370	(25,370)	(100%)
Segment Income				
Sterigenics	**$ 244,904**	$ 216,490	$ 28,414	13.1%
Nordion	**62,196**	60,288	1,908	3.2%
Nelson Labs	**72,832**	58,915	13,917	23.6%
Other	**—**	4,944	(4,944)	(100%)

Segment Income margin	2019	2018
Sterigenics	**51.9%**	49.7%
Nordion	**53.5%**	50.7%
Nelson Labs	**38.2%**	35.4%
Other	**—**	19.5%

Net Revenues

Sterigenics net revenues were $471.7 million for the year ended December 31, 2019, an increase of $36.0 million, or 8.3%, as compared to the prior year. The increase reflects favorable impact from pricing, organic volume growth and mix. Those factors were partly offset by unfavorable foreign currency exchange rates and the impact of the closure of the Willowbrook facility.

Nordion net revenues were $116.2 million for the year ended December 31, 2019, a decrease of $2.7 million, or 2.2%, as compared to the prior year. The decrease reflects the impact of lower volumes of industrial use Co-60 and the weakening of the Canadian dollar compared to the U.S. dollar in 2019 as compared to the prior year, partially offset by the impact of favorable pricing and mix.

Nelson Labs net revenues were $190.5 million for the year ended December 31, 2019, an increase of $24.2 million, or 14.6%, as compared to the prior year. The increase is primarily attributable to favorable pricing, increased charges for ancillary testing services, the impact of the acquisition of Nelson Fairfield and increased demand for certain testing services. Those factors were partly offset by unfavorable foreign currency exchange rates.

We divested the Medical Isotopes business in July 2018 and as a result, no sales were recorded for the year ended December 31, 2019, as compared to net revenues of $25.4 million for the year ended December 31, 2018.

Segment Income

Sterigenics segment income was $244.9 million for the year ended December 31, 2019, an increase of $28.4 million, or 13.1%, as compared to the prior year. The 2.2% increase in segment margin was driven by favorable pricing referenced above as well as improved operating leverage as facilities operate at higher levels of utilization.

Nordion segment income was $62.2 million for the year ended December 31, 2019, an increase of $1.9 million, or 3.2%, as compared to the prior year. The increase in segment income was driven by the favorable pricing and mix referenced above.

Nelson Labs segment income was $72.8 million for the year ended December 31, 2019, an increase of $13.9 million, or 23.6%, as compared to the prior year. The 2.8% increase in segment margin was driven by favorable pricing, favorable operating leverage and a more favorable mix of tests.

LIQUIDITY AND CAPITAL RESOURCES

The primary sources of liquidity for our business are cash flows from operations and borrowings under our credit facilities. We expect that our primary liquidity requirements will be to service our debt, to invest in fixed assets to build and/or expand existing facilities, to fund selective business acquisitions, make capital expenditures and for other general corporate purposes.

As of June 30, 2020, we had $86.4 million of cash and cash equivalents, of which $0.2 million was restricted cash. This is an increase of $23.3 million from the balance at December 31, 2019. Our foreign subsidiaries held cash of approximately $63.2 million at June 30, 2020 and $43.4 million at December 31, 2019, to meet their liquidity needs. No material restrictions exist to accessing cash held by our foreign subsidiaries.

Our capital expenditure program is a component of our long-term strategy. This program includes, among other things, investments in new and existing facilities, business expansion projects, Co-60 used by Sterigenics at its gamma irradiation facilities and information technology enhancements. During 2019, our capital expenditures amounted to $57.3 million, compared to $72.6 million in 2018. In 2021, we expect to continue to invest in our supply relationships, facility expansions and in ongoing maintenance for existing facilities, including enhancements to our emissions controls in anticipation of changes to environmental requirements. We may choose to temporarily defer planned capital expenditures due to fluctuations in demand for our products and services resulting from the COVID-19 pandemic and the needs of our customers.

We expect that cash on hand, operating cash flows and amounts available under our credit facilities will provide sufficient working capital to operate our business, make expected capital expenditures, meet litigation costs and meet foreseeable liquidity requirements, including debt service on our long-term debt, for at least the next twelve months. We expect to use cash provided by operations in excess of amounts needed for capital expenditures and required debt repayments to reduce our debt or to fund potential acquisitions, or for other general corporate purposes. Our ability to meet future working capital, capital expenditures and debt service requirements will depend on our future financial performance, which will be affected by a range of macroeconomic, competitive and business factors, particularly interest rates and changes in our industry, many of which are outside of our control.

Cash Flow Information

Six months ended June 30, 2020 compared to six months ended June 30, 2019

(thousands of U.S. dollars)

Six Months Ended June 30,	**2020**	2019
Net Cash Provided by (Used in):		
Operating activities	**$ 52,687**	$ 78,033
Investing activities	**(23,438)**	(24,868)
Financing activities	**(6,518)**	(17,449)
Effect of foreign currency exchange rate changes on cash and cash equivalents	**601**	4,865
Net increase in cash and cash equivalents, including restricted cash, during the period	**$ 23,332**	$ 40,581

Operating activities

Cash flows provided by operating activities decreased $25.3 million to net cash provided of $52.7 million in the six months ended June 30, 2020 compared to $78.0 million for the six months ended June 30, 2019, primarily driven by higher interest expense in 2020, due to a higher weighted average interest rate and a larger balance of debt outstanding.

Investing activities

Historically, our principal uses of cash for investing activities were related to acquisitions of property, plant and equipment, including Co-60 purchases, and business acquisitions. These investments support our growth activities, including capacity expansions and expenditures that extend the life or productivity of existing assets.

For the six months ended June 30, 2020 cash used by investing activities decreased $1.5 million to $23.4 million compared to $24.9 million for the six-month period ended June 30, 2019. The decrease is attributable to reductions in expenditures of property, plant and equipment for the period.

Financing activities

Net cash used in financing activities was $6.5 million for the six months ended June 30, 2020 as compared to $17.4 million for the six months ended June 30, 2019. Our principal use of cash for the six months ended June 30, 2020 was principal payments on debt. In March 2020, we borrowed $50.0 million on our revolving credit facility to increase the near-term cash balance in response to concerns regarding the COVID-19 impact to the financial markets; the $50.0 million was repaid in June 2020. The primary use of cash in the six months ended June 30, 2019 was principal payments on debt.

Year ended December 31, 2019 compared to the year ended December 31, 2018

(thousands of U.S. dollars)

Year Ended December 31,	**2019**	2018
Net Cash Provided by (Used in):		
Operating activities	**$ 149,041**	$ 119,563
Investing activities	**(57,257)**	96,638
Financing activities	**(126,030)**	(191,857)
Effect of foreign currency exchange rate changes on cash and cash equivalents	**485**	(3,676)
Net increase (decrease) in cash and cash equivalents, including restricted cash, during the period	**$ (33,761)**	$ 20,668

Operating activities

Cash flows provided by operating activities increased $29.4 million to net cash provided of $149.0 million in the year ended December 31, 2019 compared to $119.6 million for the prior year, driven by strong operating performance.

Investing activities

For the year ended December 31, 2019 cash used by investing activities was $57.3 million attributable to purchases of property, plant and equipment, compared to cash provided by investing activities of $96.6 million in the prior year. Cash from investing activities for the year ended December 31, 2018 was a direct result of proceeds from the sale of the Medical Isotopes business of $213.0 million, partially offset by the acquisition of Nelson Fairfield of $50.6 million and capital expenditures of $72.6 million.

Financing activities

Net cash used in financing activities was $126.0 million for the year ended December 31, 2019 as compared to $191.9 million for the year ended December 31, 2018. Our principal uses of cash for financing activities in 2019 were $2,561.1 million in payments on debt primarily in conjunction with the December 2019 refinancing as well as dividends and distributions to our sole stockholder of $691.2 million. This was partially offset by proceeds from borrowings totaling $3,144.6 million.

Debt Facilities

Senior Secured Credit Facilities

On December 13, 2019, SHH entered into new senior secured first lien credit facilities (the "Senior Secured Credit Facilities") and settled our previously outstanding term loan and senior notes. The Senior Secured Credit Facilities consist of both a senior secured first lien term loan (the "Term Loan") and a senior secured first lien revolving credit facility ("the Revolving Credit Facility") that provides for senior secured commitments in the amount of $190.0 million. The Senior Secured Credit Facilities also provide SHH the right at any time and under certain conditions to request incremental term loans or incremental revolving credit commitments based on a formula defined in the Senior Secured Credit Facilities.

As of June 30, 2020, total borrowings under the Term Loan were $2,114.7 million. The Term Loan may bear interest at LIBOR or an alternate base rate ("ABR") subject to a 1.00% floor plus an incremental margin of 4.50% in the case of LIBOR loans and 3.50% in the case of ABR loans.

The Term Loan is paid in equal quarterly installments in aggregate annual amounts equal to 1.00% of the original Term Loan principal amount, while the remaining balance matures on December 13, 2026. The weighted average interest rate on borrowings under the Term Loan at June 30, 2020 was 5.50%.

Borrowings under the Revolving Credit Facility bear interest at a rate per annum equal to an applicable margin, plus, at our option, either (a) an ABR or (b) LIBOR. The applicable margin under the Revolving Credit Facility may be reduced by reference to a leverage-based pricing grid with step-downs of 0.25% at a specified senior secured first lien net leverage ratio. In addition to paying interest on any outstanding borrowings under the Revolving Credit Facility, SHH is required to pay a commitment fee to the lenders under the Revolving Credit Facility in respect of the unutilized commitments thereunder and customary letter of credit fees. The Revolving Credit Facility contains a maximum senior secured first lien net leverage ratio covenant of 9.00 to 1.00, tested on the last day of each fiscal quarter if, on the last day of such fiscal quarter, the sum of (i) the aggregate principal amount of the revolving loans then outstanding under the Revolving Credit Facility, plus (ii) the aggregate amount of letter of credit disbursements that have not been reimbursed within 2 business days following the end of the fiscal quarter, exceeds the greater of $76.0 million and 40.0% of the aggregate principal amount of the revolving commitments then in effect. Although this covenant did not apply as the conditions were not met, as of June 30, 2020 the first lien net leverage ratio, as defined in the Revolving Credit Facility, was approximately 5.10 to 1.00.

As of June 30, 2020, there were no borrowings on the Revolving Credit Facility. We borrowed $50.0 million on the revolver during the first quarter of 2020 which was repaid in the second quarter of 2020. The interest rate on the borrowings under the Revolving Credit Facility averaged approximately 5.0%.

Outstanding letters of credit are collateralized by encumbrances against the Revolving Credit Facility and the collateral pledged thereunder, or by cash placed on deposit with the issuing bank. As of June 30, 2020, the company had $62.1 million of letters of credit issued against the Revolving Credit Facility, resulting in total availability under the Revolving Credit Facility of $127.9 million. The Senior Secured Credit Facilities contain additional covenants that, among other things, restrict, subject to certain exceptions, our ability and the ability of our restricted subsidiaries to engage in certain activities, such as incur indebtedness or permit to exist any lien on

any property or asset now owned or hereafter acquired, as specified in the debt facility. The Senior Secured Credit Facilities also contain certain customary affirmative covenants and events of default, including upon a change of control. As of June 30, 2020, we were in compliance with all the Senior Secured Credit Facilities covenants.

All of SHH's obligations under the Senior Secured Credit Facilities are unconditionally guaranteed by the company and each existing and subsequently acquired or organized direct or indirect wholly-owned domestic restricted subsidiary of SHH, with customary exceptions including, among other things, where providing such guarantees is not permitted by law, regulation or contract or would result in material adverse tax consequences. All obligations under the Senior Secured Credit Facilities, and the guarantees of such obligations, are secured by substantially all of the assets of the borrower and the guarantors, subject to permitted liens and other exceptions and exclusions, as outlined in the Senior Secured Credit Facilities.

As of June 30, 2020, and December 31, 2019, capitalized debt issuance costs totaled $4.5 million and $4.7 million, respectively, and debt discounts totaled $40.8 million and $44.0 million, respectively, related to the Senior Secured Credit Facilities. Such costs are recorded as a reduction of debt on our consolidated balance sheets and amortized as a component of interest expense over the term of the debt agreement.

In June 2020, we entered into two interest rate cap agreements with notional amounts of $1,000.0 million and $500.0 million, respectively, for a total option premium of $0.3 million. These terminate on August 31, 2021 and February 28, 2022, respectively. The interest rate caps limit our cash flow exposure related to the LIBOR base rate under a portion of our variable rate borrowings to 1.0%. In October 2017, we entered into two interest rate cap agreements with a total notional amount of $400.0 million for a total premium of $0.6 million. The interest rate caps limit the company's cash flow exposure related to the LIBOR base rate under the variable rate Term Loan borrowings to 3.0%. The interest rate cap agreements terminate on September 30, 2020. The interest rate caps were not designated as hedges and are recorded at fair value on the consolidated balance sheets, with any changes in the value being recorded in the consolidated statement of operations and comprehensive income (loss). See the *Financial Instruments and Financial Risk* note to consolidated financial statements included elsewhere in this prospectus for a summary of the activity of the interest rate caps for the periods presented.

During the third quarter of 2019, we entered into two interest rate swap agreements to hedge our exposure to interest rate movements and to manage interest expense related to our outstanding variable rate debt. These swaps were designated as hedges against the changes in cash flows attributable to changes in LIBOR, the benchmark interest rate being hedged, and any changes in the fair value of the swap are recorded in other comprehensive income (loss). We receive interest at one-month LIBOR and pay a fixed interest rate under the terms of the swap agreement. The termination date of the swap agreements was August 31, 2020. The notional amount of the interest rate swap agreements totals $1,000.0 million. See the *Financial Instruments and Financial Risk* note to consolidated financial statements included elsewhere in this prospectus for a summary of the activity of the interest rate swaps for the periods presented.

Second Lien Notes

On December 13, 2019, SHH issued $770.0 million aggregate principal amount of senior secured second lien notes due 2027 (the "Second Lien Notes"). The Second Lien Notes bear interest at a rate equal to LIBOR, subject to a 1.00% floor, plus 8.00% per annum. The weighted average interest rate on the Second Lien Notes at June 30, 2020 was 9.00%.

SHH is entitled to redeem all or a portion of the Second Lien Notes, at any time and from time to time, subject to certain premiums depending on the date of redemption: any time prior to December 13, 2020, a customary make-whole premium applies and, thereafter, specified premiums that decline to zero apply (in each case as described in the indenture governing the Second Lien Notes). In addition, under certain circumstances, such as an initial public offering or certain changes of control, SHH has certain additional redemption rights (as described in the indenture governing the Second Lien Notes).

All of SHH's obligations under the Second Lien Notes are unconditionally guaranteed by the company and each existing and subsequently acquired or organized direct or indirect wholly-owned domestic restricted subsidiary of SHH, with customary exceptions including, among other things, where providing such guarantees is not permitted by law, regulation or contract or would result in material adverse tax consequences. All obligations under the Second Lien Notes, and the guarantees of such obligations, are secured by substantially all of the assets of the borrower and the guarantors, subject to permitted liens and other exceptions and exclusions, as outlined in the Second Lien Notes. Such collateral is substantially the same collateral that secures the Senior Secured Credit Facilities and the First Lien Notes, and any security interest or lien on shared collateral securing the Senior Secured Credit Facilities or the First Lien Notes shall have priority over any security interest or lien on shared collateral securing the Second Lien Notes.

At June 30, 2020, and December 31, 2019 capitalized debt issuance costs were $1.7 million and $1.8 million, and debt discounts were $21.7 million and $23.2 million, respectively, related to the Second Lien Notes. These are recorded as a reduction of debt on our consolidated balance sheets and amortized into interest expense over the term of the debt agreement.

First Lien Notes

As described above, on July 31, 2020, we acquired Iotron for $145.0 million Canadian dollars ("CAD") (approximately $108.1 million USD). We financed this acquisition by SHH issuing $100.0 million of senior secured first lien notes due 2026 (the "First Lien Notes"). The First Lien Notes bear interest at a rate equal to LIBOR, subject to a 1.00% floor, plus 6.00% per annum. Interest is payable on a quarterly basis with no principal due until maturity.

SHH is entitled to redeem all or a portion of the First Lien Notes, at any time and from time to time, subject to certain premiums depending on the date of redemption: any time prior to July 31, 2021, a customary make-whole premium applies and, thereafter, specified premiums that decline to zero apply (in each case as described in the indenture governing the First Lien Notes).

All of SHH's obligations under the First Lien Notes are unconditionally guaranteed by the company and each existing and subsequently acquired or organized direct or indirect wholly-owned domestic restricted subsidiary of SHH, with customary exceptions including, among other things, where providing such guarantees is not permitted by law, regulation or contract or would result in material adverse tax consequences. All obligations under the First Lien Notes, and the guarantees of such obligations, are secured by substantially all of the assets of the borrower and guarantors, subject to permitted liens and other exceptions and exclusions, as outlined in the First Lien Notes. Such collateral is substantially the same collateral that secures the Senior Secured Credit Facilities and Second Lien Notes, and any security interest in or lien on shared collateral securing the First Lien Notes shall have equal priority with any security interest or lien on shared collateral securing the Senior Secured Credit Facilities.

2019 Refinancing

In conjunction with the December 2019 refinancing, the company redeemed, in full, the previously outstanding $1,659.0 million aggregate Term Loan due 2022, its $450.0 million Senior Notes due 2023 ("Senior Notes") and $425.0 million Senior PIK ("paid in kind") Toggle Notes due 2021. In total, we accelerated the amortization of $13.4 million of debt issuance and discount costs and recognized $14.6 million representing premiums paid in connection with the early extinguishment of the Senior Notes. In connection with the refinancing, we also recognized an additional $2.1 million of expense related to debt issuance and discount costs. We recognized these costs within the loss on extinguishment of debt in our consolidated statements of operations and comprehensive income (loss). Any additional proceeds were used to fund a dividend to our sole stockholder of $275.0 million.

CONTRACTUAL OBLIGATIONS AND COMMERCIAL COMMITMENTS

The following table describes our significant contractual cash obligations as of December 31, 2019:

	Payments due by period				
(thousands of U.S. dollars)	**Total**	**Less than 1 Year**	**2-3 Years**	**4-5 Years**	**More than 5 Years**
Long-term debt (a)	**$ 4,387,911**	$ 235,566	$ 444,397	$ 446,296	$ 3,261,652
Lease obligations:					
Capital (b)	**31,172**	1,288	2,204	2,506	25,174
Operating (c)	**60,173**	11,782	19,435	10,698	18,258
Supply and service obligations (d)	**1,619,045**	38,983	64,657	70,616	1,444,789
Direct material costs (e)	**28,185**	13,144	13,651	1,139	251
Total	**$ 6,126,486**	**$ 300,763**	**$ 544,344**	**$ 531,255**	**$ 4,750,124**

(a) Represents principal and interest payments on the Senior Secured Credit Facilities and Second Lien Notes. We have calculated the interest payments on the Senior Secured Credit Facilities and Second Lien Notes at an average of 6.1% (the LIBOR floor plus 4.5%) and 9.7% (the LIBOR floor plus 8.00%), respectively. Subsequent to December 31, 2019, SHH issued $100.0 million of First Lien Notes, which are not reflected in the table above.

(b) Consists of payments, net of interest, under our capital leases for various equipment and facilities.

(c) Represents minimum lease payments under our operating leases for several of our facilities and other property and equipment, net of sublease payments. We elected to early adopt ASU 2016-02 Leases as of January 1, 2020, resulting in the recognition of right-of-use assets and lease liabilities of $47.4 million and $48.9 million, respectively on our consolidated balance sheet.

(d) Consists of our best estimate of our obligations under various supply and service agreements, primarily Co-60, that are enforceable and legally binding on us.

(e) Consists of our best estimate of our obligations to purchase EO gas under commitments that are enforceable and legally binding on us. We have excluded contracts to purchase energy and other supplies, which generally have terms of one year or less. Our contract to purchase EO gas in the U.S. requires us to purchase all our requirements from our supplier, and our contracts to purchase EO gas outside the U.S. generally require that we purchase a specified percentage of our requirements for our operations in the countries covered by those contracts. Although our EO gas contracts generally do not contain fixed minimum purchase volumes, we have calculated the amounts set forth in the table above based on the percentage of our requirements specified in the contracts and our budgeted purchase volumes for those periods.

OFF-BALANCE SHEET ARRANGEMENTS

We do not have any relationships with unconsolidated entities or financial partnerships, such as entities referred to as structured finance or special purpose entities, which are established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes. We do not have any off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on the financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity or capital expenditures or capital resources that are material to investors other than operating leases.

At December 31, 2019 and 2018, we had $92.9 million and $90.5 million, respectively, of standby letters of credit, surety bonds and other bank guarantees outstanding, primarily in favor of local and state licensing authorities for future decommissioning costs, and to support the unfunded portion of our pension obligation. We are obligated to provide financial assurance to local and state licensing authorities for possible future decommissioning costs associated with the various facilities that hold Co-60. At December 31, 2019 and 2018, $49.3 million and $47.8 million, respectively, of the standby letters of credit and surety bonds referenced above were outstanding in favor of the various local and state licensing authorities in the event we defaulted on our decommissioning obligation.

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risks, primarily from changes in commodity prices, interest rates and foreign currency exchange, in the ordinary course of business.

Commodity Price Risk

We purchase our supply of EO gas from various suppliers around the world, but in the United States there is a sole supplier for EO gas used for applications relevant to our business. We are exposed to market risk based on fluctuations in the price of EO gas.

We actively seek to manage the risk of fluctuating prices through long-term supply and service contracts. Most of our Sterigenics customer contracts contain provisions that permit us to pass all or a portion of our supply price increases to our customers, though some of our contracts do not contain these provisions. Even for contracts that do contain these provisions, there could be at least a brief lag between when we incur increased costs for supplies and when we can pass through these costs to our customers. In addition, even when we are contractually permitted to pass on price increases, we may decide not to do so to preserve our sales volumes.

Regulatory Risk

We are subject to extensive regulatory requirements and routine regulatory audits, and we must receive permits, licenses, and/or regulatory clearance or approval for our operations. Regulatory agencies may refuse to grant approval or clearance or may require the provision of additional data, and regulatory processes may be time consuming and costly, and their outcome may be uncertain in certain of the countries in which we operate. Regulatory agencies may also change policies, adopt additional regulations or revise existing regulations, each of which could impact our ability to provide our services. Our failure to comply with the regulatory requirements of these agencies may subject us to administratively or judicially imposed sanctions. These sanctions include, among others, warning letters, fines, civil penalties, criminal penalties, injunctions, debarment, product seizure or detention and total or partial suspension of operations. The failure to receive or maintain, or delays in the receipt of, relevant U.S. or international regulatory qualifications could have a material adverse effect on our business, prospects, financial condition or results of operations.

Interest Rate Risk

We are subject to interest rate risk on borrowings under our $190.0 million Revolving Credit Facility and $2,120.0 million Term Loan and $770.0 million Second Lien Notes, as the borrowings bear interest at floating rates. In October 2017, the company entered into two interest rate cap agreements with a total notional amount of $400.0 million for a total option premium of $0.6 million. The interest rate cap agreements terminate on September 30, 2020.

In June 2020, we entered into two interest rate cap agreements with notional amounts of $1,000.0 million and $500.0 million, respectively, for a total option premium of $0.3 million. These terminate on August 31, 2021 and February 28, 2022, respectively. The interest rate caps limit our cash flow exposure related to the LIBOR base rate under a portion of our variable rate borrowings to 1.0%. During the third quarter of 2019, we entered into two interest rate swap agreements to hedge our exposure to interest rate movements and to manage interest expense related to our outstanding variable-rate debt. These swaps were designated as hedges against the changes in cash flows attributable to changes in LIBOR, the benchmark interest rate being hedged. We receive interest at one-month LIBOR and pay a fixed interest rate under the terms of the swap agreement. The notional amount of the interest rate swap agreements totals $1,000.0 million and the termination date was August 31, 2020. A 1.0% increase in the interest rate under our outstanding obligations as of December 31, 2019, of $2,890 million, would increase interest expense by approximately $18.9 million per year.

Foreign Currency Risk

We are exposed to market risk from fluctuations in foreign currencies. We present our consolidated financial statements in U.S. dollars. Consequently, increases or decreases in the value of the U.S. dollar relative to the non-U.S. dollar functional currencies of the countries in which we operate may affect the value of these in our consolidated financial statements, even if their value has not changed in their local currency. We translate the financial statements of subsidiaries whose local currency is their functional currency to their U.S. dollar equivalents at end-of-period exchange rates for assets and liabilities and at average exchange rates for revenues and expenses. These translations could significantly affect the comparability of our results between financial periods and/or result in significant changes to the carrying value of our assets and liabilities. Translation adjustments are recorded as a component of accumulated other comprehensive income (loss) within equity.

Our results of operations are impacted by currency exchange rate fluctuations to the extent that we are unable to match net revenues received in foreign currencies with expenses incurred in the same currency. Transaction gains and losses arising from fluctuations in currency exchange rates on transactions denominated in currencies other than the functional currency are recognized in the consolidated statements of operations and comprehensive income (loss) as foreign exchange (gain) loss.

Approximately 40.5% of our revenues and 43.1% of our consolidated total assets as of June 30, 2020 are derived from operations outside the United States. Holding other variables constant (such as interest rates and debt levels), if the U.S. dollar had appreciated by 10% against the foreign currencies used by our operations in the combined six months ended June 30, 2020, revenues would have been reduced by approximately $16.3 million and gross profit by approximately $7.9 million.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

The following subsections describe our most critical accounting policies, estimates, and assumptions. Our discussion of critical accounting policies and estimates is intended to supplement, not duplicate, our summary of significant accounting policies so that readers will have greater insight into the uncertainties involved in these areas. Our accounting policies are more fully described in the S*ignificant Accounting Policies* note to consolidated financial statements included elsewhere in this prospectus.

The preparation of consolidated financial statements and related disclosures in conformity with accounting principles generally accepted in the United States of America requires management to make judgments, estimates and assumptions at a specific point in time and in certain circumstances that affect amounts reported in the accompanying consolidated financial statements. In preparing these consolidated financial statements, management has made its best estimates and judgments of certain amounts, giving due consideration to materiality. The application of accounting policies involves the exercise of judgment and use of assumptions as to future uncertainties and, as a result, actual results could differ from these estimates.

Under the Jumpstart Our Business Startups Act of 2012, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies. As an emerging growth company, we have elected to take advantage of the extended transition period for complying with new or revised accounting standards until those standards would otherwise apply to private companies or at which time we conclude it is appropriate to avail ourselves of early adoption provisions of applicable standards. As a result, our results of operations and financial statements may not be comparable to the results of operations and financial statements of other companies who have adopted the new or revised accounting standards.

Revenue Recognition. The majority of our sales agreements contain performance obligations satisfied at a point in time when control of promised goods or services have transferred to our customers. For agreements with multiple performance obligations, judgment is required to determine whether performance obligations specified in these agreements are distinct and should be accounted for as separate revenue transactions for recognition

purposes. In these types of agreements, we generally allocate sales price to each distinct obligation based on the relative price of each item sold in stand-alone transactions. Revenues recognized over time are generally accounted for using an input measure to determine progress completed as of the end of the period.

Refunds, returns, warranties and other related obligations are not material to any of our business units, nor do we incur material incremental costs to secure customer contracts.

The Sterigenics segment provides outsourced terminal sterilization and irradiation services for the medical device, pharmaceutical, food safety and advanced applications markets. We typically have multi-year service contracts with our significant customers, and these sales contracts are primarily based on a customer's purchase order. Given the relatively short turnaround times, performance obligations are generally satisfied at a point-in-time upon the completion of sterilization or irradiation processing once approved by our quality assurance process at which time the service is complete.

The Nordion segment is a provider of Co-60 and gamma irradiators, which are key components to the gamma sterilization process. Revenue from the sale of Co-60 radiation sources is recognized at a point-in-time upon satisfaction of our performance obligations for delivery/installation and disposal of existing sources. Revenue from the production of equipment in our Nordion segment is recognized over time using an input measure of costs incurred and is immaterial to the overall business.

The Nelson Labs segment provides outsourced microbiological and analytical chemistry testing and advisory services for the medical device and pharmaceutical industries. We provide our customers mission-critical lab testing services, which assess the product quality, effectiveness, patient safety and end-to-end sterility of products. These services are necessary for our customers' regulatory approvals, product releases and ongoing product performance evaluations. Nelson Labs services are generally provided on a fee-for-service or project basis, and we recognize revenues over time using an input measure of time incurred to determine progress completed at the end of the period.

We do not capitalize sales commissions as substantially all of our sales commission programs have an amortization period of one year or less. Furthermore, costs to fulfill a contract are not material.

Provisions for discounts, rebates to customers, and other adjustments are provided for as reductions in net revenues in the period the related sale was recorded. Shipping and handling charges billed to customers are included in net revenues, and the related shipping and handling costs are included in cost of net revenues on the consolidated statements of operations and comprehensive income (loss). Taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction, that are collected by us from a customer, are excluded from net revenue.

Payment terms vary by the type and location of the customer and the products or services offered. Generally, the time between when revenue is recognized and when payment is due is not significant. We do not evaluate whether the selling price contains a financing component for contracts that have a duration of less than one year.

Long-Lived Assets Other than Goodwill. We review long-lived assets, including finite-lived intangibles for impairment whenever events or circumstances indicate that the carrying amount of the assets may be impaired. Events or circumstances which would result in an impairment assessment include operating losses, a significant change in the use of an asset, or the planned disposal or sale of the asset. When we evaluate assets for impairment, we make certain judgments and estimates, including interpreting current economic indicators and market valuations, evaluating our strategic plans with regards to operations, historical and anticipated performance of operations, and other factors. If we incorrectly anticipate these factors, or unexpected events occur, our operating results could be materially affected. The asset or asset group would be considered impaired when the future net undiscounted cash flows generated by the asset or asset group are less than its carrying value.

An impairment loss would be recognized based on the amount by which the carrying value of the asset or asset group exceeds its estimated fair value. We provide additional information about our long-lived assets other than goodwill in notes titled *Property, Plant and Equipment and Capital Leases* and *Goodwill and Other Intangible Assets* of our consolidated financial statements included elsewhere in this prospectus.

Goodwill and Other Indefinite-Lived Intangibles. Assets and liabilities of the business acquired are accounted for at their estimated fair values as of the acquisition date. Any excess of the cost of the acquisition over the fair value of the net tangible and intangible assets acquired is recorded as goodwill. We generally supplement management expertise with valuation specialists in performing appraisals to assist us in determining the fair values of assets acquired and liabilities assumed. These valuations require us to make estimates and assumptions, especially with respect to intangible assets. We generally amortize our intangible assets over their useful lives with the exception of indefinite lived intangible assets. We do not amortize goodwill, but we evaluate it annually for impairment. Therefore, the allocation of the purchase price to intangible assets and goodwill has a significant impact on future operating results.

Goodwill and other indefinite-lived intangible assets, primarily certain regulatory licenses and tradenames, are tested for impairment annually as of October 1. If circumstances change during interim periods between annual tests that would indicate that the carrying amount of such assets may not be recoverable, the company would test such assets at an interim date for impairment. Factors which would necessitate an interim impairment assessment include prolonged negative industry or economic trends and significant underperformance relative to historical or projected future operating results.

We performed a quantitative assessment of all reporting units (Sterigenics, Nordion and Nelson Labs) as of October 1, 2019. The fair value of each reporting unit was calculated using a discounted cash flow analysis which was dependent on subjective market participant assumptions determined by management. Assumptions used in the analyses included discount rates and projected operating cash flows. Estimates of future cash flows are based upon relevant data at a point-in-time, are subject to change, and could vary from actual results. The estimated fair value of each reporting unit exceeded its carrying amount (including goodwill) by a minimum of 60% as of October 1, 2019. No factors were identified that would result in the potential impairment to the indefinite-lived intangible assets. In addition, there have been no significant events or circumstances that occurred since the annual assessment date of October 1 that would change the conclusions reached above. We provide additional information about our goodwill and other indefinite-lived intangible assets in the *Goodwill and Other Intangible Assets* note to consolidated financial statements included elsewhere in this prospectus.

Asset Retirement Obligations ("ARO"). ARO are legal obligations associated with the retirement of long-lived assets or the exit of a leased facility. We lease various facilities where sterilization and ionization services are performed. Under the lease agreements, we are required to return the facilities to their original condition and to perform decommissioning activities. In addition, certain of our owned facilities are required to be decommissioned when we vacate the facility. The decommissioning costs are paid in the period the expenditure is incurred. We recognize an initial liability for ARO's at fair value, and the associated asset retirement costs are then capitalized as part of the carrying amount of the long-lived asset. Accounting for the ARO at inception and in subsequent periods includes the determination of the present value of the ARO liability and offsetting long-lived asset, the subsequent accretion of the ARO liability and depletion of the long-lived asset, and a periodic review of the ARO liability estimates and associated discount rates used in the analysis. We provide additional information about our ARO in the *Asset Retirement Obligations ("ARO")* note to consolidated financial statements included elsewhere in this prospectus.

Income Taxes. We use the liability method of accounting for income taxes whereby we recognize deferred tax assets and liabilities for the future tax consequences of temporary differences between the tax bases of assets and liabilities and their reported amounts in the consolidated financial statements. We periodically review our deferred tax assets for recoverability and establish a valuation allowance based on historical taxable income, projected future taxable income, expected timing of reversals of existing temporary timing differences and the

implementation tax planning strategies. Deferred tax assets will be reduced by a valuation allowance if, based on management's estimate, it is more likely than not that a portion of the deferred tax assets will not be realized in a future period. The estimates used in the recognition of deferred tax assets are subject to revision in future periods based on new facts and circumstances. If we are unable to generate sufficient future taxable income in certain tax jurisdictions, or if there is a material change in the effective income tax rates or time period within which the underlying temporary differences become taxable or deductible, we could be required to increase our valuation allowance, which would increase our effective income tax rate and could result in an adverse impact on our consolidated financial position or results of operations.

We determine whether it is more likely than not that a tax position will be sustained upon examination, including resolution of related appeals or litigation processes, based on the technical merits of the position. In evaluating whether a tax position has met the more likely-than-not recognition threshold, we presume that the position will be examined by the appropriate taxing authority and that the taxing authority will have full knowledge of all relevant information. A tax position that meets the more likely-than-not recognition threshold is measured at the largest amount of benefit that is greater than 50% likely of being realized upon ultimate settlement. Determining what constitutes an individual tax position and whether the more likely-than-not recognition threshold is met for a tax position are matters of judgment based on the individual facts and circumstances of that position evaluated in light of all available evidence. We review and adjust tax estimates periodically because of ongoing examinations by, and settlements with, the various taxing authorities, as well as changes in tax laws, regulations, and precedent.

We are subject to taxation from federal, state and local, and foreign jurisdictions. Tax positions are settled primarily through the completion of audits within each individual tax jurisdiction or the closing of a statute of limitation. Changes in applicable tax law or other events may also require us to revise past estimates. The United States Internal Revenue Service routinely conducts audits of our federal income tax returns. Additional information regarding income taxes is included in the *Income Taxes* note to consolidated financial statements.

Commitments and Contingencies. We are, and will likely continue to be, involved in a number of legal proceedings, government investigations and claims, which we believe generally arise in the course of our business, given our size, history, complexity and the nature of our business, products, customers, regulatory environment and industries in which we participate. These legal proceedings, investigations and claims generally involve a variety of legal theories and allegations, including, without limitation, personal injury (e.g., slip and falls, burns, vehicle accidents), regulation (e.g., failure to meet specification or failure to comply with regulatory requirements), commercial claims (e.g., breach of contract, economic loss, misrepresentation), financial (e.g., taxes, reporting), employment (e.g., wrongful termination, discrimination, benefits matters) and other claims for damage and relief.

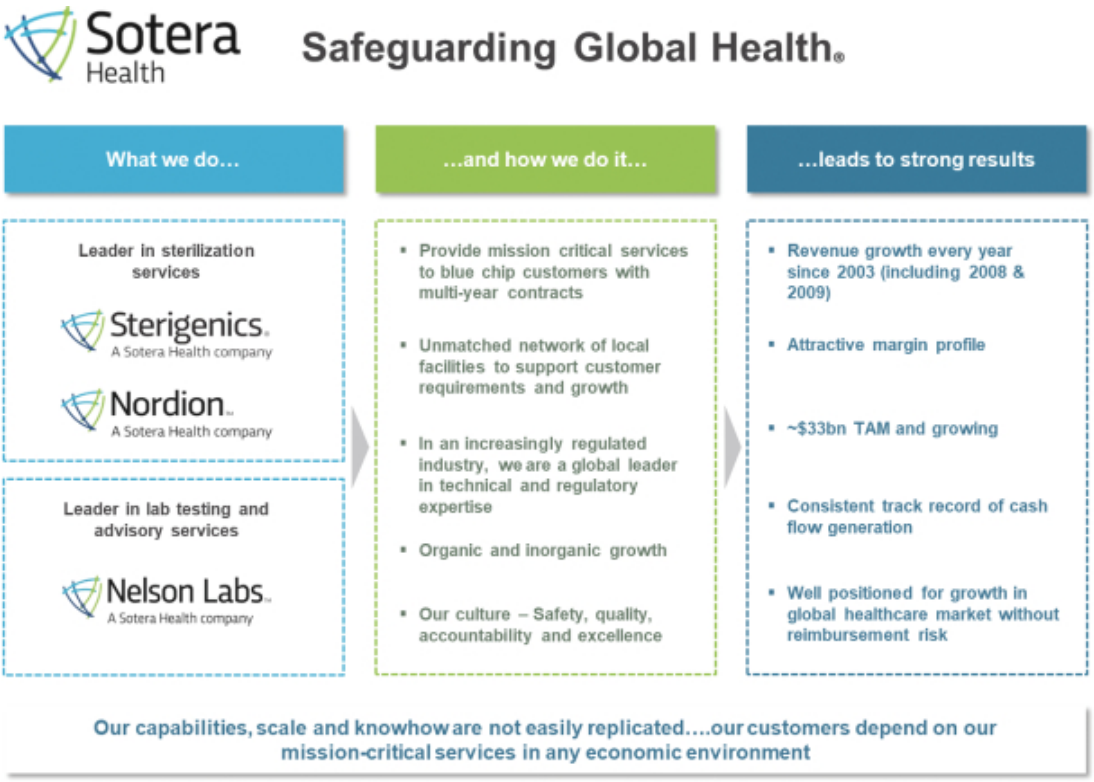
We record a liability for such contingencies to the extent we conclude that their occurrence is both probable and estimable. We consider many factors in making these assessments, including the professional judgment of experienced members of management and our legal counsel. We have made estimates as to the likelihood of unfavorable outcomes and the amounts of such potential losses. In our opinion, the ultimate outcome of these proceedings and claims is not anticipated to have a material adverse effect on our consolidated financial position, results of operations, or cash flows. However, the ultimate outcome of proceedings, government investigations and claims is unpredictable and actual results could be materially different from our estimates. We record gain contingencies when realized, and expected recoveries under applicable insurance contracts when we are assured of recovery. Refer to the *Commitments and Contingencies* note of our consolidated financial statements included elsewhere in this prospectus for additional information.

NEW ACCOUNTING PRONOUNCEMENTS

For a description of recent accounting pronouncements applicable to our business, see the *Recent Accounting Standards* note to consolidated financial statements included elsewhere in this prospectus.

BUSINESS

Overview



We are a leading global provider of mission-critical sterilization and lab testing and advisory services to the medical device and pharmaceutical industries. We are driven by our mission: Safeguarding Global Health®. We provide end-to-end sterilization as well as microbiological and analytical lab testing and advisory services to help ensure that medical, pharmaceutical and food products are safe for healthcare practitioners, patients and consumers in the United States and around the world. Our customers include more than 40 of the top 50 medical device companies and eight of the top ten global pharmaceutical companies (based on revenue). Our services are an essential aspect of our customers' manufacturing process and supply chains, helping to ensure sterilized medical products reach healthcare practitioners and patients. Most of these services are necessary for our customers to satisfy applicable government requirements. We give our customers confidence that their products meet regulatory, safety and effectiveness requirements. With a combined tenure across our businesses of nearly 200 years and our industry-recognized scientific and technological expertise, we help to ensure the safety of millions of patients and healthcare practitioners around the world every year. Across our 63 facilities worldwide, we have nearly 2,900 employees who are dedicated to safety and quality. We are a trusted partner to more than 5,800 customers in over 50 countries.

Our Businesses

We serve our customers throughout their product lifecycles, from product design to manufacturing and delivery, helping to ensure the sterility, effectiveness and safety of their products for the end user. We operate across two core businesses: sterilization services and lab services. Each of our businesses has a long-standing

record and is a leader in its respective market, supported and connected by our core capabilities including deep end market, regulatory, technical and logistics expertise. The combination of Sterigenics, our terminal sterilization business, and Nordion, our Co-60 supply business, makes us the only vertically integrated global gamma sterilization provider in the sterilization industry. This provides us with additional insights and allows us to better serve our customers.

- **Sterilization Services (our Sterigenics and Nordion brands):**
  - Under our Sterigenics brand, we provide outsourced terminal sterilization and irradiation services for the medical device, pharmaceutical, food safety and advanced applications markets. Terminal sterilization is the process of sterilizing a product in its final packaging. It is an essential, and often government-mandated, step in the manufacturing process of healthcare products before they are shipped to end-users. These products include medical protective barriers, including PPE, procedure kits and trays, implants, syringes, catheters, wound care products, laboratory products and pharmaceuticals. We offer our customers a complete range of outsourced terminal sterilization services, primarily using the three major sterilization technologies: gamma irradiation, EO processing and E-beam irradiation.
    - **Gamma irradiation:** A process in which products are exposed to gamma rays emitted by Co-60. Gamma rays can penetrate even dense materials to kill microbes. Gamma is particularly effective at sterilizing high-density medical products such as sutures, surgical tools and stents.
    - **EO processing:** A gas sterilization process in which pallets of packaged goods are loaded into a secure chamber that is then injected with EO gas to penetrate the packaging. EO is the most widely used gaseous sterilization agent in the world and has been in use for nearly 90 years. The broad application to a range of medical devices is attributed to the fact that EO is compatible with many materials that cannot tolerate or are degraded by radiation or moist heat sterilization. For this reason, it is commonly the only method available to safely and effectively sterilize procedure kits, PPE and many devices used in cardiac procedures.
    - **E-beam irradiation:** A process in which products are exposed to machine-generated radiation in the form of a stream of electrons. E-beam is particularly effective for low density homogenous products such as glass labware. Several medical devices products also rely on E-beam as an effective form of sterilization, including certain types of syringes. In addition to medical device sterilization, E-beam can also be used as an effective technology for materials modification, such as the crosslinking of certain polymers or for enriching the color of gemstones.
  - Under our Nordion brand, we are the leading global provider of Co-60 and gamma irradiators, which are key components to the gamma sterilization process. Co-60 is a radioactive isotope that is needed by medical device manufacturers and sterilizers including Sterigenics. Co-60 decays and must be replaced over time to produce the desired level of irradiation. We have the most comprehensive access to nuclear power reactor operators around the world which are able to produce Co-60. The capabilities that we provide to Nordion's customers include handling and processing of Co-60, recycling of depleted sources and global logistics enabled by our licensed container fleet. We are integral to our customers' operations due to highly coordinated and complex installation processes. In addition, under our Nordion brand, we are a leading supplier of Co-60 sources for stereotactic radiosurgery devices (such as the Gamma Knife®), which are used for certain oncology applications.
- **Lab Services (our Nelson Labs brand):**
  - Under our Nelson Labs brand, we are a global leader in outsourced microbiological and analytical chemistry testing and advisory services for the medical device and pharmaceutical industries. We provide our customers mission-critical lab testing services, which assess the product quality, effectiveness, patient safety and end-to-end sterility of products. These services are necessary for our customers' regulatory approvals, product releases and ongoing product performance evaluations.
    - Microbiology testing services help to identify and measure the potential risks of microbes to a product and ensure that the quality of the products is maintained.

- Analytical chemistry lab testing is also a critical part of the pharmaceutical drug and medical device development and manufacturing process. This testing provides first-hand information as to the content, quality and safety of raw materials, intermediates and finished products.
- We also provide expert advisory services to aid customers in navigating the regulatory requirements applicable throughout the product lifecycle.

Nelson Labs serves over 3,800 customers across 13 facilities in the United States, Mexico, Asia and Europe. We have a comprehensive array of over 800 laboratory tests supporting our customers from initial product development and sterilization validation, through regulatory approval and ongoing product testing for sterility, safety and quality assurance. Our customers rely on our expertise in their industries to get their medical device and pharmaceutical products to market.

- Medical device lab testing services include: microbiology, biocompatibility and toxicology assessments, material characterization, sterilization validation, sterility assurance, packaging validation and distribution simulation, reprocessing validations, facility and process validation and performance validation and verification of PPE barriers and material.
- Pharmaceutical lab testing services include: microbiology, biocompatibility and toxicology assessments, extractables and leachables evaluations of pharmaceutical containers, sterilization validation, sterility assurance, packaging validation and distribution simulation and facility and process validation.

Nelson Labs is highly complementary to our sterilization services business. In particular, microbiological testing validates the configuration and effectiveness of the sterilization process.

We believe that our sterilization service offerings, our Co-60 supply capabilities and the broad capabilities of our lab services business give us unique insights and technical expertise to serve the mission-critical needs of medical device and pharmaceutical manufacturers. We believe these provide us with a competitive advantage over other outsourced sterilization and lab testing service providers.

Our Markets and Customers

Medical device and pharmaceutical manufacturers often outsource their sterilization and lab services needs, as the technical and regulatory expertise and infrastructure required to establish those capabilities in-house can result in significant cost and resource burden.

We estimate that the total global addressable market for terminal sterilization and outsourced medical device and pharmaceutical lab testing was approximately $33 billion in 2019. Global terminal sterilization accounted for $3 billion of our estimated total addressable market in 2019. Global outsourced medical device and pharmaceutical lab testing services accounted for approximately $29 billion of our estimated total addressable market in 2019. We believe the following secular trends underpin increasing demand for medical devices and pharmaceuticals: an aging population, increased access to, and demand for, healthcare services globally, growth in healthcare R&D spending and innovation, intensifying regulatory requirements and heightened focus on personal safety. As a service provider to manufacturers, we are not directly exposed to risks associated with reimbursement by public or private payors. We expect that increasing utilization of medical devices, including the equipment and consumables that we sterilize and test, expansion in pharmaceutical development and a growing focus on microbial decontamination (including viruses) will continue to drive growth in our business and provide us the opportunity to expand within our markets.

Our customers depend upon the end-to-end services we provide throughout the lifecycle of their products, from research and development, to product manufacturing and sterilization, as well as ongoing quality control. We often maintain long-term relationships with our customers, which average over a decade across our top 25 customers in 2019. Given the critical nature of our services, a significant portion of our revenues is supported by

multi-year contracts. More than 90% of our sterilization services revenues in each of the year ended December 31, 2019 and the six months ended June 30, 2020 were from customers under multi-year contracts. The quality of our service offerings is evidenced by close to 100% renewal rates of our top ten sterilization services customers in 2019 over the past five years. Most of our services are government-mandated and mission-critical, and sterilization services generally represent a small fraction of the total end product cost of medical devices.

Our Network and Expertise

All of the services we provide are highly regulated and require significant technical expertise. To manage these strict regulatory requirements safely and effectively, we have a highly trained and skilled workforce that creates, implements and manages complex quality assurance and environmental health and safety programs, procedures and control systems. We coordinate and communicate with numerous regulatory agencies globally across our businesses on an ongoing and regular basis.

With 63 facilities across our businesses located in 13 countries, our network of global facilities represents a significant competitive advantage in serving the healthcare industry. Our sterilization facilities are often strategically located near our healthcare customers' manufacturing sites or distribution hubs, which is intended to decrease our customers' transportation costs and help them optimize their supply chain and logistics. Our laboratory testing facilities are strategically located in order to meet the demanding and often complex needs of our customers. Extensive capital, technical expertise and regulatory knowledge are required to build, maintain and operate facilities like ours. We estimate that one new sterilization facility can cost over $30 million to build, on average, and require extensive and complex licensing approval and regulatory compliance processes. We estimate that the cost to replace the facilities in our network alone could be as high as $1.5 billion or more, in addition to the technical and regulatory requirements.

For the year ended December 31, 2019, we recorded net revenues of $778.3 million, net loss of $20.4 million and Adjusted EBITDA of $379.9 million. In addition, for the six months ended June 30, 2020, we recorded net revenues of $401.3 million, net income of $5.3 million and Adjusted EBITDA of $206.3 million. For the definition of Adjusted EBITDA and the reconciliation of these measures from net income (loss), please see "Summary—Summary Historical Consolidated Financial and Other Data."

Key Strengths

We are a critical service provider in the healthcare value chain. Our customers rely on us to help ensure that medical, pharmaceutical and food products are safe for healthcare practitioners, patients and consumers. We provide services, including sterility assurance, product safety and effectiveness validation, that our customers need to get their products to market and into the hands of their end-users. Our breadth of services, technical and regulatory expertise, as well as our global scale, enable us to provide these mission-critical services which are necessary for Safeguarding Global Health®. These key strengths make us a global leader in our markets.

Comprehensive, global provider of mission-critical sterilization and lab services for the healthcare industry

Our customers value our scale and breadth of services. We offer customers comprehensive sterilization, lab testing and expert advisory services on a global scale. Our customers in the healthcare industry require these services to navigate and operate in an increasingly complex and technical regulatory environment, and we believe we provide a differentiated value proposition to our customers by offering these services in an integrated manner. Our robust sterilization capabilities across all key modalities allow our customers to help ensure the safety of their products prior to delivery to their end-users. We offer over 800 microbiology and analytical chemistry lab tests that, together with our expert advisory services, cover the entirety of the medical device and pharmaceutical product lifecycles to evaluate and ensure that our customers' products meet regulatory requirements. Our frequent interactions with our customers across multiple facets of their products' lifecycles give us deep and often early insights into the evolving needs of the manufacturers of medical devices and pharmaceuticals. We have a large, global and strategically-located network of facilities that allows us to deploy the full array of our services to our customers where they need us. These comprehensive and global services make us an essential player across the medical device and pharmaceutical value chain.

Industry leading participant in large and growing markets, underpinned by trends in global healthcare

We estimate that the total global addressable market for terminal sterilization and outsourced medical device and pharmaceutical lab testing was approximately $33 billion in 2019. Global terminal sterilization accounted for $3 billion of our estimated total addressable market in 2019. Global outsourced medical device and pharmaceutical lab testing services accounted for $29 billion of our total addressable market in 2019.

Given the mission-critical need for our services within the healthcare industry, our growth historically has been impacted by broader global healthcare trends as opposed to macroeconomic trends. Trends including an aging population and increased access to, and demand for, healthcare services globally, have driven increases in volume demand for medical device and pharmaceutical products. In addition, the need for product enhancement and innovation by manufacturers drives further demand for our services. We believe the sterilization and lab services markets will continue to benefit from these trends, as well as from the increasingly complex regulatory

and compliance environment and heightened focus by consumers on personal safety. As our customers continue to focus on innovation of their own products, they have increasingly relied on our expertise and our outsourced services to help them get their products to market. We believe our ability to provide end-to-end sterilization and lab services makes us a trusted partner to our customers in these large and growing markets.

Sterilization services business with an established and durable customer base supported by long-term contracts provides highly recurring revenue streams

We provide expertise and end-to-end sterilization services for our customers leading to deep, trusted relationships that allow them to meet their global regulatory compliance needs. Our relationships with our Sterigenics and Nordion customers are typically governed by multi-year contracts with cost pass-through provisions, which have resulted in recurring revenue streams and accretive growth. In addition, these customers often look to us as a long-term provider given switching providers can be costly and burdensome. For example, in most circumstances, switching providers requires additional testing, re-validation and FDA submissions and can take anywhere from six months to three years depending upon the class of product. Our relationships with our top ten sterilization services customers in 2019 had an average tenure of over a decade. Our partnerships with these customers have led to close to 100% renewal rates over the past five years.

Expertise and strong track record in highly regulated markets

We and our customers operate in highly complex and regulated markets that require deep knowledge and technical expertise. We believe that the operational discipline that we employ to manage intricate quality assurance and EH&S programs in our own operations gives our customers confidence that we are the best partner to support them in their businesses. For example, we design and install emission controls in our EO facilities that often outperform the regulatory standards that we are required to meet. We also have a skilled team which has developed trusted relationships with numerous regulatory bodies around the world. For example, in 2019 we were selected by the FDA as one of eight participants to move to the next stage of a public innovation challenge to encourage the development of new approaches to medical device sterilization and new strategies to reduce EO emissions. We work closely with our customers, the FDA and others to consider enhanced EO cycle design and processes that would reduce EO emissions from the EO sterilization process to as close to zero as reasonably possible. Our relationships, combined with our thought leadership that is recognized by regulators and customers alike, enable us to inform the process of creating, interpreting and advising on safety standards. They also allow us to educate and advise our customers on current and newly evolving standards and requirements.

Global scale and integrated facility network provide differentiated services to our customers

We have a global network of 63 facilities, consisting of 50 sterilization services facilities and 13 labs, through which we provide services to more than 5,800 customers that have operations in over 50 countries. We have worked to standardize our enterprise resource planning, global quality and EH&S systems to integrate our network of facilities globally. This integration is critical for our customers, who operate globally and look for partners that can provide the same level of service, experience and expertise wherever they operate. We serve many of our sterilization customers at more than one facility, with more than 80% of Sterigenics' net revenues attributable to customers using more than one of our facilities and more than 50% of Sterigenics' net revenues attributable to customers using five or more of our facilities in 2019. The capital to replicate the scale of our global facility network, extensive and complex upfront licensing processes and intense regulatory compliance requirements make it extremely difficult for new competitors to easily enter our markets and replicate our scale. The combination of Sterigenics and Nordion makes us the only vertically integrated global supplier of gamma irradiation services, which allows Nordion to more confidently make long-term investments to expand Co-60 supply for the medical products sterilization industry. We believe our global scale, supported by our integrated facility network and core capabilities including deep end market, regulatory, technical and logistics expertise, will allow us to continue to expand our service offerings and customer base.

Experienced management team with proven track record of execution and financial performance

Our management team has significant industry expertise, an unwavering commitment to operational excellence and a proven track record of delivering financial performance. Our culture of accountability runs throughout the entire organization and has contributed meaningfully to our operational achievements and commercial success. Our management team is supported by nearly 2,900 team members around the world who are dedicated to safety and quality, which is why we are a trusted partner to our customers. We have delivered revenue growth every year since 2003, even through significant economic downturns, and have implemented productivity initiatives which have led to margin expansion. Our team brings extensive experience and is highly skilled at recognizing and acting upon market expansion opportunities. Our disciplined approach to M&A has enabled the successful integration of two transformational and seven bolt-on acquisitions over the past six years. In addition, we are disciplined in our capital deployment strategy, which is focused on achieving attractive returns on investment. We pursue capacity expansions that will allow us to consistently grow earnings.

Our Strategy

Our strategy is designed to deliver on our mission of Safeguarding Global Health®, while generating sustainable growth, margins and cash flows for our business:

Drive organic growth by leveraging our leading capabilities, scale and global network

We believe that our established and durable relationships with our diverse customer base, along with the breadth and depth of our service offerings, provide us with a distinct leadership position within the markets that we serve. Our deep experience in sterilization and lab services allows us to be agile in identifying opportunities and decisive in deploying resources towards these opportunities to drive organic growth. We intend to continue capitalizing on our leadership position and integrated global facility network and capabilities to drive our growth by expanding existing customer relationships and attracting new customers. We also seek to accelerate our penetration in high-growth end-markets such as pharmaceuticals.

Deepen our customer relationships with our comprehensive service offerings in sterilization and lab services

Our customers around the world trust us to provide them with the highest quality sterilization and lab services. We are focused on broadening the number and range of services that each of our customers purchase from us by leveraging our core capabilities. We have continued to work on improving our customer interactions in order to deliver a “one company” experience across our sterilization and lab services so that we can further deepen our customer relationships. We provide comprehensive end-to-end services across our customers’ value chains so they can efficiently deliver the safest products to their end-users. We are the only industry player that offers the range of sterilization and lab services at the scale that we do. We strive for the full integration of our global operations to drive consistency across our services and provide our customers with a coordinated and seamless experience, designed to reduce cycle times for our services and improve efficiency. Our offerings facilitate long-term partnerships with our customers and make us an integral part of their product development and commercialization processes. We have multiple decades of deep expertise across key sterilization modalities as well as lab testing services across our customers’ full product lifecycles. We provide over 800 laboratory tests, which we believe is multiple times the number of offerings of our nearest competitor.

Expand footprint to meet the local needs of our growing global customer base

We are focused on aligning our facility network to best meet our customers’ requirements. We believe our valuable insight into our customers’ current and future needs will allow us to efficiently grow our business. Our global presence reflects our commitment to developing our footprint to serve our customers’ supply chains. Our integrated network of facilities is important to our customers as they can rely on the same level of service at each of our facilities, regardless of where they are around the world. We believe our sterilization services customers

are seeking a partner that can operate near their manufacturing sites and distribution centers around the world, as transportation and logistics costs can be meaningful for our customers. In certain circumstances we will invest in projects to build capacity ahead of demand in alignment with the strategic plans of our customers. Our lab services customers are seeking expertise with both international and U.S. regulatory bodies. As our customers expand their global operations, we are well-equipped to expand with them and serve them where they need us.

Invest in technical and regulatory capabilities to enhance our leadership position

Our customers depend on our deep and extensive technical knowhow to get their products to market. We plan to continue to invest in our technical expertise and regulatory knowhow to stay ahead of the dynamic and increasingly complex regulatory landscape in the healthcare industry. Our combination of technical and regulatory expertise allows us to advance the standards of safety for crucial products whose end-users include healthcare practitioners and patients. As customers look to us for expertise, this landscape creates opportunities for us to drive growth in our advisory services offering. We believe that our position as a key industry thought leader makes us a trusted partner for customers as they are developing new products and a respected industry partner for regulators as they are defining industry standards of safety for the future.

***Continue our commitment to operational excellence to drive business efficiency and* results**

Our focus on operational excellence has allowed us to increase capacity utilization and improve working capital, thereby growing our revenues while expanding margins and improving the customer experience. Our commitment to implementing and improving customer-experience enhancing initiatives and internal processes has been a key driver of our strong financial profile to date. Our customer-facing initiatives around cycle time reduction, quality self-service reporting, purchase order accuracy and scheduling efficiencies highlight our rigorous, detail-oriented approach to operational excellence and connectivity with our long-time customers. These initiatives are designed not only to reduce turnaround times and increase predictability of service for our customers, but also to maximize our financial results. We will continue to address our customers' expectations through our internal processes centered on talent management, quality, EH&S and information technology. We believe that these processes will enable us to continue to deliver growth, profitability and cash generation.

Pursue value creating strategic acquisitions to expand our addressable market and enhance our global capabilities and footprint

Our disciplined approach to M&A has resulted in our successful track record of identifying, completing and integrating strategic acquisitions into our company and we intend to continue to pursue value-creating strategic acquisitions. We have implemented a disciplined framework to support our acquisition efforts that focuses on quality businesses that are well-regarded by our customers and aligned with our culture of accountability, customer service and operating with integrity. Illustrating this highly disciplined acquisition framework are our two transformational acquisitions of Nordion and Nelson Labs. In addition to these major acquisitions, we acquired FTSI, Gammarad, CBE, REVISS, Toxikon Europe NV, Gibraltar Laboratories and Iotron, which provided geographic, technical and service line expansions. Our acquisition of Nelson Labs expanded our capabilities by creating an enhanced lab services platform to provide microbiology testing within our existing customer end-markets and increasing the number of tests we could provide to our customers. We have a strong foundation to continually evaluate acquisition opportunities that would expand our addressable market and enhance our global capabilities and footprint. We are well positioned to evaluate other acquisitions that leverage our core capabilities while expanding our existing customer relationships. We currently have a significant pipeline of targets, ranging from small, owner operated businesses to larger businesses, and believe that we can identify the appropriate targets and integrate them seamlessly into our business.

Industry Overview

We operate in the terminal sterilization and outsourced lab testing industries. We estimate that the total global addressable market for terminal sterilization and outsourced medical device and pharmaceutical lab testing

was approximately $33 billion in 2019. Global terminal sterilization accounted for $3 billion of our estimated total addressable market in 2019 and we believe it is growing. Global outsourced medical device and pharmaceutical lab testing services accounted for $29 billion of our estimated total addressable market in 2019 and we believe it is growing.

We expect several positive secular trends to drive increased demand for our services, including:

- **Favorable demographic trends for healthcare worldwide:** Healthcare demand is increasing globally, driven primarily by an aging population and an increased prevalence of chronic diseases. According to data published by the United Nations in 2019, the global population is expected to increase by 1 billion people by 2025. Of that 1 billion, approximately 300 million will reach age 65 or older, as life expectancies increase. In March 2020, the CMS estimated that health expenditures in the United States will increase from approximately 18% of gross domestic product in 2018 to approximately 20% in 2028.
- **Increased demand for healthcare services in global markets:** Stricter healthcare standards coupled with heightened regulatory requirements, greater availability of care and increased patient purchasing power are driving increased demand for healthcare services. In emerging markets, rapid urbanization and rising income, combined with an increase in diseases such as diabetes and cancer, have fueled the growth in access to, and demand for, healthcare services. In addition, the COVID-19 pandemic has also increased awareness of the importance of decontamination and sterilization. In 2018, the CMS estimated global healthcare costs to be approximately $4 trillion in 2019 and projected they would reach more than $6 trillion by 2027.
- **Growth in R&D spending and innovation across healthcare:** The pharmaceutical and medical device industries are continuously innovating and developing new products, which we anticipate will increase the demand for sterilization and lab services. Worldwide pharmaceutical R&D spend is forecasted to grow steadily at a CAGR of approximately 3% between 2019 and 2026, reaching $233 billion by 2026 (EvaluatePharma® July 2020, Evaluate Ltd.). In the medical devices market, the global top twenty companies based on R&D spending spent a combined $18 billion on R&D in 2017. This number is expected to grow at a 4% CAGR, reaching approximately $24 billion by 2024.

Sterilization overview

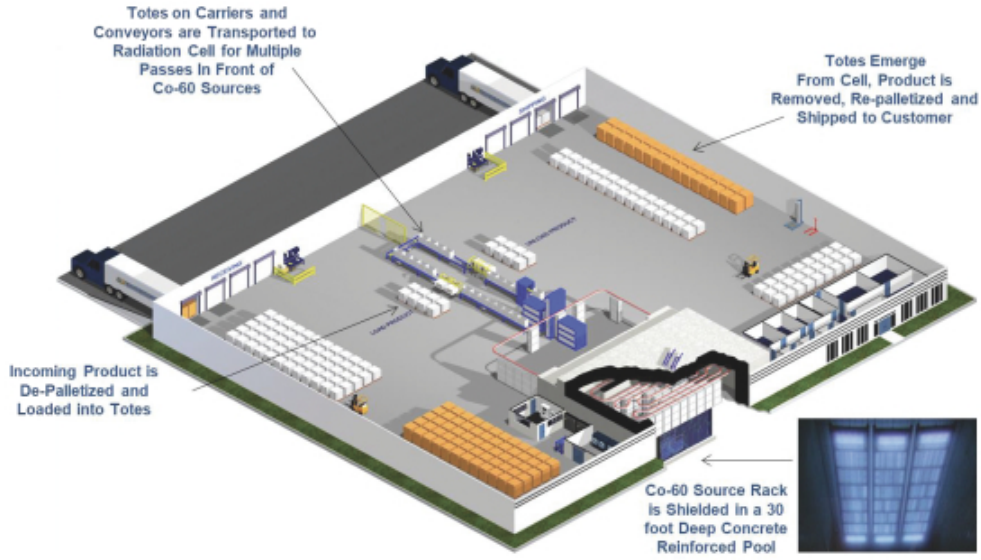
Sterilization is a process used to render a product free of viable organisms that may lead to infectious diseases. Terminal sterilization refers to sterilization of the product in its final packaging and is the last step in production before the product is shipped to the end-users. Sterilization is a highly technical and regulated industry in which companies are subject to environmental, health and safety regulations in the jurisdictions in which they operate. With an increased focus on sterilization and de-contamination, particularly in light of the COVID-19 pandemic, we expect the importance of the sterilization industry to continue to grow. In the medical device and pharmaceutical industries, sterilization is a regulatory requirement and essential step in the manufacturing and distribution process. Sterilization services, primarily decontamination, are also critical for the food safety end market, as stricter regulations have been introduced to ensure the safety and quality of products. Due to the technical and regulatory expertise needed for sterilization, outsourced sterilization service providers add significant value to their customers. Medical device and pharmaceutical manufacturers often outsource their sterilization needs, as the technical and regulatory expertise and infrastructure required to establish those capabilities in-house can result in significant cost and resource burden.

The three main sterilization technologies are gamma irradiation, EO processing and E-beam irradiation. Other developing or niche sterilization technologies include x-ray, nitrogen dioxide (NO_2) and hydrogen peroxide sterilization. In determining the optimal sterilization method for any given product, the type of product, its physical properties and designated use, the type and quantity of bioburden measured on the product,

applicable regulatory requirements, how the product will be packaged, as well as the size, weight and density are all considered.

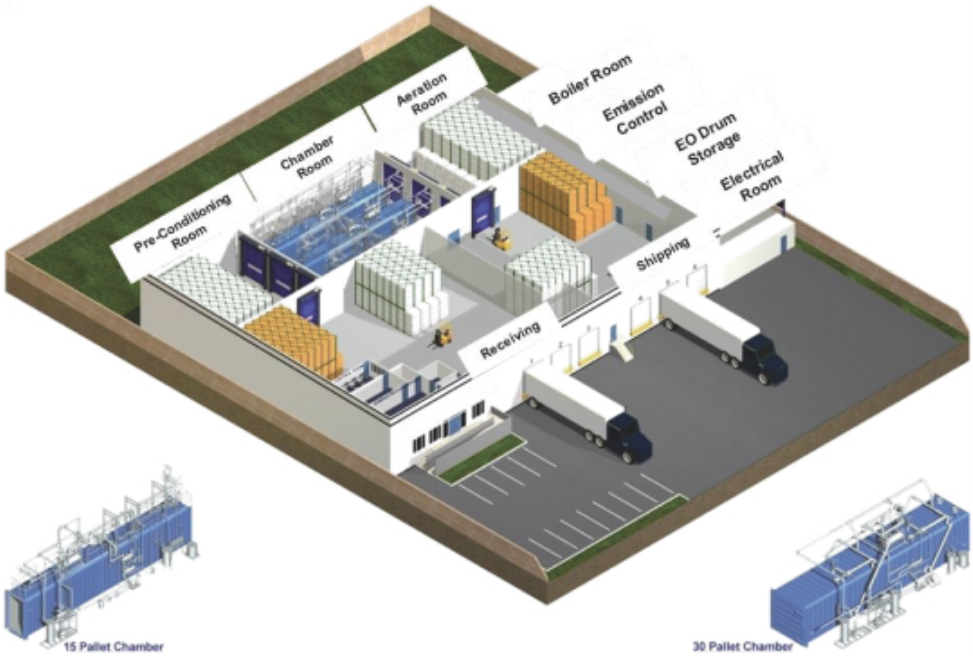
- **Gamma irradiation:** A process in which products are exposed to gamma rays emitted by Co-60. Gamma rays can penetrate even dense materials to kill microbes. Co-60 is a particularly effective consumable used for sterilizing high-density medical products, such as sutures, surgical tools and stents. The natural decay of Co-60 at approximately 12% a year leads to steady replacement demand for the isotope.

  Below is an example of a gamma irradiation facility.



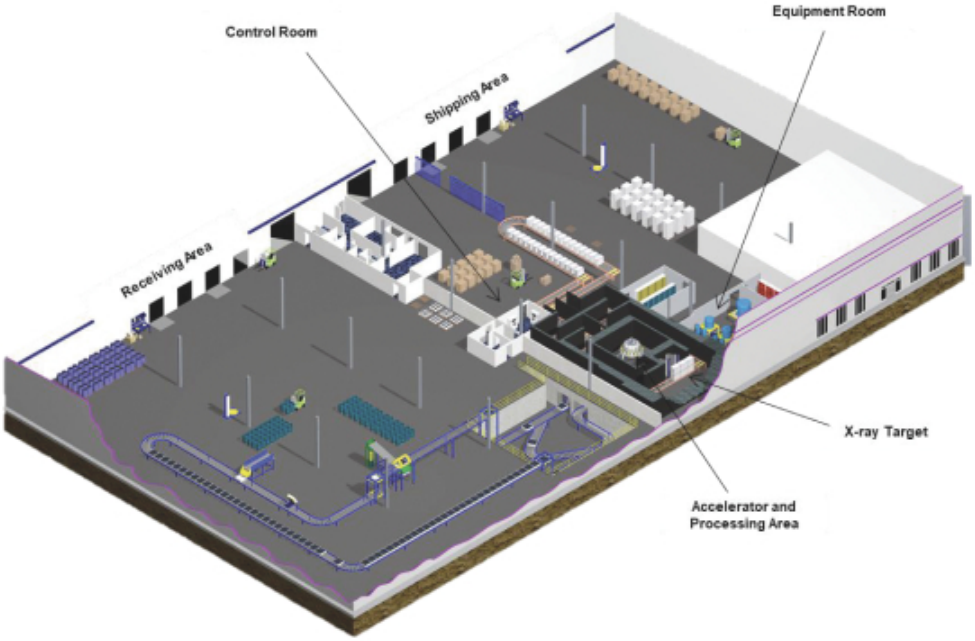
- **EO processing:** A gas sterilization process in which pallets of packaged goods are loaded into a secure chamber that is then injected with EO gas to penetrate the packaging. EO is the most widely used gaseous sterilization agent in the world and has been in use for nearly 90 years. The broad application to a range of medical devices is attributed to the fact that EO is compatible with many materials that cannot tolerate or are degraded by radiation and moist heat sterilization. For this reason, it is commonly the only method available to safely and effectively sterilize procedure kits, PPE and many devices used in cardiac procedures.

  Below is an example of an EO processing facility:



- **E-beam irradiation:** A process in which products are exposed to machine-generated radiation in the form of a stream of electrons. E-beam is particularly effective for low density homogenous products such as glass labware. Several medical devices products also rely on E-beam as an effective form of sterilization, including certain types of syringes. In addition to medical device sterilization, E-beam can also be used as an effective technology for materials modification, such as the crosslinking of certain polymers or for enriching the color of gemstones.

  Below is an example of an E-beam processing facility:



- **Other modalities:** X-ray irradiation is a process in which products such as medical devices and labware are exposed to machine generated radiation in the form of X-rays for the purpose of sterilization and decontamination. NO_2-based sterilization, which offers ultra-low temperature and minimal pressure requirements, can be effective in the sterilization of prefilled syringes, drug-device combination products and custom implants, but is limited as it cannot be used with cellulose materials such as cardboard. Hydrogen peroxide sterilization is a low temperature process that is also incompatible with cellulose material. This technology has historically been focused on competing with autoclaves in the hospital for re-sterilization of surgical tools and devices. Challenges for NO_2 and hydrogen peroxide for commercial sterilization also include smaller chamber sizes and load limitations.

Entry into the sterilization business requires significant capital investment, extensive process development and access to supplies of raw materials. The high cost of technology and capital expenditure required, combined with stringent regulations, create high barriers to entry for new outsourced sterilization providers.

We estimate that the global demand for terminal sterilization was approximately $3 billion in 2019.

Lab services overview

Companies use microbiological and analytical chemistry lab testing and advisory services to ensure safety and compliance of key product attributes across the medical device, pharmaceutical and food safety end markets. Microbiology tests help identify and measure the potential risks of microbes to a product and ensure that the quality of the products is maintained. Key testing techniques used include chemical, microbiological, biochemical and molecular methods to quantify, identify and assess the risk of microbes present on samples. Analytical chemistry lab testing is also a critical part of the drug development and the manufacturing process. The qualitative and quantitative results generated from validated analytical testing provide first-hand information as to the content, quality and safety of raw materials, intermediates and finished products. Lab testing is critical for ensuring product quality, patient safety, effectiveness and end-to-end sterility for customers.

Expert advisory services offered in the lab services industry aid customers in navigating the appropriate regulatory standards at any stage of the product life cycle, including supporting them through the regulatory submission process. Medical device manufacturers, who are seeking to maximize efficiency of capital, supply chain, reach and regulatory compliance, are increasingly using lab services providers for testing and advisory services. Technological advancements, rising cases of infectious diseases and increasing stringency and complexity of regulatory standards have continued to drive growth in this market. The high cost of reagents, instruments, equipment and validation requirements create high barriers to entry for emerging competitors.

Laboratory testing must be performed in accordance with applicable standards and regulatory requirements around the world, including those set by the FDA, Health Canada, Medicines and Health Products Regulatory Agency, Therapeutic Goods Administration and China Food and Drug Administration as well as those of standards organizations like the ISO, American National Standards Institute and Association for the Advancement of Medical Instrumentation (“AAMI”).

We estimate that the global medical device and pharmaceuticals lab testing segment size was approximately $59 billion in 2019. Of that demand, we estimate that the outsourced component, which represents our addressable market in lab services, represented approximately $29 billion of that total.

End markets we serve

We primarily serve the medical device, pharmaceutical and, to a lesser extent, food safety end markets with our sterilization and lab services. Through our Sterigenics brand, we provide sterilization services which are essential to the manufacturing process of medical device and pharmaceutical products such as procedure kits and trays, implants, syringes, catheters, wound care products, medical protective barriers including PPE, laboratory equipment and pharmaceuticals. Through our Nordion brand, we are the leading global provider of Co-60 and gamma irradiators, which are the key components in the gamma sterilization process, and we are also a leading supplier of Co-60 sources for stereotactic radiosurgery devices (such as the Gamma Knife®), which are used for certain oncology applications. Through our Nelson Labs brand, we provide microbiological and analytical chemistry lab testing services to medical device and pharmaceutical manufacturers which assess the safety, effectiveness and compliance of products necessary for regulatory approvals, commercialization and ongoing product performance evaluations.

In addition, we provide microbial de-contamination and microbial remediation services for the food industry. We currently irradiate a variety of food and food packaging products to guard against harmful bacteria, such as listeria, salmonella, E. coli and other pathogens. We also provide microbial remediation services that stop the progression of damage to products and help make the products safe for distribution.

Medical device

We serve more than 40 of the top 50 medical device companies globally (based on revenue).

The medical device industry manufactures a range of products from simple consumables, such as surgical gloves and other PPE, to more complex devices, such as medical implants, all of which are essential to

maintaining human health. Medical devices and implants are typically in contact or even inserted within the human body, making it even more important that they meet rigorous safety and sterility requirements. There is a diverse mix of established, large companies and fast-growing entrants that fuel innovation and adoption of new technologies in the industry.

Prior to 1950, medical device sterilization was often performed in a medical practitioner's office or by a hospital's central sterilization department using steam, dry heat or chemical solutions. Sterilization controls were not rigorous, resulting in healthcare-associated infections, and hospital-acquired infections caused by medical procedures. The advent of single-use, disposable medical devices, which are packaged to maintain sterility up to the point of use, provided an effective solution to this problem and shifted the burden of sterilization from the healthcare system to the medical device manufacturer. The introduction of low-cost biocompatible plastic resins with characteristics appropriate for medical devices and packaging as well as the adoption of EO sterilization as an effective, low-temperature process for sterilizing medical devices accelerated this industry shift. According to the FDA in 2019, more than 20 billion devices sold in the United States every year are sterilized with EO, accounting for approximately 50 percent of devices that require sterilization.

Pharmaceuticals

Pharmaceuticals continue to be a key driver for our growth. Today, we serve eight of the top ten global pharmaceutical companies (based on revenue).

Small and large molecule development is regulated by the FDA, and requires a complex and lengthy research and development processes. For approved products, regulatory standards have become increasingly stringent in recent years especially as they relate to the drug manufacturing process and overall supply chain. Pharmaceutical manufacturers look to services providers who are able to satisfy their industry's rigorous regulatory and quality standards at all stages, from research and development to production and commercialization. Several sector trends have contributed to growth in the pharmaceutical industry, including growth in R&D spending, increased levels of outsourcing by pharmaceutical companies, as well as increased complexity of clinical development and manufacturing given the emergence of large molecule therapeutics.

Food safety

We currently serve several large customers in the food processing industry, such as beverage companies and spice manufacturers.

Food safety testing is a major and necessary step in food processing. Processed foods are the major category of products that are tested for safety and quality profiles. The global food safety testing market is segmented by contaminant type into pathogen testing, mycotoxins, pesticides, residue testing and others. The market is further segmented by technology and application. The rising number of foodborne diseases, adulteration cases and toxicity cases has dramatically increased the need for food safety testing. In 2018, the Center for Disease Control and Prevention (the "CDC") estimated that one in six Americans get sick from contaminated foods or beverages every year, and 3,000 Americans die annually. The U.S. Department of Agriculture estimated in 2018 that foodborne illnesses cost almost $16 billion each year. Growing consumer interest in food quality with high technological advancements is further driving the food safety testing market in developed countries.

The CDC, FDA and USDA's Food Safety and Inspection Service collaborate closely at the federal level to promote food safety. The CDC works with local, state and federal partners to investigate outbreaks and implement systems to better enhance safety. The U.S. Food Safety Modernization Act ("FSMA") was enacted in 2011 in response to dramatic changes in the global food supply chain and the rise of foodborne illnesses during the 2000s. FSMA has given the FDA new authorities to regulate the way foods are grown, harvested and processed. The law granted the FDA the ability to recall products and includes seven major rules for ensuring the safety of food supply including good manufacturing practice requirements and laboratory accreditation programs.

Our Businesses

Sterilization Services

Our sterilization services business is comprised of Sterigenics and Nordion.

Sterigenics

We are a leading global provider of outsourced terminal sterilization services and have provided sterilization services for nearly 90 years. We offer a globally integrated platform for our customers in the medical device and pharmaceutical industries, with facilities strategically located to be convenient to their manufacturing sites or distribution hubs.

Terminal sterilization is the process of sterilizing a product in its final packaging; it is an essential, and often government-mandated, last step in the manufacturing process of healthcare products before they are shipped to end-users. These products include procedure kits and trays, implants, syringes, catheters, wound care products, medical protective barriers, including PPE, laboratory products and pharmaceuticals.

Sterilization Services

We offer our customers a complete range of terminal sterilization services, primarily using the three major commercial terminal sterilization technologies: gamma irradiation, EO processing and E-beam irradiation. We continue to invest in and develop our capabilities and our current methods of sterilization, as well as explore new alternative modalities and technologies. Our primary terminal sterlization technologies include:

	Gamma Irradiation	Ethylene Oxide	Electron Beam
Overview	*Products are exposed to gamma rays emitted by decaying Co-60. Gamma rays have no mass and therefore can penetrate dense materials to kill microbes*	*Gas sterilization process where pallets are loaded into a chamber that is then injected with Ethylene Oxide gas to penetrate already-packaged products*	*Products ranging from gemstones to semiconductors are exposed to machine-generated radiation in the form of an electron stream*
Product Suitability	■ Implants (Cardiovascular, Orthopedic) ■ Surgical staplers, gloves	■ Complex kits ■ Catheters ■ Drapes ■ Gowns	■ Homogenous products ■ Syringes ■ Labware
End Markets	■ Medical Device & Pharmaceutical ■ Food Safety ■ Advanced Applications	■ Medical Device & Pharmaceutical ■ Food Safety	■ Medical Device & Pharmaceutical ■ Food Safety ■ Advanced Applications
Benefits	✓ Can deeply penetrate many objects ✓ Repeatable and easy to use ✓ Quick processing turnaround ✓ Precision dosing ✓ Minimal temperature effects	✓ Low processing temperature ✓ Wide range of compatible materials ✓ Flexible sterilization process	✓ High dose rates ✓ Quick processing turnaround ✓ Less exposure time than gamma
Considerations	× Gamma irradiation cannot be turned off × Non-radiation compatible medical products / kits × Cost and supply of cobalt dependent on limited number of suppliers	× Longer processing turnaround time × Handling of gas × EO gas costs vary × Expensive to validate × EO residuals	× Low penetration capability of electrons × Non radiation compatible medical products / kits × High energy costs to operate E-beam

See “Industry Overview—Sterilization overview” for more detail about these technologies. We provide gamma irradiation services at 23 of our facilities, EO processing services at 17 of our facilities and E-beam irradiation services at seven of our facilities.

In addition to the three major technologies, we invest in alternative modalities to serve our customers in niche applications. X-ray irradiation is a process in which products such as medical devices and labware are

exposed to machine-generated radiation in the form of X-rays for the purpose of sterilization and decontamination. X-rays are similar in performance to gamma rays and are useful for processing certain materials due to the high penetration capabilities of X-ray. We utilize X-ray irradiation at one our sterilization facilities for bio-hazard reduction for the United States Postal Service, or USPS. In addition, we are also investing in NO_2-based sterilization, which has been effective in the sterilization of prefilled syringes, drug-device combination products and custom implants.

Sterilization Applications

Sterigenics primarily provides sterilization services for medical device manufacturers and the pharmaceutical industry. Sterigenics also provides decontamination services for the food industry. Additionally, Sterigenics provides various advanced applications for other organizations and companies including the USPS and semiconductor manufacturers. Our customers select the sterilization method that meets the needs of their products and requirements of regulators and we deliver sterilization services according to their customer-specific protocols. In most cases, customers are serviced from more than one facility.

- Medical device sterilization. Medical device sterilization is a regulatory requirement in many jurisdictions and an important and last step in the manufacturing of healthcare products such as medical protective barriers, including PPE, procedure kits and trays, implants, syringes, catheters and wound care products. A broad range of single-use, prepackaged medical products, as well as certain consumer products, are required by government regulations to be sterile, or meet certain acceptable microbial levels when sold. These products are not manufactured in a “sterile” or “clean” environment and are thereby inhabited by potentially harmful microbes. Products must be treated as part of the production process before shipment to customers, either in-house by the manufacturer or by an outsourced sterilization provider, such as Sterigenics.

  We have developed a consultative approach with medical device manufacturers that expands our service offerings beyond core product sterilization, as we believe they want value-added solutions from their outsourced sterilization partners that reach beyond the traditional scope of sterilization. We offer customers a comprehensive selection of advisory services in design, testing, production and supply chain management for sterile healthcare products before, during and after the sterilization process to ensure and improve a product’s speed to market and compliance with regulatory requirements.

- Pharmaceuticals. We provide comprehensive outsourced terminal sterilization solutions to help our customers in the pharmaceutical industry meet regulatory requirements. Our sterilization expertise covers a variety of pharmaceutical drug products, such as active pharmaceutical ingredients, pre-filled syringes, drug components, excipients and primary packaging and components.

  In addition, pharmaceutical companies are starting to market disposable delivery devices, such as auto-inject devices for epinephrine, which are combined medical device and pharmaceutical products. As these disposable delivery devices are subject to both medical device regulations and pharmaceutical regulations, we believe these companies are looking to leading outsourced sterilization providers like us for our expertise in sterilizing these complex devices. We believe that the complementary capabilities and expertise in our Nelson Labs business make Sterigenics an attractive sterilization partner to customers in the pharmaceutical industry. We can provide a full suite of services to help them throughout key stages in the lifecycle of these complex products.

- Food and agricultural products. We provide microbial reduction and microbial remediation services for food and agricultural products. Generally, in a microbial reduction process, products are exposed to lower levels of treatment than in a sterilization process. This process is not intended to render a product free of viable organisms but rather to reduce their number. In connection with our microbial reduction services, we treat a wide array of products such as spices, herbs, animal feed and food packaging materials to address product liability concerns of our customers related to the health of the consumer or to extend shelf life. We currently irradiate a variety of food and food packaging products, ranging from

orange juice to steaks, to guard against harmful bacteria, such as listeria, salmonella, E. coli and other pathogens. Microbial reduction and irradiation offer producers and processors a method to safeguard against bacteria from the time of packaging of their products to the time they reach consumers. We also provide microbial remediation services that stop the progression of damage to products and help make the products safe for distribution.

- Commercial, advanced and specialty applications. We provide a wide range of advanced applications services for industrial materials to customers that use ionizing radiation to modify materials or products. The advanced applications sterilization industry represents over $1.7 billion of demand, with an outsourced value of approximately $350 million. It is comprised of a large number of distinct segments that can be addressed using our services for radiation processing. Materials that undergo advanced application processes include products such as power semiconductors, polymers and gemstones. In addition, we utilize our ionizing radiation services to provide bio-security services to the USPS by treating and protecting the mail against unwanted pathogens and biohazards. We believe we are the only provider of this service to the USPS. We also treat commercial products, such as cosmetics, with our microbial reduction services. In Canada and Europe, where recreational cannabis, medical cannabis, or both, are legal, we provide commercial gamma and E-beam irradiation services for decontamination of cannabis.

Sterigenics Customers

We follow extensive validation procedures with our customers to determine the optimal sterilization method for each product, and to validate that the chosen method will achieve the sterility requirement for that product. Once a sterilization process has been validated, we adhere to our customers' process specifications to treat their product.

Sterilization services are an essential element in our customers' manufacturing processes but generally represent a small fraction of the total end-product cost of medical devices. We believe this means that our customers choose our services based on quality and consistency of service rather than solely on the cost. These deep, tenured customer relationships are supported by multi-year contracts with cost pass-through provisions, which have resulted in recurring revenue streams.

For many products, our customers are required to include the specific facility used to validate a product's listing in the FDA (or foreign equivalent) product registration and are typically required to re-register if they switch facilities, making switching locations for a particular product a difficult and expensive process for our customers. This dynamic contributes to low customer churn and long-term relationships within our business.

In addition, Sterigenics has achieved high historical customer retention and renewal rates—Sterigenics has close to 100% renewal rates of its top ten customers over the last five years, and an average tenure of over a decade with its top 25 customers over the last five years—and minimal customer concentration. We have also introduced innovative, advanced processing systems for outsourced sterilization that are designed to enhance operating efficiencies, improve turnaround times and provide for greater processing flexibility without sacrificing quality, consistency or reliability.

Sterigenics Competition

We compete globally with Applied Sterilization Technologies, a segment of STERIS plc, as well as other smaller or regional outsourced sterilization companies. In addition, some manufacturers have invested in in-house sterilization capabilities. We also face competition from other technologies, such as chemical cross-linking of polymers. Our services generally compete on the basis of the quality of technology and services offered, level of expertise in each of the major sterilization methods, level of expertise in the applicable regulatory requirements and proximity to customers.

Sterigenics Suppliers

We primarily purchase our supply of Co-60 sources, the key input into the gamma sterilization process, from Nordion. Our supply of Co-60 sources is at times impacted by the global availability of Co-60. Our supply of EO is sourced from various suppliers around the world. There is more than one supplier of EO in most of the countries in which we operate; however, in the United States, there is a single supplier for EO to our industry. We have not historically experienced any supply disruptions and our U.S. supplier has redundant production facilities to help ensure reliable EO supply. We also have a license in the United States to distribute EO to self-supply should the need arise and we determine to make the necessary investments.

Sterigenics Facilities

With 48 facilities in 13 countries, our global network of sterilization facilities represents a significant competitive advantage. We serve many of our sterilization customers at more than one facility, with more than 80% of Sterigenics' net revenues attributable to customers using more than one of our facilities and more than 50% of Sterigenics' net revenues attributable to customers using five or more of our facilities in 2019. Extensive capital, technical expertise and regulatory knowledge are required to build and maintain facilities like ours. We estimate that one new facility can cost over $30 million to build, on average, and require extensive and complex licensing approval and regulatory compliance processes. We estimate that the cost to replace the facilities in our network alone could be as high as $1.5 billion or more, in addition to the technical and regulatory requirements.

Our global facility network, built and expanded over several decades, is strategically located convenient to customers' manufacturing sites and distribution hubs or routes. For many of our customers, the location of our facilities is important because transportation and logistics costs can be meaningful. We also employ proprietary technology to provide customers with increased visibility into our processes. Sterigenics GPS™ enables customers to monitor the sterilization process in real-time and better manage their supply chain. These features improve the accuracy and visibility of customer order information and quality data, which in turn provide enhanced transparency to regulatory agencies around the world, further enhancing our reputation as a company with regulatory expertise. We are focused on continuing to leverage advanced technology and service offerings to better serve customers, and we believe our capital and resource commitment in this area drives customer loyalty and retention.

By leveraging a global operating system, we drive operational excellence across our network of facilities in order to achieve high levels of safety, quality, operating efficiency and customer satisfaction to provide a uniform customer experience. All facilities are either ISO 13485 certified, ISO 9001 certified or both, as well as licensed and registered in all necessary jurisdictions to comply with government required regulations.

Nordion

Nordion is the leading global provider of Co-60 sources and production irradiators, which are the key components in the gamma sterilization process. Co-60 is a radioactive isotope that emits gamma radiation that sterilizes items by killing contaminating micro-organisms. Production irradiators are the units that house the Co-60 sources within a gamma sterilization facility. We estimate that gamma sterilization, which is a critical component of the global infection control supply chain, represents approximately 30% of single-use medical device sterilization worldwide. Nordion's customers include both outsourced contract sterilizers, including Sterigenics, as well as medical device manufacturers that sterilize their products in-house.

We provide our customers with high quality, reliable, safe and secure Co-60 source supply at each stage of the source's life cycle. We support our customers with handling and processing of Co-60, recycling of depleted sources and global logistics enabled by our licensed container fleet. We also provide regulatory and technical service expertise to improve the risk profiles and enhance effectiveness of gamma processing operations. Without this radioactive material, gamma sterilization would not be possible on the global scale at which it is used today, and we are integral to our customers' operations due to highly coordinated and complex installation processes.

Nordion has a long history of innovation in gamma technologies. Nordion designs, installs and maintains production irradiators. Nordion developed the first Co-60 based tele-therapy unit for cancer treatment in 1951 and the first panoramic irradiator in 1964. In addition to selling Co-60 sources for sterilization purposes, Nordion also sells high specific activity Co-60 ("HSA Co-60" or "medical Co-60") used in stereotactic radiosurgery as a radiation source for oncology applications, specifically in the Gamma Knife® and other similar applications. Today, Co-60 is a critical part of treatment for brain and other cancers because it is noninvasive, reliable, effective and safe to use.

Co-60 Production Process

Nordion's primary product is Co-60 sources. Co-60 is a radioactive isotope used in radiation sterilization that decays naturally at a rate of approximately 12% annually. Co-60 is produced by placing cobalt-59 ("Co-59"), the most common form of cobalt, into a nuclear power reactor to be activated.

The Co-60 production process requires high purity Co-59. Co-59 is produced globally, primarily as a byproduct of nickel and copper mining, and is used in a variety of industrial applications. The Co-59 used for sterilization accounts for a small portion of overall Co-59 demand. Co-59 is compressed into "targets," which are pellets and slugs suitable to be activated into Co-60. These targets are then encapsulated and delivered to be installed in nuclear reactors. Depending on the type of reactor and the location of the Co-59 in the reactor, the conversion process can take between 18 months and five years. Once the conversion to Co-60 is complete, the targets are extracted from the nuclear reactor while the reactor is shut down and shipped to Nordion to be processed into Co-60 sources to be sold to customers. See "Risk Factors—Risks Related to the Company—Safety risks associated with the use and disposal of potentially hazardous materials, such as EO and Co-60, may result in accidents or liabilities that materially affect our results of operations."

Nordion Products

Co-60 is sold to customers by its level of radioactivity, measured in curies. Our customers typically buy low specific activity Co-60 ("LSA Co-60") for industrial sterilization use and HSA Co-60 for medical use. At our Ottawa facility, we receive and process the targets to form the final Co-60 source product with the desired amount of radioactivity for each customer order. The Co-60 sources undergo stringent and sophisticated quality assurance testing at our facility. The final product is then placed in large regulatory licensed steel and lead shipping containers, which Nordion uses to transport Co-60 to our customers.

We transport the Co-60 sources via proprietary lead and steel containers that are licensed to meet all applicable international shipping requirements. We believe we have the most extensive expertise in Co-60 logistics. There is a significant regulatory burden in the production, management and transportation of fleets of containers of Co-60 sources. Our transportation routes and carriers are highly controlled, and we provide regular and comprehensive training for employees and carriers who are involved in moving the Co-60 globally.

We also design, install and maintain production irradiators, which include radiation shielding, a series of conveyors and control systems that are designed to expose products to the correct gamma radiation dosage in a safe and efficient manner. A production irradiator is the infrastructure that houses the Co-60 sources and makes up a part of a sterilization and warehousing facility. We have designed and built over 100 of the estimated 290 large scale production irradiators active globally. Our installation, physics and engineering teams are comprised of highly trained professionals who provide fast and ongoing technical support from source installation to emergency response.

We also offer our customers a for-fee spent Co-60 source return service for depleted Co-60 sources that have reached end of their useful life, which is often 20 or more years. We also have a source recycling program that extends the useful life of individual slugs from the decayed product up to an additional 20 years, pairing them with new slugs to make new Co-60 sources.

Nuclear Reactor Operators

Given the timeline required to produce Co-60, forecasting supply and working closely with nuclear power reactor operators to manage the amount and timing of shipments represents an important business capability of Nordion.

The amount of Co-60 supply is ultimately determined by the number of nuclear reactors that are capable of producing Co-60 at a given point in time. Our access to Co-60 tends to vary on a quarterly basis, due primarily to the nuclear reactor maintenance schedule, length of time required to convert Co-59 into Co-60, the limited number of facilities that can generate Co-60 in an economically efficient manner, and the timing of the removal of Co-60 from reactors. While short-term variability in Co-60 supplier delivery timing can result in variability in our financial performance in one or more fiscal quarters, we work with multiple reactor sites that operate on consistent and predictable discharge and harvest schedules over the long-term.

Nordion currently has access to Co-60 supply at multiple nuclear reactors pursuant to multi-year contracts with three operators that cover 14 reactors at four generating stations, that extend to dates between 2024 and 2064, with our largest supplier under contract until 2064. See “Risk Factors—Risks Related to the Company—We depend on a limited number of counterparties that provide the materials and resources we need to operate our business. Any disruption in the availability of, or increases in the price of, EO, Co-60 or our other direct materials, services and supplies, including as a result of current geopolitical instability arising from U.S. relations with Russia and related sanctions, may have a material adverse effect on our operating results.” The substantial majority of our Co-60 material has historically been produced under multi-year contracts with nuclear reactor operators in Canada and Russia. Nordion provides Co-59 targets to its Canadian and Russian reactor suppliers, manufactured to proprietary specifications customized for each supplier. In addition, we also acquire a portion of our Co-60 supply from reactors that produce Co-60 in Russia, China and India.

The vertical integration of Nordion and Sterigenics has allowed us to more confidently make meaningful long-term investments to expand Co-60 supply for the medical products sterilization industry. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Trends and Key Factors Affecting Our Results of Operations.” Currently, approximately 9% of nuclear reactors worldwide are the type of reactors that have been capable of producing commercial quantities of Co-60. In December 2018, we acquired patents that may allow us to significantly increase our sourcing options for Co-60 and further expand the market for gamma sterilization. Additionally, in February 2020, we announced a collaboration with Westinghouse Electric Company to further develop the technology to produce Co-60 at reactors in the United States. If successful, we believe this collaboration could further diversify our supply with reliable U.S. domestic partners and encourage the implementation of this patented technology at other reactors.

We continue to work closely with Canada Deuterium Uranium (“CANDU”) reactor operators to monitor refurbishment schedules, and to evaluate opportunities for an increase in Co-60 production from both Russian and CANDU reactors. We are exploring partnerships with other CANDU reactor operators in Canada and Romania that would involve investing in their reactor infrastructure to enable long-term production of Co-60.

From time to time we also purchase Co-60 on the spot market and will continue to explore opportunities for supply in the global market.

Nordion Customers

Nordion supplies products and services to approximately 40 customers, including medical device manufacturers and gamma sterilization service providers. Co-60’s consumable nature results in annual natural decay at an approximately 12% annual rate, which creates stable, recurring demand as customers must purchase incremental supply in order to satisfy ongoing needs. We are integral to our customers’ operations due to highly coordinated and complex installation and service processes that require expertise in handling and shipping radioactive material as well as our deep knowledge of the relevant regulatory and compliance requirements. Customer relationships are typically governed by multi-year supply agreements.

One of Nordion's customers is Sterigenics, which competes with several of Nordion's other gamma sterilization service customers. When we acquired Nordion in 2014, we established information barriers between Nordion and Sterigenics with regard to certain customer information, which are still in place today, and we have certain agreements with Nordion's customers requiring these barriers. These barriers constrain our ability to manage a pricing strategy across our Sterigenics and Nordion segments with regard to customers.

We are a leading global supplier of HSA Co-60 used in oncology-related stereotactic radiosurgery devices, including the Gamma Knife®, which use directed gamma rays for certain oncology applications. We also supply other medical equipment manufacturers and sub-contractors in the industry who require the concentrated radiation dose capabilities of HSA Co-60.

Nordion Competition

Nordion's two main competitors in the industrial LSA Co-60 sources supply market include a Russian Co-60 sources producer, which currently supplies certain regions in Europe and Asia, and a China-based producer, which currently supplies the domestic Chinese market. In addition, certain regional competitors have the capability to produce Co-60. These competitors could potentially increase their global competition capabilities in the future. Nordion also competes indirectly with other developing modalities of sterilization, such as X-ray technology, that can sterilize similar products as gamma sterilization but which use electricity to generate radiation and therefore do not require Co-60 sources.

Nordion's main competitors in the HSA Co-60 industry include suppliers in China, Sweden and North America that have capacity to produce medical Co-60. From 2017 to 2020, growth in our sale of medical Co-60 for the stereotactic radiosurgery device industry benefited from other competitors' supply disruptions and lack of reliability.

Nordion Facilities

Nordion's operations are supported by a facility in Kanata, Canada dedicated to processing and shipping cobalt, as well as a European distribution facility in Milton, United Kingdom.

Lab Testing and Advisory Services

Nelson Labs

Lab testing and advisory services are necessary across the medical device and pharmaceutical product lifecycles to evaluate and ensure a product's safety and effectiveness. We are a global leader in outsourced microbiological and analytical chemistry testing services for the medical device and pharmaceutical industries. In addition to our testing services, our customers often call upon our experts for technical assistance and our advisory services. We go to market leveraging our global footprint and an extensive range of services under our Nelson Labs brand.

We have established ourselves as a critical partner for our customers through our delivery of high quality services, quick testing turnaround times, responsiveness, high-touch support and easy accessibility to our science and service teams. We have an industry-leading brand recognized for the quality and comprehensiveness of service, both of which can take many years to build. Further, we believe that our testing and advisory services offerings and experience across a broad array of products differentiate us from smaller laboratories, as we are able to provide testing and advisory services across the entire lifecycle of our customers' multitude of products. Our scale combined with our global network enable us to undertake significant and time-sensitive projects for our customers that might typically require them to interface with multiple labs. This allows us to simplify complex issues for our customers and streamline communication and execution. Moreover, the integration across our services and facilities enables us to assist our customers in minimizing their business continuity risk by reducing capacity shortages, turnaround time delays and throughput issues.

Nelson Labs Services

Our microbiology and analytical chemistry services include over 800 tests. We also provide for-fee advisory services that position us as thought leaders in the industry and increase the demand for our testing offerings. These can be categorized into three broad categories that address different stages of customers' product lifecycle:

- Product Development and Validation. Prior to a new medical product or alteration to an existing product being submitted for regulatory approval, Nelson Labs provides a variety of tests to customers during the research and development stage. These includes tests that assist the client in:

  - Product design
  - Material selection
  - Biological safety evaluation
  - Toxicological risk assessment
  - Sterilization modality selection and sterilization validation
  - Cleaning and disinfection validation (for reusable devices)
  - Package barrier properties
  - Distribution simulation
  - Filtration efficiency and physical functionality of PPE (including surgical facemasks, N95 respirators, gowns, drapes and other PPE)

  We provide sterilization modality selection and sterilization validation services for a variety of sterilization modalities, including the three major modalities offered by Sterigenics—gamma irradiation, EO processing and E-beam—allowing us to serve our customers in multiple areas.

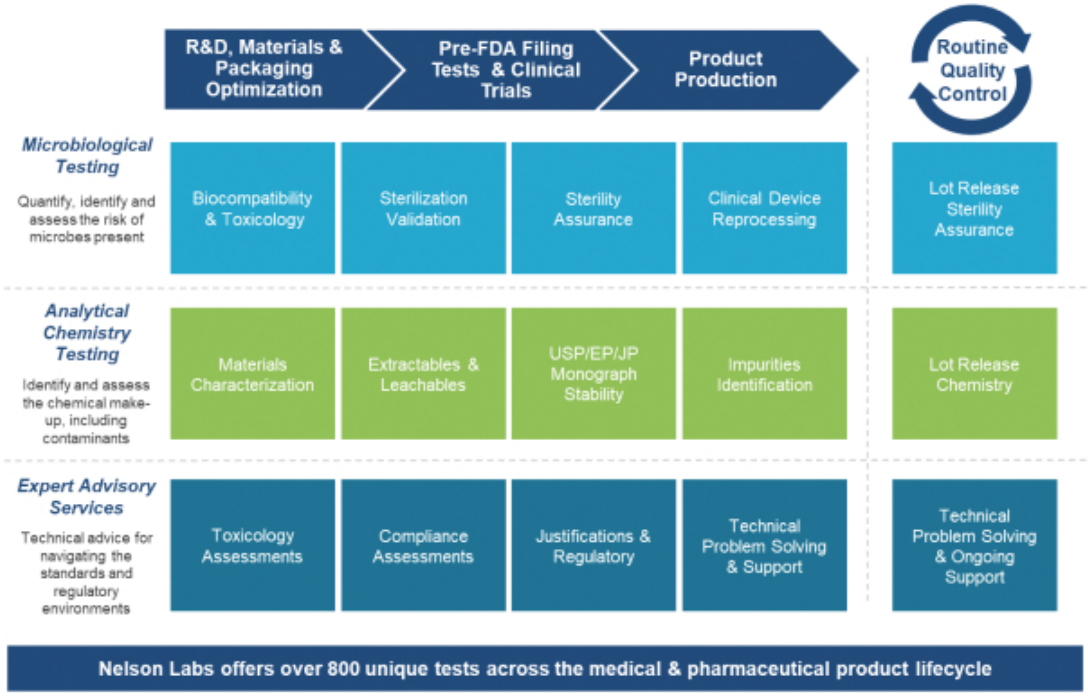
- Expert Advisory. Bringing a medical product or drug to market can be a long and complex process, especially in the context of constantly evolving standards in a changing regulatory environment. Nelson Labs provides expert advisory services to aid customers in navigating the appropriate standards and regulatory environments. These services include:

  - Study design
  - Development and justification of acceptance criteria
  - Onsite facility evaluation and validations
  - Technical troubleshooting and scientific problem solving
  - Regulatory compliance related services, including supporting clients through the regulatory submission process

  Our expert advisory services provide additional value and expertise at any stage of the product development life cycle. Nelson Labs offers these services on a standalone basis or as a combined offering with our lab testing services, which creates opportunities for cross-selling with our existing customers for both services. Our expert advisory services are also complemented by our ongoing education offerings conducted through webinars, seminars, tailored onsite education sessions and our website.

- Routine Sterility and Quality Control Testing. Once a product has received regulatory approval and is in production, Nelson Labs provides ongoing quality control testing, including production batch verification testing and environmental testing of the client's production systems and facilities, the requirements for which vary based on applicable standards. Nelson Labs performs bacterial endotoxin testing or quarterly dose audits for devices sterilized using irradiation, and biological indicator testing for devices sterilized with EO. Nelson also provides testing for producers of non-sterile products to ensure they are free of objectionable organisms. Often, Nelson Labs provides this ongoing routine

quality control testing (based on production lot sizes) for the products for which it performed initial validation testing. These products are often sterilized by Sterigenics.



The testing process commences when Nelson Labs receives samples and a testing request from the customer. Samples are triaged and assigned to specific lab departments, where laboratory analysts and study directors verify orders and interface with customers directly to clarify, adjust or enhance testing as needed to ensure compliance with regulatory standards. Once the sample has been tested, the order is closed out and results are verified by the study director and a technical reviewer prior to electronic delivery of the final customer report via a secure online customer portal.

We operate in an industry that requires significant regulatory and specialized scientific expertise. At a minimum, providers must maintain the proper certifications and accreditations from key regulatory and accreditation bodies, as well as obtain qualification by each customer as a "qualified supplier," which is often required at the corporate level and at each of the customer's operating sites. We employ over 500 scientists, technicians and service specialists, creating a substantial competitive advantage in terms of expertise. Our experts serve in predominant roles on a number of standards writing organizations, including the United States Pharmacopeia, AAMI, American Society of Testing and Materials and ISO. We have established credibility and trust with regulators and standards writing organizations which helps us educate customers about the continually-changing testing requirements in a complex and evolving regulatory landscape. Our regulatory and scientific expertise in laboratory testing allows us to serve as thought leaders within the industry and provide high-quality service to our customers. We focus on providing highly-differentiated services that our customers can rely upon to ensure compliance of and enhance their products. For example, over the course of 14 years, we have developed a proprietary, world-class compound database with over 5,000 known elements which enables our extractables and leachables testing. This database allows us to provide analytical data that differentiates our capabilities from our competitors.

Industries Served by Nelson Labs

We provide microbiological and analytical chemistry laboratory tests across the medical device and pharmaceutical industries. Specifically, our medical device lab testing services include microbiology, biocompatibility and toxicology assessments, material characterization, sterilization validation, sterility assurance, packaging validation and distribution simulation, reprocessing validations, facility and process validation and performance validation and verification of PPE barriers and material. Our pharmaceutical lab testing services include microbiology, biocompatibility and toxicology assessments, extractables and leachables evaluations of pharmaceutical containers, sterilization validation, sterility assurance, packaging validation and distribution simulation and facility and process validation.

Nelson Labs benefits from many of the same underlying growth drivers as our sterilization business, including the global utilization of medical devices and pharmaceutical products and the importance of compliance with continuously evolving global regulatory requirements. In particular, recent global regulatory changes, such as the enactment of the European Union Medical Device Regulation 2017/745 (MDR) and the FDA's modernization of the premarket notification process under Section 510(k) of the Federal Food, Drug and Cosmetic Act, have increased the requirements for the testing and sterilization of medical devices. The COVID-19 pandemic also increased testing demand due to new FDA Emergency Use Authorizations (EUAs), which define testing criteria necessary for the direct release of masks and respirators to hospitals and clinics without FDA submission. Because we provide product development and validation testing services to clients launching new products or altering existing products, this business benefits from the ongoing technological advances and increasing complexity of medical and pharmaceutical products.

Nelson Labs Customers

Nelson Labs serves over 3,800 customers, including many leading medical device manufacturers and pharmaceutical companies. We have recurring and stable customer relationships and benefit from minimal customer concentration. Our services are an essential component in our customers' research and development and ongoing quality control processes but represent a small portion of end-product cost, which allows us to maintain long-term customer relationships and provide services that are integral to the supply chains of our global customers. We support customers through solutions-focused relationship managers, dedicated service centers and a team-wide service ethic. Nelson Labs has developed a proprietary customer portal that provides our customers quick and convenient access to important product information and customer service. The portal allows our customers to see their tests, status of the tests, estimated completion date and final reports and includes a live chat system connected to our global service center.

Nelson Labs Competition

We primarily compete in the global lab testing services market with a range of providers, from national or international players to other smaller regional or niche laboratories. Our products and services compete on the basis of the quality of services offered, breadth of services, level of expertise in each testing method, delivery time, level of expertise in the applicable regulatory requirements and our reputation with customers and regulators.

Nelson Labs Suppliers

We purchase our lab testing supplies from a number of vendors mainly in the United States and occasionally throughout the world. In many cases we have redundant sources of supplies that minimize our risk of concentration. In addition, some crucial supplies are placed on reserve at specific vendors for our exclusive use.

Nelson Labs Facilities

We operate from a five building campus in Salt Lake City, Utah, with 85 laboratories including metrology, training, media prep labs, five ISO Class V certified clean rooms and customizable lab spaces. We also have

facilities in Fairfield, New Jersey; Itasca, Illinois; Leuven, Belgium and nine other laboratories embedded in our Sterigenics sterilization facilities in North America and Asia. We also have one additional lab facility that is under construction in Europe.

Our Patents and Other Proprietary Rights

Our businesses rely on certain proprietary technologies. Most of the proprietary technologies used in our businesses are unpatented. Some of our technologies, including certain processes, methods, algorithms and proprietary data bases, are maintained by the business as trade secrets, which we seek to protect through a combination of physical and technological security measures and contractual measures, such as nondisclosure and confidentiality agreements. We also have limited proprietary technologies that are covered by issued patents or patent applications, in particular related to potential new Co-60 supply opportunities for our Nordion business.

The name recognition of our businesses is a valuable asset. Many of our business names are the subject of trademark registrations or applications in the United States or certain other jurisdictions, or part of registered domain names.

Our Employees

As of July 31, 2020, we employed nearly 2,900 employees worldwide.

None of our U.S. employees are represented by unions. There are employees outside of the United States that are represented by unions or works councils in Canada, Belgium, Brazil, France, Germany and Mexico.

Our Values

Our mission is Safeguarding Global Health®. Our purpose is bigger than the products and services we provide. We ensure that healthcare around the world is consistently and reliably safe every day. Our purpose, our conduct and our values are at the heart of our commitment to employee safety, environmental responsibility and sustainability principles. Our shared values guide how we operate each and every day:

- Safety. We are uncompromising in our commitment to health and well-being.
- Customer focus. We are driven to fulfill our customers' needs with the highest quality and care.
- People. We value our people who are part of a global team that is diverse, respectful, passionate and collaborative.
- Integrity. We are honest, reliable and accountable in everything we do.
- Excellence. We exceed the expectations of our stakeholders and continue to improve and innovate in everything we do.

We are committed to providing a safe work environment for our employees and contractors. We have implemented a health and safety program to manage workplace safety hazards and to protect employees. The program encompasses performance, practices and awareness.

We are driven to fulfill our customers' needs with highest quality and care to enable their success.

Properties and Facilities

Our corporate headquarters is in Broadview Heights, Ohio, our Sterigenics headquarters is in Oakbrook, Illinois, our Nordion headquarters is in Kanata, Ontario and our Nelson Labs headquarters is in Taylorsville, Utah. As of August 31, 2020, we operated 63 facilities in North America, South America, Europe and Asia. The following chart identified the number of owned and leased facilities, other than our headquarters listed above. We believe that our facilities are adequate for our current needs and that suitable additional or substitute space will be available as needed to accommodate planned expansion of our operations.

Segment(1)	Owned Facilities	Owned/Leased Facilities(2)	Leased Facilities
Sterigenics	27	4	17
Nelson Labs	6	1	6
Nordion	1	—	1

(1) Nine of our Sterigenics and Nelson Labs facilities are located at the same address but are considered separate facilities because they require separate infrastructure. Two of our Sterigenics facilities are located at the same address but are considered separate facilities because they provide different sterilization modalities and require separate infrastructure.
(2) Owned/leased facilities are comprised of multiple buildings, with some leased and some owned.

Environmental and Regulatory Considerations

We are subject to environmental, health and safety laws and regulations in the jurisdictions in which we operate, including laws, regulations and permit requirements with respect to our use of Co-60, EO and E-beam. These requirements limit emissions of and the exposure of workers to gamma radiation and EO. Nordion's Kanata facility is licensed as a Class 1B nuclear facility in Canada, regulated by the Canadian Nuclear Safety Commission ("CNSC"), and is audited across various dimensions of this license on an annual basis. In addition to the nuclear aspect of our products, many of the products that we process or manufacture are medical devices directed for human use or products used in the manufacture of medical devices that are directed for human use. Our Nuclear Substance Processing Facility Operating License, CNSC Export license and CNSC Device servicing licenses for our Kanata facility were renewed in October 2015 for a 10-year period. Our facilities hold various International Organization for Standardization's ("ISO") certifications including ISO 9002, 9001, 13485 and 17025. We have device facility and specific product registrations with North American (Health Canada and the FDA) and European Drug and Device health regulators. These regulators exert oversight through requirements for a product registration and direct audit of our operations.

Additionally, our operations in the United States and the majority of our facilities outside the United States (to the extent we are processing a product in that facility that will end up in the U.S. market) are regulated by the FDA. We are also regulated by other health regulatory authorities in other countries. Specifically, these operations include some of our sterilization and product testing activities that may constitute "manufacturing" activities and are subject to FDA requirements. These requirements include site, contract drug manufacturer and supplier of active pharmaceutical ingredients registration and listing and manufacturing requirements. Regulations issued by OSHA, the NRC and other agencies also require that equipment used at our facilities be designed and operated in a manner that is safe and with proper safety precautions and practices when handling, monitoring and storing EO and Co-60.

While we strive to comply with these regulatory requirements, we may not at all times be in full compliance and, as a result, could be subject to significant civil and criminal fines and penalties. To reduce the risk of noncompliance, we employ engineering and procedural controls and pollution control equipment, and undertake internal and external regulatory compliance audits at our facilities. We have a proactive EH&S program and a culture of safety and quality across all business units, and employ a Senior Vice President of Environmental, Health and Safety that reports directly to the Chief Executive Officer and has a team of more than 30 employees.

For additional information, please see the sections titled “Risk Factors—Risks Related to the Company—We are subject to extensive regulatory requirements and routine regulatory audits in all of our operations. We must receive permits, licenses and/or regulatory clearance or approval for our operations. Failure to comply with all laws and regulations or to receive or maintain permits, licenses, clearances or approvals may hurt our revenues, profitability, financial condition or value” and “Legal Proceedings—Willowbrook, Illinois – Government Litigation.”

EO Regulatory Overview

In addition to general environmental laws and regulations, EO plants and the EO sterilization process are subject to specific regulatory requirements under federal laws in the United States as well as many of the countries in which we operate. Such additional regulations include specific requirements for permissible employee exposure limits, process safety program, approved EO containers and their transportation, facility security, quality system programs, emission control systems and emission limits and products allowed to be treated with EO. Some state and local governments have additional environmental laws, stricter regulations or other requirements including permitting programs that set forth operational parameters for EO sterilization facilities. In the United States, OSHA regulations limit worker exposure to EO. The use of EO for medical device sterilization is regulated by the USEPA under the FIFRA and the CAA. In addition, FDA regulations dictate the acceptable amount of EO residue on different types of sterilized products. Most other countries in which we operate have similar EH&S and worker exposure regulations.

Our EO sterilization facilities evacuate EO from the sterilization chambers and aeration rooms. Most countries in which we operate have varying emission control requirements for EO emissions from our facilities. We are investing in additional voluntary controls on EO emissions at our facilities to outperform current and expected future regulatory requirements and further reduce facility emissions. For example, we have implemented additional controls to meet new German EH&S standards of stricter EO occupational exposure limitations. In the United States, the USEPA is in the process of reviewing current FIFRA approvals and requirements and updating current National Emission Standards for Hazardous Air Pollutants (“NESHAP”) air emission regulations for commercial EO sterilization facilities. They are also expected to propose updated air emission regulations for EO commercial sterilization facilities, which have not yet been published and with which we will be required to comply. In certain U.S. states, including California, additional regulatory requirements and obligations exist, including requirements for the provision of notices regarding the release of or exposure to certain listed substances, including EO and radioactive sources, and bills have been in introduced in the U.S. Congress to further regulate EO sterilization activity. Each of our EO sterilization facilities utilizes a variety of control technologies (including wet scrubbers, catalytic oxidizers and dry bed scrubbers) to control these emissions, and we are investing in additional control features to further reduce emissions. We consistently meet and outperform regulatory emissions control requirements, although we have experienced instances of emissions exceeding applicable standards, none of which we believe were material. We expect to be able to satisfy any changes to applicable regulatory requirements as they evolve.

In addition to government regulation, there are standards, guidelines and requirements established by industry organizations and other non-governmental bodies that may impact our operations such as the ISO’s limit on the permissible levels of residual EO on sterilized medical devices.

Gamma Irradiation Regulatory Overview

In the United States, Sterigenics is subject to NRC and state regulations that govern operations involving radioactive materials at gamma irradiation plants. These NRC and state regulations specify the requirements for, among other things, maximum radiation doses, system designs, safety features and alarms and employee and area monitoring, testing and reporting. Each of our U.S. plants has a radioactive materials license from the NRC or the state in which it operates. Nordion also has NRC licenses to distribute radioactive material within the United States, which permits Nordion to install and remove Co-60 sources and provide other services to its customers, and a license to export radioactive material from the United States to Canada. The NRC recently implemented new security requirements for our U.S. gamma facilities.

Our Nordion segment operates through our subsidiary Nordion (Canada) Inc. in Canada and REVISS Services in the United Kingdom. Through Nordion, we are subject to additional Canadian regulations, including Transport Canada regulations for the Transportation of Dangerous Goods, CNSC regulations for the General Nuclear Safety and Controls, Health Canada requirements for drugs and devices and CNSC and Canadian Department of Foreign Affairs and International Trade requirements for import and export.

Outside North America, the European Union and national authorities have developed regulations pertinent to the operation of gamma irradiators that are similar to those of the NRC. While some specific requirements are different in the various other nations as compared to the United States, the fundamental concepts are consistent among the countries, since all are signatories to the International Atomic Energy Agency ("IAEA") conventions and have adopted safety standards from the IAEA and recommendations from the International Commission on Radiological Protection ("ICRP").

E-beam and X-ray Irradiation Regulatory Overview

In the United States, irradiators that use accelerators are regulated by the individual state in which a facility resides. While there is some variability in the content of regulations among states, all are patterned after the general regulations of the NRC. These regulations typically specify the requirements for radiation shielding, system designs, safety features and alarms and employee and area monitoring, testing and reporting.

Outside of the United States, accelerator regulations are similar among various nations. These regulations are based on the IAEA standards and ICRP recommendations, much like those for gamma irradiators.

Legal Proceedings

From time to time, we may be subject to various legal proceedings arising in the ordinary course of our business, including claims relating to personal injury, property damage, workers' compensation and employee safety. In addition, from time to time, we receive communications from government or regulatory agencies concerning investigations or allegations of noncompliance with laws or regulations in jurisdictions in which we operate. At this time, and except as is noted below, we are unable to predict the outcome of, and cannot reasonably estimate the impact of, any pending litigation matters, matters concerning allegations of non-compliance with laws or regulations and matters concerning other allegations of other improprieties, or the incidence of any such matters in the future. For additional information on risks relating to litigation, please see the section titled "Risk Factors—Risks Related to the Company—We are currently defending certain litigation, and we are likely to be subject to additional litigation in the future."

Willowbrook, Illinois - Government Litigation

On October 30, 2018, the Illinois Attorney General and the State's Attorney of DuPage County, Illinois, sued Sterigenics U.S., LLC (the "IAG Action"), alleging that authorized EO air emissions from a commercial sterilization facility Sterigenics formerly operated in Willowbrook, Illinois "cause, threaten, or allow air pollution"

in violation of the Illinois Environmental Protection Act. The IAG Action did not assert that Sterigenics violated its permit from the Illinois Environmental Protection Agency ("IEPA") authorizing Sterigenics' release of regulated levels of EO at the Willowbrook facility.

On February 15, 2019, the acting IEPA director, John Kim, issued a "Seal Order" effectively precluding Sterigenics' operations at the Willowbrook facility based on many of the same allegations asserted in the IAG Action. Sterigenics disputed those allegations and opposed the IEPA's Seal Order. The Seal Order was resolved by a Consent Order entered on September 6, 2019. The Consent Order provided that Sterigenics did not admit the allegations of the IAG Action, provided for the removal of the Seal Order and allowed the Willowbrook facility to reopen upon implementation of supplemental emissions control measures consistent with a new law that became effective in Illinois in June 2019 and an IEPA permit that was approved in September 2019. Following entry of the Consent Order, the Seal Order was withdrawn.

On September 30, 2019, Sterigenics announced the closure of the Willowbrook facility due to the inability to reach an agreement to renew the facility's lease and the unstable legislative and regulatory landscape in Illinois. Sterigenics is in the process of decommissioning the facility and completing the work required by the terms of its lease to return the property to the landlord.

Ethylene Oxide Tort Litigation - Illinois

Since September 2018, tort lawsuits on behalf of nearly 800 plaintiffs (which are further described in the following paragraphs) have been filed in Illinois state court against Sotera Health LLC, Sterigenics U.S., LLC and other parties related to Sterigenics' Willowbrook, Illinois operations. Specifically, those plaintiffs allege that they suffered personal injuries including cancer and other diseases, or wrongful death, resulting from purported emissions and releases of EO from the Willowbrook facility. Plaintiffs seek damages in an amount to be determined by the trier of fact. Plaintiffs have voluntarily dismissed without prejudice a number of cases since September 2018, including certain individual cases alleging personal injuries and two class actions seeking property damages.

Sterigenics successfully sought consolidation of certain of these cases for pretrial purposes, which cases have now been consolidated before Judge Lawler in the Cook County Circuit Court, Illinois (the "Consolidated Case"). At present, 71 individual personal injury claims remain pending in the Consolidated Case. All plaintiffs in the Consolidated Case filed a single Master Complaint on October 24, 2019 by which Sotera Health LLC was added as a co-defendant, followed by a First Amended Master Complaint on January 31, 2020. On April 28, 2020, the defendants filed motions to dismiss the claims in the First Amended Master Complaint. On August 17, 2020, the Court entered an order largely denying the motions to dismiss, and the same day plaintiffs filed a Second Amended Master Complaint. Fact discovery is taking place in the Consolidated Case. A May 3, 2021 trial date has been set for *Kamuda v. Sterigenics*, the first-filed of the individual cases now included in the Consolidated Case, which is the first scheduled trial in these proceedings. Four additional cases now included in the Consolidated Case are currently scheduled for trials starting in June, August, September and November 2021. We anticipate that additional trials will be scheduled after 2021 in roughly the order in which the individual cases were filed.

On or about August 21, 2020, approximately 750 plaintiffs filed similar personal injury lawsuits against Sotera Health LLC, Sterigenics U.S., LLC and other parties in the Cook County Circuit Court, Illinois (but not in the existing Consolidated Case). We expect that most or all of these newly filed cases will be consolidated for pre-trial purposes with the Consolidated Case. There is currently no date set for the defendants to answer or otherwise respond to these newly filed cases.

On August 19, 2020, a lawsuit against Sotera Health LLC, Sterigenics U.S., LLC and other parties was filed by seven plaintiffs in the DuPage County Circuit Court, Illinois. The plaintiffs allege that they suffered personal injuries including but not limited to cancer resulting from purported emissions and releases of EO from the

Willowbrook facility. Plaintiffs seek damages in an amount to be determined by the trier of fact. It is possible that this case will also be transferred to and consolidated with the above described Consolidated Case pending in Cook County, Illinois.

Additional personal injury and property damage lawsuits may be filed in the future against Sotera Health LLC and Sterigenics U.S., LLC relating to Sterigenics' Willowbrook facility or other EO processing facilities. Sotera Health LLC and Sterigenics U.S., LLC intend to defend themselves vigorously in all such EO tort litigation.

Ethylene Oxide Tort Litigation - Georgia

On May 19, 2020, a lawsuit against Sotera Health LLC, Sterigenics U.S., LLC and other parties was filed in the State Court of Cobb County, Georgia by 53 employees of a contract sterilization customer of Sterigenics. Plaintiffs claim personal injuries resulting from alleged exposure to residual ethylene oxide while working at the customer's distribution center in Lithia Springs, Georgia and seek damages in an amount to be determined by the trier of fact. Motions to dismiss were filed by all defendants in August 2020. All defendants are being defended and indemnified by Sterigenics' contract sterilization customer (plaintiffs' employer).

In May 2020, the Cobb County, Georgia Board of Tax Assessors reduced certain residential property value assessments around the Sterigenics Atlanta facility by 10% citing an "Epd-identified environmental issue," without providing the requisite factual support for the reduction. On August 14, 2020, Sterigenics U.S., LLC filed a lawsuit against members of the Cobb County Board of Tax Assessors in the U.S. District Court for the Northern District of Georgia, seeking a declaration that the reduction in property value assessments is unlawful and is causing Sterigenics reputational and imminent economic harm. Defendants' responses to the complaint are due in September 2020, at which time the Court will also receive submissions by the parties on issues of standing and jurisdiction.

On August 17, 2020, a lawsuit against Sotera Health LLC, Sterigenics U.S., LLC and other parties was filed by two plaintiffs in the State Court of Cobb County, Georgia. Plaintiffs allege that they suffered personal injuries and loss of consortium resulting from purported emissions and releases of EO from Sterigenics' Atlanta facility. Plaintiffs seek damages in an amount to be determined by the trier of fact.

Additional personal injury and property damage lawsuits may be filed in the future against Sotera Health LLC and Sterigenics U.S., LLC relating to Sterigenics' Atlanta facility or other EO processing facilities. Sotera Health LLC and Sterigenics U.S., LLC intend to defend themselves vigorously in all such EO tort litigation.

Suspension of Georgia Facility Operations & Related Litigation

On August 7, 2019, Sterigenics U.S., LLC entered into a voluntary Consent Order with the Georgia Environmental Protection Division ("EPD") under which Sterigenics agreed to install emissions reduction enhancements at its Atlanta facility to further reduce the facility's EO emissions below already permitted levels. Sterigenics voluntarily suspended operations at the facility in early September 2019 to expedite completion of the enhancements. Installation of these enhancements is complete, and Sterigenics successfully tested the enhanced emissions controls in cooperation with EPD during the second quarter of 2020 while the facility was in operation.

In October 2019, while Sterigenics had voluntarily suspended the facility's operations, Cobb County, Georgia officials asserted that the facility had an incorrect "certificate of occupancy" and could not resume operations without obtaining a new certificate of occupancy after a third-party code compliance review they required.

After the Cobb County officials would not allow Sterigenics to resume operations, on March 30, 2020, Sterigenics U.S., LLC filed a lawsuit in the United States District Court for the Northern District of Georgia against Cobb County, Georgia and Cobb County officials Nicholas Dawe and Kevin Gobble. In the lawsuit,

Sterigenics sought immediate injunctive relief and permanent declaratory relief to resume normal operations of the Atlanta facility in the interest of public health and on the basis that the positions asserted by Cobb County were unfounded. On April 1, 2020 the Court entered a Temporary Restraining Order prohibiting Cobb County officials from precluding or interfering with the facility's normal operations. On April 8, 2020, the Court entered a Consent Order extending the Temporary Restraining Order and allowing the facility to continue normal operations until entry of a final judgment in the case. On June 24, 2020 Sterigenics filed an amended complaint, and on July 22, 2020 defendants filed a motion to dismiss the claims. Sterigenics has responded in opposition to the motion, and the motion will be fully briefed by September 16, 2020. A ruling on the motion to dismiss is expected by November 2020. No trial date has been set.

* * *

We carry insurance for alleged environmental liabilities (including personal injury litigation like that pending in Illinois and Georgia described above), with limits of $10.0 million per occurrence and $20.0 million in the aggregate. The per occurrence limit related to the Willowbrook government and EO tort litigations was fully utilized by June 30, 2020. We have not provided for a contingency reserve in connection with these claims. While we intend to vigorously defend the Illinois and Georgia personal injury proceedings described above and any other claims relating to our EO processing facilities, there can be no assurance that we will be successful. We are unable to predict the incidence or outcome of such litigation or to reasonably estimate the possible range of any losses that could be incurred. An adverse outcome in one or more of these proceedings could have a material adverse effect on our business, financial condition and results of operations.

Zoetermeer, Holland Criminal Proceedings and Criminal Financial Investigation

In early 2010, the Dutch Public Prosecution Service started criminal proceedings against DEROSS Holding B.V. ("DEROSS B.V."), formerly known as Sterigenics Holland B.V., in relation to certain EO emissions and alleged environmental permit violations in the period from 2004 to 2009 at its Zoetermeer processing facility. On the basis of the final indictment issued in April 2017, assuming a rarely applied increasing mechanism is not applied in this case, fines in the amount of €0.8 million ($0.9 million USD) may be imposed.

In November 2010, the Public Prosecution Service also started a criminal financial investigation against DEROSS B.V. to determine whether it has obtained illegal advantages by committing the alleged criminal offenses noted above. Any illegally obtained advantage could then be recovered from DEROSS B.V. in subsequent confiscation proceedings. According to the October 2013 report of this criminal financial investigation, the Public Prosecution Service estimates the illegally obtained advantage by DEROSS B.V. to be in the amount of €0.6 million ($0.7 million USD).

In January 2018, the trial in first instance took place in the criminal case against DEROSS B.V., and in February 2018, the court discharged DEROSS B.V. from further prosecution on one of the two counts asserted and acquitted DEROSS B.V. on the other count. In March 2018, the public prosecutor filed an appeal against the favorable judgment in first instance for DEROSS B.V., as well as the favorable judgments in first instance for the two individuals overseeing environmental compliance during the time period of the alleged claims and the municipality of Zoetermeer. The appeal procedure is pending.

DEROSS B.V. has agreed to defend and indemnify the two individuals overseeing environmental compliance during the time period of the alleged claims by the Public Prosecutor. Assuming a rarely applied increasing mechanism is not applied in this case, the possible monetary penalties relating to the individuals currently are estimated at a maximum of €0.2 million ($0.2 million USD).

In 2011, former shareholders established an escrow account to satisfy indemnity claims for losses resulting from governmental claims related to this matter, including those relating to environmental law violations, financial advantage claims, as well as criminal and civil fines and penalties. The balance of the special escrow at

December 31, 2019 and June 30, 2020, was approximately $2.1 million and the cash collateral held by ABN Amro to provide security for the claims against us was approximately €2.4 million ($2.7 million as of June 30, 2020). These amounts are available to satisfy claims relating to the ongoing matter through its anticipated resolution. At this time, we expect that the appeal of this matter will likely take several years to resolve, barring unforeseen delays. However, we believe the indemnification receivable continues to be recoverable and plan to ensure escrow funds remain in place to cover outcomes of an appeal.

It is possible that individuals living in the vicinity of our former Zoetermeer facility may file civil claims at some time in the future. While we have received letters from a small number of individuals claiming to live or work in the vicinity of the Zoetermeer facility, no civil claims have been filed against DEROSS B.V. or us. We have not provided for a contingency reserve in connection with any civil claims as we are unable to determine the likelihood of an unfavorable outcome and no reasonable estimate of a loss or range of losses, if any, can be made. During 2011, we purchased a ten-year environmental insurance claims-made policy to provide coverage for future civil claims from individuals related to this matter.

MANAGEMENT AND BOARD OF DIRECTORS

Directors and Executive Officers

The following table sets forth the name, age and position of individuals who will serve as directors and executive officers of our company. The following also includes certain information regarding our directors and executive officers' individual experience, qualifications, attributes and skills, and a brief statement of those aspects of our directors' backgrounds that led us to conclude that they should serve as directors.

Name	Age	Position
Michael B. Petras, Jr.	53	Chairman and Chief Executive Officer
Scott J. Leffler	45	Chief Financial Officer and Treasurer
Michael (Mike) P. Rutz	49	President of Sterigenics
Matthew J. Klaben	51	Senior Vice President, General Counsel and Secretary

Michael B. Petras, Jr. has served as our Chief Executive Officer since June 2016, as the Chairman of our board of directors since 2020, as the Chairman of Topco Parent's board of managers since January 2019 and as a member of Topco Parent's board of managers since June 2016. Prior to joining Sotera Health, Mr. Petras served as chief executive officer of Post-Acute Solutions at Cardinal Health, Inc. from 2015 to 2016 and chief executive officer of Cardinal Health at-Home at Cardinal Health, Inc. from 2013 to 2015. From 2011 to 2013, he was the chief executive officer for AssuraMed Holdings, Inc., a medical products supplier owned by the Clayton, Dubilier & Rice and Goldman Sachs private equity firms, which was sold to Cardinal Health, Inc. in 2013. From 2008 to 2011, Mr. Petras was president and chief executive officer at GE Lighting, a General Electric Company ("GE") business unit. During his over 20 year career at GE, he held several management positions in multiple disciplines. Mr. Petras holds a B.S.B.A. in finance from John Carroll University and an M.B.A. in marketing from Case Western Reserve University. He was selected to serve on our board of directors because of his perspective as our Chief Executive Officer as well as his extensive commercial, financial and general management experience across many global industries.

Scott J. Leffler has served as our Chief Financial Officer and Treasurer since April 2017. Prior to joining Sotera Health, Mr. Leffler served as chief financial officer at Exal Corporation (now known as Trivium Packaging), a specialty manufacturer of aluminum containers, from September 2016 to March 2017. From September 2008 to September 2016, he held various positions including vice president and treasurer at PolyOne Corporation (now known as Avient), a formulator of specialty chemicals. Prior to that, he served in corporate treasury at Novelis Incorporated, a manufacturer of rolled aluminum. Mr. Leffler holds a B.A. in economics and history from Yale University and an M.B.A. from Emory University. He is a certified public accountant (inactive) and a certified treasury professional (inactive).

Michael (Mike) P. Rutz has served as President of Sterigenics since 2020. Prior to that, Mr. Rutz was Chief Operating Officer of Sterigenics from May 2020 to 2020. Prior to joining Sotera Health, he was senior vice president and general manager of the Semiconductor Business Unit at Littlefuse, Inc., where he was responsible for leading sales, marketing, product development, operations and business development for power and protection based semiconductor products. Mr. Rutz joined Littlefuse in 2014 as senior vice president of global operations, overseeing the company's manufacturing, procurement, planning, quality, and operational excellence initiatives. Prior to joining the Littlefuse, Mr. Rutz served as senior vice president global supply chain at WMS Gaming, a Chicago-based manufacturer of equipment and software for the gaming industry. Mr. Rutz also spent 16 years with Motorola in the paging, cellular and networking groups, most recently as vice president, networks supply chain. Mr. Rutz holds a Bachelor's degree in mechanical engineering from the University of Michigan and Master's degrees in mechanical engineering and management from the Massachusetts Institute of Technology.

Matthew J. Klaben has served as our Senior Vice President, General Counsel and Secretary since November 2016. Prior to joining Sotera Health, he was the vice president, general counsel and secretary of Chart Industries,

Inc., a diversified global manufacturer of highly engineered equipment servicing multiple market applications in energy and industrial gas in Cleveland, Ohio from 2006 to 2016. Prior to that, he was a partner at Calfee, Halter & Griswold LLP, a law firm in Cleveland, Ohio. Mr. Klaben holds a B.A. in international relations and German from Canisius College, a Fulbright Certificate from the University of Bonn (Germany) and a J.D. from Cornell Law School.

Our Board of Directors

Board Composition

Our business and affairs are managed under the direction of our board of directors. Our board of directors currently consists of members. Our amended and restated bylaws provide that our board shall consist of not less than director and not more than directors, and the number of directors elected at any meeting of stockholders shall be deemed to be the number of directors constituting the whole Board unless otherwise fixed by resolution adopted at such meeting.

Our board of directors consists of one class. Directors who are elected at an annual meeting of stockholders shall hold office until the next annual meeting of stockholders and until their successors have been elected and qualified. Vacancies created by removal by stockholders are filled by the stockholders at the meeting held to remove the director(s). If not filled by the stockholders, any vacancies in the board of directors may be filled by the vote of the remaining directors then in office, although less than a quorum exists.

Our Stockholders' Agreement will provide that, for so long as the Stockholders' Agreement is in effect, we and the Sponsors are required to take all actions reasonably necessary, subject to applicable regulatory and stock exchange listing requirements (including director independence requirements), to cause the membership of the board and any committees of the board to be consistent with the terms of the agreement. In accordance with the Stockholders' Agreement, Warburg Pincus has designated to our board of directors and GTCR has designated to our board of directors.

Our amended and restated certificate of incorporation does not provide for cumulative voting in the election of directors, which means that the holders of a majority of the outstanding shares of common stock (i.e., our Sponsors) can elect all of the directors standing for election, and the holders of the remaining shares are not able to elect any directors, subject to their rights under our Stockholders' Agreement discussed above.

Controlled Company

After the completion of this offering, the Sponsors will control a majority of our outstanding shares of our common stock. As a result, we will be a "controlled company" within the meaning of the rules. Under the rules, a company of which more than 50% of the voting power is held by an individual, group or another company is a "controlled company" and may elect not to comply with certain corporate governance standards, including:

- the requirement that a majority of the board of directors consist of independent directors;
- the requirement that we have a nominating and corporate governance committee that is composed entirely of independent directors with a written charter addressing the committee's purpose and responsibilities;
- the requirement that we have a compensation committee that is composed entirely of independent directors with a written charter addressing the committee's purpose and responsibilities; and
- the requirement for an annual performance evaluation of the nominating and corporate governance and compensation committees.

Following this offering, we intend to utilize these exemptions (other than with respect to committee charter requirements and annual committee performance evaluations). As a result, we may not have a majority of

independent directors and our nominating and corporate governance committee and compensation committee may not consist entirely of independent directors. Accordingly, you may not have the same protections afforded to stockholders of companies that are subject to all of the rules regarding corporate governance.

The "controlled company" exception does not modify the independence requirements for the audit committee, and we intend to comply with the audit committee requirements of Rule 10A-3 under the Exchange Act and the rules. Pursuant to such rules, we are required to have at least one independent director on our audit committee during the 90-day period beginning on the date of effectiveness of the registration statement filed with the SEC in connection with this offering. After such 90-day period and until one year from the date of effectiveness of the registration statement, we are required to have a majority of independent directors on our audit committee. Thereafter, our audit committee is required to be comprised entirely of independent directors.

Director Independence

Our board of directors has undertaken a review of the independence of each director. Based on information provided by each director concerning his or her background, employment and affiliations, including family relationships, our board of directors has determined that do not have relationships that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is "independent" as that term is defined under the listing standards of . In making these determinations, our board of directors considered the current and prior relationships that each director has with our company and all other facts and circumstances our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each director, and the transactions involving them described in the section titled "Certain Relationships and Related Party Transactions."

Committees of the Board of Directors

Upon completion of this offering, we will have an audit committee, a compensation committee, a nominating and corporate governance committee and a Nordion pricing committee. The composition and responsibilities of each of the committees of our board of directors are described below. Members serve on these committees until their resignation or until otherwise determined by our board of directors. Our board of directors may establish other committees as it deems necessary or appropriate from time to time. Each committee will operate under a written charter, which will be available on our website at the closing of this offering.

Audit Committee

The audit committee's main purpose is to oversee our accounting and financial reporting processes, our relationship with our independent auditors, our compliance with legal and regulatory requirements and our enterprise risk management program.

In carrying out this purpose, the audit committee will:

- oversee the design, implementation, adequacy and effectiveness of our disclosure controls and procedures, system of internal controls over financial accounting, internal audit function and the preparation and audits of our consolidated financial statements;
- appoint our independent auditors annually, review the annual audit plan, approve audit and pre-approve any non-audit related services provided to us, evaluate their qualifications and performance and ensure their independence;
- oversee procedures for the receipt, retention and treatment of complaints about accounting, internal accounting controls or audit matters, and for the confidential and anonymous submission by employees concerning such matters;
- review and approve or ratify, in accordance with our policies, all related party transactions as defined by applicable rules and regulations;

- oversee legal and regulatory matters and review and approve the adequacy and effectiveness of our compliance policies and procedures, including the Code of Business Conduct and Ethics;
- approve the annual internal audit plan and budget, review with the internal audit executive the results of the audit work at least annually and more frequently as provided in the policy for reporting financial accounting and auditing concerns, as approved by the committee and at least annually review the performance of the internal audit team; and
- oversee company policies and practices with respect to financial risk assessment and risk management.

The members of the audit committee are (chair), and . Upon effectiveness of the registration statement, will be "independent," as defined under the rules and Rule 10A-3 of the Exchange Act. Our board of directors has determined that each director appointed to the audit committee is financially literate, and the board has determined that is a financial expert.

Compensation Committee

The compensation committee's main purpose is to oversee the compensation of our chief executive officer and our directors and employees, including other executive officers and matters relating to the attraction, development and retention of directors, executive officers and other employees.

In carrying out this purpose, the compensation committee will:

- review and approve corporate goals relevant to compensation against which our chief executive officer and other executive officers will be evaluated;
- evaluate the performance of our executive officers (including the chief executive officer) and determine the compensation of such officers based on such evaluations, including performance- and incentive-based compensation and equity-based plans;
- administer our equity compensation plans;
- review periodically the operation and structure of our compensation program in light of our business strategy and relative competitiveness against the market; and
- oversee short-term and long-term management succession planning and leadership assessment and development.

The members of the compensation committee are (chair), and . Because we will be a "controlled company" under the rules, our compensation committee is not required to be fully independent, although if such rules change in the future or we no longer meet the definition of a controlled company under the current rules, we will adjust the composition of the compensation committee as and if necessary in order to comply with such rules.

Nominating and Corporate Governance Committee

The nominating and corporate governance committee's main purpose is to identify and evaluate individuals qualified to become board members, consistent with criteria approved by the board and to recommend for the board's approval the slate of nominees to be proposed to stockholders for election to the board, develop and recommend to the board for approval a set of corporate governance guidelines and lead the annual review of the performance of the board and each of its standing committees.

In carrying out this purpose, the nominating and corporate governance committee will:

- evaluate the composition, size, organization, performance and governance of the board and each of its committees, and make recommendations to the board about the appointment of directors to committees of the board;

- develop policies for considering director nominees for election to the board and establish requisite qualification requirements, including director independence determinations;
- recommend ways to enhance communications and relations with stockholders;
- review conflicts of interest of our directors and corporate officers and proposed waivers of our corporate governance guidelines and our code of business conducts and ethics;
- ensure compliance with the corporate governance guidelines and review and recommend any changes to the board on an annual basis; and
- in conjunction with the compensation committee, oversee the evaluation of management.

The members of the nominating and corporate governance committee are (chair), and . Because we will be a "controlled company" under the rules, our nominating and corporate governance committee is not required to be fully independent, although if such rules change in the future or we no longer meet the definition of a controlled company under the current rules, we will adjust the composition of the nominating and corporate governance committee as and if necessary in order to comply with such rules.

Nordion Pricing Committee

The Nordion pricing committee is responsible for overseeing matters related to Nordion's pricing that require review of sensitive or confidential customer information. The main purpose this committee is to prevent confidential information relating to Nordion's customers from being shared with individuals who are involved in the day-to-day operations of Sterigenics. The members of the Nordion pricing committee are , and .

Compensation Committee Interlocks and Insider Participation

None of the members of our compensation committee is or has been an officer or employee of our company. None of our executive officers currently serves, or in the past year has served, as a member of the board of directors or compensation committee (or other board committee performing equivalent functions) of any entity that has one or more executive officers serving on our board of directors or compensation committee.

Code of Business Conduct and Ethics

Prior to the completion of this offering, our board of directors will adopt procedures and policies to comply with the Sarbanes-Oxley Act of 2002 and the rules adopted by the SEC and the , including a code of business conduct and ethics applicable to all our employees, including our chief executive officer, chief financial officer and other executive and senior financial officers and all persons performing similar functions. Upon completion of this offering, our code of conduct and ethics will be available on our website. We intend to disclose any amendments to the code, or any waivers of its requirements, on our website to the extent required by the applicable U.S. federal securities laws and the corporate governance rules of the .

EXECUTIVE COMPENSATION

Overview

Our "Named Executive Officers," consisting of our principal executive officer and our two most highly compensated executive officers (other than our principal executive officer), as of December 31, 2019, were:

- Michael B. Petras, Jr., our Chairman and Chief Executive Officer
- Scott J. Leffler, our Chief Financial Officer and Treasurer
- Matthew J. Klaben, our Senior Vice President, General Counsel and Secretary

Summary Compensation Table for the Year Ended December 31, 2019

The following table presents summary information regarding the total compensation that was awarded to, earned by or paid to our Named Executive Officers during the year ended December 31, 2019:

Name and Principal Position	Year	Salary ($) (1)	Bonus ($) (2)	Nonequity Incentive Plan Compensation ($) (3)	All Other Compensation ($) (4)	Total ($)
Michael B. Petras, Jr. *Chairman and Chief Executive Officer*	2019					
Scott J. Leffler *Chief Financial Officer and Treasurer*	2019		(5)			
Matthew J. Klaben *Senior Vice President, General Counsel and Secretary*	2019					

(1) Includes the value of each Named Executive Officer's base salary during the fiscal year covered.
(2) Includes the value of discretionary bonuses approved by the board of managers of Topco Parent.
(3) Includes the value of annual cash incentive awards paid under the Sotera Health Annual Incentive Plan. See "Annual Incentive Plan."
(4) Includes the value of Company contributions made on behalf of our Named Executive Officers under our 401(k) Plan (as defined below). See "Retirement Plans."
(5) Mr. Leffler received a $ retention bonus to which he was entitled under the terms of his CFO Bonus Agreement (as defined below) with the company, which was paid on the first ordinary payroll date following November 18, 2019. See "Employment Agreements—Retention Agreement with Mr. Scott J. Leffler."

Narrative Disclosure to Summary Compensation Table

Employment Agreements

Employment Agreement with Mr. Michael B. Petras, Jr.

Mr. Petras is a party to an employment agreement with our company (the "CEO Employment Agreement") dated May 25, 2016, pursuant to which he serves as our Chief Executive Officer ("CEO") and as a member of Topco Parent's board of managers. Under the terms of the CEO Employment Agreement, Mr. Petras' initial annual base salary in connection with his appointment as CEO was set at $, less applicable withholding taxes, and is subject to review annually by Topco Parent's board of managers for a possible increase. See "Summary Compensation Table for the Year Ended December 31, 2019" for information on Mr. Petras' base salary paid in 2019. Mr. Petras is also eligible to receive an annual bonus based on his attainment of one or more

pre-established performance criteria established by Topco Parent's board of managers, with his annual target bonus opportunity equal to 100% of his then-current annual base salary.

We intend to enter into a new employment agreement with Mr. Petras, effective as of the completion of this offering, which will replace his existing employment agreement (the "Amended and Restated CEO Employment Agreement"). Under the Amended and Restated CEO Employment Agreement, Mr. Petras will be eligible to receive certain payments and benefits in the event of a termination of his employment by us without "cause" or a termination of employment by him for "good reason" (as each of these terms will be defined in the Amended and Restated CEO Employment Agreement), which are described in greater detail under "Potential Payments upon Termination or Change in Control."

Employment Agreement with Mr. Scott J. Leffler

Mr. Leffler is a party to an employment agreement with our company (the "CFO Employment Agreement") dated April 3, 2017, pursuant to which he serves as our Chief Financial Officer ("CFO").

Under the terms of the CFO Employment Agreement, Mr. Leffler's initial annual base salary in connection with his appointment as CFO was set at $, less applicable withholding taxes, and is subject to review by Topco Parent's board of managers from time to time for a possible adjustment. See "Summary Compensation Table for the Year Ended December 31, 2019" for information on Mr. Leffler's base salary paid in 2019. Mr. Leffler is also eligible to receive an annual bonus based on his attainment of one or more pre-established performance criteria established by Topco Parent's board of managers, with his annual target bonus opportunity equal to 60% of his then-current annual base salary.

Under the CFO Employment Agreement, Mr. Leffler is eligible to receive certain payments and benefits in the event of a termination of his employment by us without "cause" or a termination of employment by him for "good reason" (as each of these terms is defined in the CFO Employment Agreement), which are described in greater detail under "Potential Payments upon Termination or Change in Control" below.

Retention Agreement with Mr. Scott J. Leffler

Mr. Leffler is a party to a bonus agreement with our company dated as of November 18, 2019 (the "CFO Bonus Agreement"). Pursuant to the CFO Bonus Agreement, on the first ordinary payroll date following November 18, 2019, Mr. Leffler received a cash bonus of $ (less applicable tax withholdings) in consideration for his agreement to continue active employment with us through November 18, 2021 (the "Retention Date"). If prior to the Retention Date, Mr. Leffler terminates his employment with us without "good reason" (as described below in "Potential Payments Upon Termination or Change in Control," but excluding a termination due to Mr. Leffler's death or disability), Mr. Leffler is obligated to repay to us, on a pre-tax basis, the full amount of the retention bonus.

Employment Agreement with Mr. Matthew J. Klaben

Mr. Klaben is a party to an employment agreement with our company (the "SVP & GC Employment Agreement") dated December 12, 2016, pursuant to which he serves as our Senior Vice President and General Counsel ("SVP & GC").

Under the terms of the SVP & GC Employment Agreement, Mr. Klaben's initial annual base salary in connection with his appointment as SVP & GC was set at $, less applicable withholding taxes, and is subject to review by Topco Parent's board of managers from time to time for a possible adjustment. See "Summary Compensation Table for the Year Ended December 31, 2019" for information on Mr. Klaben's base salary paid in 2019. Mr. Klaben is also eligible to receive an annual bonus based on his attainment of one or more pre-established performance criteria established by Topco Parent's board of managers, with his annual target bonus opportunity equal to 40% of his then-current annual base salary.

Under the SVP & GC Employment Agreement, Mr. Klaben is eligible to receive certain payments and benefits in the event of a termination of his employment by us without "cause" or a termination of employment by him for "good reason" (as each of these terms is defined in the SVP & GC Employment Agreement), which are described in greater detail under "Potential Payments upon Termination or Change in Control" below.

Base Salary

We provide each Named Executive Officer with a base salary for the services that the executive officer performs for us. This compensation component constitutes a stable element of compensation while other compensation elements are variable. Base salaries may be increased based on the individual performance of the Named Executive Officer, company performance, any change in the executive's position within our business, the scope of his or her responsibilities and any changes thereto. Base salaries may also be increased as required under the terms of a Named Executive Officer's employment agreement.

Annual Incentive Plan

We maintain an Annual Incentive Plan (the "Annual Incentive Plan"), which is designed to provide an incentive to enhance organization value and promote the attainment of our significant business objectives by basing a portion of the cash compensation due to certain employees on the performance of such employee, the company and/or a business unit of the company. Our executive officers and key employees are eligible to participate in the Annual Incentive Plan. The Annual Incentive Plan is administered by Topco Parent's board of managers with respect to our executive officers and by our CEO with respect to employees other than executive officers (collectively, the "Administrator"). The Administrator determines the annual incentive award, payable in cash, for each year as well as the factors the award is based on, which may include predetermined performance measures and performance goals. Participants in the Annual Incentive Plan must be actively employed on the date the Administrator determines the amount due to such participant with respect to his or her award (the "Determination Date"). In the event a participant in the Annual Incentive Plan's active employment is terminated before the Determination Date for a reason other than for cause or voluntary resignation, such participant may receive a portion of his or her award as may be determined by the Administrator in its sole discretion. A participant terminated for cause is not entitled to receive any award under the Annual Incentive Plan.

Retirement Plans

We maintain a tax-qualified 401(k) savings plan (the "401(k) Plan"), in which all our employees, including our Named Executive Officers, are eligible to participate. The 401(k) Plan allows participants to contribute up to 100% of their pay on a pre-tax basis (or on a post-tax basis, with respect to elective Roth deferrals) into individual retirement accounts, subject to the maximum annual limits set by the Internal Revenue Service ("IRS"). We have historically made annual contributions to employee 401(k) accounts of up to 4.5% of an employee's contributions to the 401(k) Plan. In 2019, we contributed up to $ per employee. Participants are immediately fully vested in both their own contributions and our contributions to the 401(k) Plan.

Additionally, we maintain a non-qualified deferred compensation plan (the "Supplemental Retirement Benefit Plan") under which a select group of management and highly compensated employees are permitted to supplement contributions made under the 401(k) Plan by deferring up to 50% of their bonus or salary. Although permitted by the Supplemental Retirement Benefit Plan, we have not previously provided matching employer contributions under this plan. Participants are immediately fully vested in the contributions to the Supplemental Retirement Benefit Plan. Participants in the Supplemental Retirement Benefit Plan are permitted to elect to invest their accounts in the same investment options as are available under the 401(k) Plan.

Outstanding Equity Awards as of December 31, 2019

The following table sets forth information regarding outstanding profits interests (i.e., Class B Units in Topco Parent ("Class B Units")) held as of December 31, 2019 by each of our Named Executive Officers.

	Stock Awards			
Name	Number of Shares or Units of Stock that Have Not Vested (#) (1)(4)	Market Value of Shares or Units of Stock that Have Not Vested ($) (2)	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights that Have Not Vested (#) (3)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights that Have not Vested ($)
Michael B. Petras, Jr.				
Scott J. Leffler				
Matthew J. Klaben				

(1) Represents unvested Class B Units in Topco Parent subject to service-based vesting requirements (i.e., the "Service Tranche"). See footnote 4 for Service Tranche vesting dates.

(2) The Class B Units represent profit interests in Topco Parent. See "Long-Term Equity Compensation."

(3) Represents unvested Class B Units subject to performance-based vesting requirements (i.e., the "Performance Tranche"). These performance-based Class B Units will vest as of the date that our Sponsors receive specified levels of their invested capital in Topco Parent. See "Long-Term Equity Compensation."

(4) The vesting schedules of the Class B Units designated as the Service Tranche are as follows (subject to the Named Executive Officer's continued employment through each applicable vesting date):

Name	Grant Date	Vesting Schedule
Michael B. Petras, Jr.	June 20, 2016	Vest on a daily basis pro rata over the first four years following June 20, 2016.
Scott J. Leffler	April 3, 2017	Vest on a daily basis pro rata over the first five years following April 3, 2017.
Matthew J. Klaben	November 15, 2016	Vest on a daily basis pro rata over the first five years following November 15, 2016.

Long-Term Equity Compensation

Our long-term equity compensation program is designed to provide that a portion of compensation granted to our executives and other employees is in the form of equity-based instruments. This long-term equity compensation is important to ensure that the interests of our executives and employees are aligned with those of our stockholders, therefore encouraging value-creation for both our executives and our stockholders.

Class B Units in Topco Parent. Our employees and other services providers are eligible to be granted Class B Units under the limited partnership agreement of Topco Parent. Class B Units are "profits interests" having economic characteristics similar to a stock right and allow our service providers to share in the future appreciation of Topco Parent, subject to certain service-based vesting (based on continued provision of services) and performance-based vesting (based on the return achieved by our Sponsors) conditions, as described in more detail below. In making grants of Class B Units, we aim to foster a long-term commitment to us and our mission, offer a balance to the short-term cash components of our compensation program, promote retention and reinforce our pay-for-performance structure.

The Class B Units are issued pursuant to the terms of a Class B Unit award agreement between Topco Parent and each holder of Class B Units. Class B Units represent an ownership interest in Topco Parent,

providing the holder with the opportunity to receive a return based on the appreciation of Topco Parent's equity value from the date of grant after preferred return payments have been paid to the holders of Class A Units in Topco Parent and the aggregate amount of capital contributions in respect of all Class A Units have been repaid to holders of the Class A Units. The awards are structured so that if Topco Parent's equity value were to appreciate, the holder would share in the growth in value from the date of grant solely with respect to the vested portion of the executive's Class B Units. Grantees were not required to make any capital contribution in exchange for their Class B Units, which were awarded as compensation.

Generally, 75% of the Class B Units subject to each award are designated as the Service Tranche and are scheduled to vest on a daily basis pro rata over a five-year period (20% per year), subject to the grantee's continued services on each vesting date. Generally, 25% of the Class B Units subject to each award are designated as the Performance Tranche and are scheduled to vest only upon satisfaction of certain performance thresholds. These units vest as of the first date on which (i) our Sponsors have received two and one-half times their invested capital in Topco Parent and (ii) the Sponsors' internal rate of return exceeds twenty percent, subject to such grantee's continued services through the such date. In the event of a change in control of the company, 100% of the outstanding and unvested Class B Units in the Service Tranche will automatically vest and any outstanding and unvested Class B Units in the Performance Tranche that do not vest as a result of the consummation of such change in control will be immediately canceled and forfeited. Our board has the discretion to allocate the portion of a Class B Unit grant consisting of each of the Service Tranche and the Performance Tranche and has recently made grants of Class B Units consisting of entirely the Service Tranche.

In the event that a holder of Class B Units is terminated from service for any reason other than for cause (generally defined as the grantee's (i) intentional unauthorized use or disclosure of confidential information or trade secrets, (ii) conviction of, or a plea of "guilty" or "no contest" to, a felony, (iii) engagement in any fraud, willful misconduct or gross neglect in the performance of duties or in any other willful misconduct which has directly caused a material injury to Topco Parent, its affiliates, Sponsors or any of their affiliates, (iv) willful engagement in any act or omission involving dishonesty, breach of trust, unethical business conduct or moral turpitude, (v) intentional failure to perform lawful assigned duties after receiving written notification and failing to correct such deficiencies or (vi) breach of restrictive covenants), all unvested Class B Units shall be forfeited as of such individual's termination date. In the event that a holder of Class B Units is terminated for cause, all Class B Units shall be forfeited and cancelled for no consideration as of such individual's termination date.

Class B Units are subject to repurchase by Topco Parent in the event that a grantee ceases to provide services to Topco Parent or any of its subsidiaries. Topco Parent may elect to repurchase all or any number of Class B Units at a purchase price equal to the fair market value of such units as of the date Topco Parent delivers written notice of the election to repurchase. Such written notice must be delivered within three hundred and sixty (360) days of the grantee's termination date. Upon the consummation of this offering, the Class B Units shall no longer be subject to repurchase by Topco Parent.

Class B Units may not be transferred by grantees except for (i) transfers pursuant to Topco Parent's exercise of its tag-along rights, drag-along rights or repurchase rights, (ii) transfers to which Topco Parent's board of managers has granted prior consent and (iii) transfers made pursuant to applicable laws of descent of distribution or to a grantee's legal guardian in the case of mental incapacity.

See the "Outstanding Equity Awards as of December 31, 2019" table above and "Potential Payments Upon Termination or Change in Control" below for more information regarding the Class B Units held by our Named Executive Officers.

Treatment of Outstanding Equity Awards in Connection with the Initial Public Offering

Upon the liquidation of Topco Parent, each holder of Class B Units (including the Named Executive Officers holding any such units) will have his or her entire Class B interest in Topco Parent redeemed in full for a

number of shares of our common stock determined by the value such holder would have received under the distribution provisions of the limited partnership agreement of Topco Parent, with our shares of common stock valued by reference to the initial public offering price (such shares, the "Distributed Shares"). The redemption of Class B Units for Distributed Shares will not result in any accelerated vesting of such Class B Units; the Distributed Shares distributed in redemption of vested Class B Units shall be fully vested upon such distribution, and the Distributed Shares distributed in redemption of unvested Class B Units will be unvested upon such distribution, and will remain eligible to vest following the offering pursuant to the same vesting schedule as the unvested Class B Units in respect of which they are distributed. In addition to the vesting terms, each individual who receives Distributed Shares in redemption of his or her Class B Units in connection with this offering will be required to execute the stockholders' agreement. See "Certain Relationships and Related Party Transactions—Stockholders' Agreement" for additional information on the terms of such agreement.

The table below sets forth an estimate, assuming an initial public offering price of $ per share of common stock at the midpoint of the price range set forth on the cover page of this prospectus, of the number of Distributed Shares that would be distributed to each of our Named Executive Officers in redemption of Class B Units:

Name	Distributed Shares	
	Vested	Unvested
Michael B. Petras, Jr.		
Scott J. Leffler		
Matthew J. Klaben		

Potential Payments Upon Termination or Change in Control

Potential Payments to Mr. Michael B. Petras, Jr.

In the event of a termination of employment by us without "cause" or by him for "good reason" (in each case as will be defined in the Amended and Restated CEO Employment Agreement), Mr. Petras, upon execution of a general release of claims in our favor and subject to continued compliance with the restrictive covenants that will be set forth in the Amended and Restated CEO Employment Agreement, will be eligible to receive certain benefits as will be set forth in the Amended and Restated CEO Employment Agreement.

Potential Payments to Mr. Scott J. Leffler

In the event of a termination of employment by us without "cause" or by him for "good reason" (in each case as defined in the CFO Employment Agreement), Mr. Leffler, upon execution of a general release of claims in our favor and subject to continued compliance with the restrictive covenants set forth in the CFO Employment Agreement, will be eligible to receive:

- A continuation of his annual base salary for 18 months, and
- Continuation of his health insurance coverage as though he had continued to be an active employee of the company, or if he is unable to so participate and elects COBRA, monthly reimbursement for the difference between the monthly COBRA premium over the monthly premium he would have paid had he continued to be an active employee, for 18 months, provided that this benefit will cease if Mr. Leffler becomes reemployed with another employer that offers medical insurance prior to the expiration of the 18 month period.

In addition, in the event of Mr. Leffler's termination of employment by us without "cause" or by him for "good reason," (in each case as defined in the CFO Employment Agreement), 20% of the number of Class B-1 Units and 20% of the number of Class B-2 Units outstanding and unvested as of his termination date will vest as of his termination date.

Under the CFO Employment Agreement, "cause" generally means Mr. Leffler's (i) disclosure of confidential information or trade secrets of the company, the Sponsors or any of their affiliates or any of their respective customers or suppliers, which use or disclosure causes or is likely to cause a material injury to any of these parties, (ii) conviction of, or a plea of "guilty" or "no contest" to, a felony under the laws of the United States, Canada or any jurisdiction in which Executive resides, (iii) fraud, willful misconduct or gross neglect in the performance of his duties or engagement in any other willful misconduct or willful engagement in any act or omission involving dishonesty, unethical business conduct or moral turpitude which has caused a material injury to the company, the Sponsors or any of their affiliates or any of their respective customers or suppliers, (v) intentional failure to perform assigned duties after a written notification from Topco Parent's board of managers or (vi) breach of the CFO Employment Agreement.

Under the CFO Employment Agreement, "good reason" generally means (i) any material reduction in Mr. Leffler's title, status or authority, (ii) any material reduction of Mr. Leffler's responsibilities, annual base salary, annual bonus opportunity, other compensation or the aggregate value of Mr. Leffler's benefits, (iii) relocation of Mr. Leffler's primary place of employment by more than 50 miles.

Potential Payments to Mr. Matthew J. Klaben

In the event of a termination of employment by us without "cause" or by him for "good reason" (in each case as defined in the SVP & GC Employment Agreement), Mr. Klaben, upon execution of a general release of claims in our favor and subject to continued compliance with the restrictive covenants set forth in the SVP & GC Employment Agreement, will be eligible to receive:

- A continuation of his annual base salary for 12 months, and
- Continuation of his health insurance coverage as though he had continued to be an active employee of the company, or if he is unable to so participate and elects COBRA, monthly reimbursement for the difference between the monthly COBRA premium over the monthly premium he would have paid had he continued to be an active employee, for 12 months, provided that this benefit will cease if Mr. Klaben becomes reemployed with another employer that offers medical insurance prior to the expiration of the 12 month period.

Under the SVP & GC Employment Agreement, "cause" generally means Mr. Klaben's (i) disclosure of confidential information or trade secrets of the company, the Sponsors or any of their affiliates or any of their respective customers or suppliers, which use or disclosure causes or is likely to cause a material injury to any of these parties, (ii) conviction of, or a plea of "guilty" or "no contest" to, a felony under the laws of the United States, Canada or any jurisdiction in which Executive resides, (iii) fraud, willful misconduct or gross neglect in the performance of his duties or engagement in any other willful misconduct or willful engagement in any act or omission involving dishonesty, unethical business conduct or moral turpitude which has caused a material injury to the company, the Sponsors or any of their affiliates or any of their respective customers or suppliers, (iv) intentional failure to perform assigned duties after a written notification from Topco Parent's board of managers or (v) breach of the SVP & GC Employment Agreement.

Under the SVP & GC Employment Agreement, "good reason" generally means (i) any material reduction in Mr. Klaben's title, status or authority, (ii) any material reduction of Mr. Klaben's responsibilities, annual base salary, annual bonus opportunity, other compensation or the aggregate value of Mr. Klaben's benefits or (iii) relocation of Mr. Klaben's primary place of employment by more than 50 miles.

Looking Ahead – Post-Initial Public Offering Compensation

In connection with and following this offering, we expect that our Compensation Committee will review with its independent compensation consultant our compensation levels, our incentive compensation programs and the types of compensation we offer to ensure that our programs are based on appropriate measures, goals and

targets for our industry and our business objectives and to determine whether any changes to our compensation structures are justified. This review will also be designed to ensure that the overall level of total compensation for our executive officers is reasonable in relation to, and competitive with, the compensation paid by similarly situated peer leaders in our industry, subject to variation for individual factors such as experience, performance, duties, scope of responsibility, prior contributions and future potential contributions to our business.

Equity Incentive Plan

We intend to adopt the New Equity Plan, which will become effective in connection with this offering. The terms of the New Equity Plan have not yet been determined.

Emerging Growth Company Status

We are an "emerging growth company," as defined in the JOBS Act. As an emerging growth company, we will be exempt from certain requirements related to executive compensation, including the requirements to hold non-binding advisory votes on executive compensation and to provide information relating to the ratio of annual total compensation of our chief executive officer to the median of the annual total compensation of all of our employees, each as required under Sections 14 and 14A of the Exchange Act.

Director Compensation

2019 Director Compensation Table

The following table presents the total compensation for each person who served as a non-employee member of Topco Parent's board of managers during 2019. In 2019, we did not pay any compensation to any person who served as a non-employee member of Topco Parent's board of managers who is affiliated with the Sponsors, and, except as otherwise described below, we did not pay any fees to, make any equity awards or non-equity awards to, or pay any other compensation to any of the other non-employee members of Topco Parent's board of managers. We reimburse members of Topco Parent's board of managers for reasonable out-of-pocket expenses incurred in connection with their service to the board of managers and covered such expenses in 2019. Mr. Petras, our Chairman and CEO, receives no compensation for his service as a manager, and is not included in this table. The compensation received by Mr. Petras as an employee is presented in the "Summary Compensation Table for the Year Ended December 31, 2019" above.

Name	Fees Earned or Paid in Cash ($)	All Other Compensation ($)	Total ($)
James C. Neary			
Stephanie Geveda			
David A. Donnini			
Constantine S. Mihas			
Sean L. Cunningham			
Michael Mulhern **(1)**			

(1) Mr. Mulhern served as our Chief Executive Officer from July 2011 to June 2016. Upon his retirement as our Chief Executive Officer, Mr. Mulhern agreed to continue to serve as a member of Topco Parent's board of managers. For this service, he receives an annual cash retainer in the amount of $.

Ann Klee became a member of Topco Parent's board of managers in May 2020. She is entitled to receive an annual cash retainer of $ as remuneration for her service to the company. In addition, Ms. Klee received a grant of Class B-1 Units. The service-based vesting condition will be satisfied for one-fifth of the total number of Class B-1 Units awarded to her on each of the first five anniversaries of May 27, 2020, subject to her continued service through each such date.

Non-Employee Director Compensation Program

We intend to adopt a non-employee director compensation policy, which will become effective in connection with this offering. Under this policy, non-employee members of our board of directors will be eligible to receive both cash compensation and equity compensation for service on our board of directors and committees of our board of directors, as well as reimbursement for certain business expenses. The terms of this policy have not yet been determined.

CORPORATE REORGANIZATION

Sotera Health Topco, Inc., a Delaware corporation, is a direct wholly owned subsidiary of Topco Parent. Pursuant to the terms of the corporate reorganization that will be completed concurrently with, or prior to, the completion of this offering, Topco Parent will distribute the shares of our common stock to its partners in accordance with the limited partnership agreement of Topco Parent. To the extent any partnership interests are subject to vesting requirements, the common stock issuable in respect of such partnership interests will also be subject to such requirements.

The number of shares of common stock that a holder of partnership interests in Topco Parent will receive upon its liquidation will be determined by the value such holder would have received under the distribution provisions of the limited partnership agreement of Topco Parent, with our shares of common stock valued by reference to the initial public offering price. Purchasers of common stock in this offering will only receive, and this prospectus only describes the offering of, shares of our common stock. Upon completion of our corporate reorganization and this offering, and based on an assumed initial public offering price of $ per share (the midpoint of the estimated offering price range set forth on the cover page of this prospectus), the former holders of partnership interests in Topco Parent will own an aggregate of approximately shares of our common stock (or shares if the underwriters' option to purchase additional shares of common stock is exercised in full). See "Description of Capital Stock" for additional information regarding the terms of our certificate of incorporation and bylaws that will be in effect upon the completion of this offering.

In this prospectus, our "corporate reorganization" refers to the liquidation of Topco Parent and the distribution of shares of our common stock to the partners of Topco Parent in accordance with its limited partnership agreement.

PRINCIPAL STOCKHOLDERS

The following table sets forth information regarding the beneficial ownership of our common stock as of , 2020 (1) immediately prior to the completion of this offering and (2) as adjusted to give effect to this offering by:

- each person or group who is known by us to own beneficially more than 5% of our outstanding shares of common stock;
- each of our named executive officers;
- each of our directors; and
- all of the executive officers and directors as a group.

Beneficial ownership is determined in accordance with the rules and regulations of the SEC. These rules generally provide that a person is the beneficial owner of securities if such person has or shares the power to vote or direct the voting thereof, or to dispose or direct the disposition thereof or has the right to acquire such powers within 60 days. We have based the calculation of the percentage of beneficial ownership on shares of common stock outstanding, as of , 2020, after giving effect to the corporate reorganization, and based on an assumed share price of $, the midpoint of the estimated offering price range on the cover of this prospectus. For purposes of calculating each person's percentage ownership, common stock issuable pursuant to options exercisable within 60 days of , 2020 are included as outstanding and beneficially owned for that person or group, but are not deemed outstanding for purposes of computing the percentage ownership of any person. Except as disclosed in the footnotes to this table and subject to applicable community property laws, we believe that each stockholder identified in the table possesses sole voting and investment power over all shares of common stock shown as beneficially owned by the stockholder.

Unless otherwise indicated in the table or footnotes below, the address for each beneficial owner is c/o Sotera Health, 9100 South Hills Blvd, Suite 300 Broadview Heights, Ohio 44147.

Name of Beneficial Owner	Number of Shares Beneficially Owned(1)	Percentage of Shares Beneficially Owned	
		Before Offering	After Offering
5% Stockholders:			
Investment funds and entities affiliated with Warburg Pincus(2)			
Investment funds and entities affiliated with GTCR(3)			
Named Executive Officers and Directors:			
Michael B. Petras, Jr.			
Scott J. Leffler			
Matthew J. Klaben			
All Executive Officers and Directors as a group (Persons)			

* Represents beneficial ownership of less than 1%

(1) Shares shown in the table above include shares held in the beneficial owner's name or jointly with others, or in the name of a bank, nominee or trustee for the beneficial owner's account.

(2) Consists of (i) shares held of record by Warburg Pincus Private Equity XI, L.P., a Delaware limited partnership ("WP XI"), (ii) shares held of record by Warburg Pincus Private Equity XI-B, L.P., a Delaware limited partnership ("WP XI-B"), (iii) shares held of record by Warburg Pincus Private Equity XI-C, L.P., a Cayman Islands exempted limited partnership ("WP XI-C"), (iv) shares held of record by WP XI Partners, L.P., a Delaware limited partnership ("WP XIP"), (v) shares held of record by Warburg Pincus XI Partners, L.P., a Delaware limited partnership ("WP XI Partners") and (vi) shares held of record by Bull Co-Invest L.P., a Delaware limited partnership ("WP Bull").

Warburg Pincus XI, L.P., a Delaware limited partnership ("WP XI GP"), is the general partner of each of (i) WP XI, (ii) WP XI-B, (iii) WP XI Partners and (iv) WP XIP. WP Global LLC, a Delaware limited liability company ("WP Global"), is the general partner of WP XI GP. Warburg Pincus Partners II, L.P., a Delaware limited partnership ("WPP II"), is the managing member of WP Global. Warburg Pincus Partners GP LLC, a Delaware limited liability company ("WPP GP LLC"), is the general partner of WPP II. Warburg Pincus & Co., a New York general partnership ("WP"), is the managing member of WPP GP LLC.

Warburg Pincus (Cayman) XI, L.P., a Cayman Islands exempted limited partnership, is the general partner of WP XI-C ("WP XI Cayman GP" and, together with WP XI, WP XI-B, WP XI Partners and WP XIP, the "WP XI Funds"). Warburg Pincus XI-C, LLC, a Delaware limited liability company ("WP XI-C LLC"), is the general partner of WP XI Cayman GP. Warburg Pincus Partners II (Cayman), L.P., a Cayman Islands exempted limited partnership ("WPP II Cayman"), is the managing member of WP XI-C LLC. Warburg Pincus (Bermuda) Private Equity GP Ltd., a Bermuda exempted company ("WP Bermuda GP"), is the general partner of WPP II Cayman.

WP Bull Manager LLC, a Delaware limited Liability company ("WP Bull Manager"), is the general partner of WP Bull. WP is managing member of WP Bull Manager.

Warburg Pincus LLC, a New York limited liability company ("WP LLC"), is the manager of the WP XI Funds. Charles R. Kaye is the Managing General Partner of WP and Managing Member and Chief Executive Officer of WP LLC and may be deemed to control the Warburg Pincus entities. The address of the Warburg Pincus entities is 450 Lexington Avenue, New York, New York 10017.

(3) Consists of (i) shares held of record by GTCR Fund XI/A LP, (ii) shares held of record by GTCR Fund XI/C LP and (iii) shares held of record by GTCR Co-Invest XI LP (collectively, the "GTCR Stockholders"). GTCR Partners XI/A&C LP is the general partner of each of GTCR Fund XI/A LP and GTCR Fund XI/C LP. GTCR Investment XI LLC is the general partner of each of GTCR Co-Invest XI LP and GTCR Partners XI/A&C LP. GTCR Investment XI LLC is managed by a board of managers (the "GTCR Board of Managers") consisting of Mark M. Anderson, Craig A. Bondy, Aaron D. Cohen, Sean L. Cunningham, Benjamin J. Daverman, David A. Donnini, Constantine S. Mihas and Collin E. Roche, and no single person has voting or dispositive authority over the shares. Each of GTCR Partners XI/A&C LP, GTCR Investment XI LLC and the GTCR Board of Managers may be deemed to share beneficial ownership of the shares held of record by the GTCR Stockholders, and each of the individual members of the GTCR Board of Managers disclaims beneficial ownership of the shares held of record by the GTCR Stockholders except to the extent of his pecuniary interest therein. The address for each of the GTCR Stockholders, GTCR Partners XI/A&C LP and GTCR Investment XI LLC is 300 North LaSalle Street, Suite 5600, Chicago, Illinois, 60654.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Under SEC rules, a related person is an officer, director, nominee for director or beneficial holder of more than 5% of any class of our voting securities since the beginning of the last fiscal year or an immediate family member of any of the foregoing.

Other than the transactions described below, compensation agreements and other arrangements which are described under "Executive Compensation," since January 1, 2017, there has not been, and there is not currently proposed, any transaction or series of similar transactions to which we were or will be a party in which the amount involved exceeded or will exceed $120,000 and in which any related person had or will have a direct or indirect material interest. We believe the terms of the transactions described below were comparable to the terms we could have obtained in arms-length dealings with unrelated third parties.

From time to time, we do business with other companies affiliated with certain holders of our common stock. We believe that all such arrangements have been entered into in the ordinary course of business and have been conducted on an arm's-length basis.

Distributions

In 2019, in connection with dividends paid by us to Topco Parent, the following current and former directors and executive officers and 5% stockholders received distributions pursuant to the terms of the limited partnership agreement of Topco Parent, in the aggregate amounts set forth below:

Name	Amount
Investment funds and entities affiliated with Warburg Pincus	$
Investment funds and entities affiliated with GTCR	$
Michael B. Petras, Jr.	$
Scott J. Leffler	$
Matthew J. Klaben	$
Philip W. Macnabb(1)	$
Michael J. Mulhern	$

(1) Mr. Macnabb served as the President of Sterigenics until 2020.

In 2018, in connection with dividends paid by us to Topco Parent, the following current and former directors and executive officers and 5% stockholders received distributions pursuant to the terms of the limited partnership agreement of Topco Parent, in the aggregate amounts set forth below:

Name	Amount
Investment funds and entities affiliated with Warburg Pincus	$
Investment funds and entities affiliated with GTCR	$
Michael B. Petras, Jr.	$
Scott J. Leffler	$
Matthew J. Klaben	$
Philip W. Macnabb(1)	$
Michael J. Mulhern	$

(1) Mr. Macnabb served as the President of Sterigenics until 2020.

In 2017, in connection with a dividend paid by us to Topco Parent, the following current and former directors and executive officers and 5% stockholders received distributions pursuant to the terms of the limited partnership agreement of Topco Parent, in the amounts set forth below:

Name	Amount
Investment funds and entities affiliated with Warburg Pincus	$
Investment funds and entities affiliated with GTCR	$
Michael B. Petras, Jr.	$
Scott J. Leffler	$
Matthew J. Klaben	$
Philip W. Macnabb(1)	$
Michael J. Mulhern	$

(1) Mr. Macnabb served as the President of Sterigenics until 2020.

Loans to Executive Officers

In April 2017, we loaned Mr. Leffler, our Chief Financial Officer, $500,000 in connection with Mr. Leffler's purchase of units in Topco Parent. The loan was evidenced by a full recourse promissory note, with interest at a rate of 1.11% per annum, compounded semi-annually, and was secured by any equity interest in our company then or later owned by Mr. Leffler. The outstanding principal and interest due under the loan was fully repaid to us in August 2019 and the pledge was terminated. A total of $4,058.79 in interest was paid under the loan.

Registration Rights Agreement

On May 25, 2016, we entered into a registration rights agreement (the "Registration Rights Agreement") with the Sponsors and certain other direct and indirect holders of membership interests in Topco Parent (collectively, together with any party that succeeds to rights under the Registration Rights Agreement, the "Holders"). Pursuant to the Registration Rights Agreement, we have agreed to register the sale of the Holders' membership interests in Topco Parent, or any securities into which such membership interests shall have been changed, including our common stock.

After the completion of this offering, the holders of shares of our common stock will have certain rights with respect to the registration of such shares under the Securities Act.

Demand Registration Rights

At any time following the expiration of the lock-up agreement with the underwriters in this offering, either Sponsor can request that we register all or part of their shares of common stock in accordance with the Securities Act and the Registration Rights Agreement. Warburg Pincus is entitled to request unlimited demand registrations, but we are not obligated to effect more than three long-form registrations on Form S-1 or marketed underwritten shelf take-downs in response to such requests. GTCR is entitled to request unlimited demand registrations, but we are not obligated to effect more than two long-form registrations on Form S-1 or marketed underwritten shelf take-downs in response to such requests.

We have the right to delay the filing or initial effectiveness of, or suspend the use of, the registration statement filed or to be filed in connection with an exercise of registration rights for a reasonable period of time (not exceeding 20 days during any three-month period, or for more than an aggregate of 60 days during any 12-month period) if we determine that there is a legitimate business purpose for not making certain disclosures that would be required by the registration statement. In no event will we be required to effect more than one marketed underwritten offering in any consecutive 90-day period without the written consent of both Sponsors.

There is no limit on the number of shelf registrations or non-marketed shelf take-downs that we may be required to effect. In the case of an underwritten offering, the reasonably anticipated net aggregate proceeds from the shares that any Sponsor proposes to sell in any demand registration must be at least $75 million or 100% of the shares then held by the requesting Sponsor (if the value of such shares is less than $75 million).

Shelf Registration Rights

Beginning 12 months after our initial public offering, the Sponsors may request that we register all shares of common stock held by the requesting Sponsor for resale on either an evergreen registration statement on Form S-1 or Form S-3 (a "Shelf Registration Statement"). We will then be required to use our reasonable best efforts to keep the Shelf Registration Statement continuously effective until the earlier of (i) the date on which all shares covered by such registration have been sold or (ii) the date on which each of the Holders is permitted to sell its shares without registration pursuant to Rule 144 under the Securities Act without limitation, subject to our right to suspend the use of the Shelf Registration Statement for a reasonable period of time (not exceeding 30 days during any three-month period, or for more than an aggregate of 90 days during any 12-month period) if we determine that there is a legitimate business purpose for not making certain disclosures that would be required by the Shelf Registration Statement. In the case of an underwritten offering, the reasonably anticipated net aggregate proceeds from the shares that any Sponsor proposes to sell in any shelf take-down must be at least $75 million or 100% of the shares then held by the requesting Sponsor (if the value of such shares is less than $75 million).

Piggyback Registration Rights

If, at any time after our initial public offering, we propose to file a registration statement under the Securities Act with respect to an offering of common stock (subject to certain other exceptions), then we must give the Sponsors at least 30 days' (and, to the Holders other than the Sponsors, 15 days') written notice prior to the anticipated filing date to allow them to include a specified number of their shares in that registration statement. As a result, whenever we propose to file a registration statement under the Securities Act, other than with respect to (i) a registration statement on Form S-4 or S-8, (ii) a registration of securities solely relating to any employee stock plan or other employee benefit plan arrangement, (iii) a registration pursuant to which we are offering to exchange our own securities for other securities or (iv) a registration statement relating solely to dividend reinvestment or similar plans, the Holders are entitled to notice of the registration and have the right, subject to certain limitations, to include their shares in the registration.

Conditions; Indemnification; Expenses

These registration rights are subject to certain conditions and limitations, including the right of the underwriters to limit the number of shares to be included in a registration and our right to delay a registration statement under certain circumstances. Under the Registration Rights Agreement, we have agreed to indemnify the Sponsors and other participants and their members, partners, officers, directors, stockholders, employees, advisors, agents and controlling persons against any losses or damages resulting from any untrue statement or omission of material fact in any registration statement or prospectus pursuant to which it sells shares of our common stock, unless such liability arose from the Holder's misstatement or omission, and the Holders have agreed to indemnify us against all losses caused by their misstatements or omissions. We will generally pay all registration expenses in connection with our obligations under the Registration Rights Agreement, and the Holders will pay their portion of all underwriting discounts, commissions and transfer taxes, if any, relating to the sale of their shares.

Stockholders' Agreement

We and the Sponsors intend to enter into the Stockholders' Agreement in connection with this offering. Our Stockholders' Agreement will provide that, for so long as the Stockholders' Agreement is in effect, we and the

Sponsors are required to take all actions reasonably necessary, subject to applicable regulatory and stock exchange listing requirements (including director independence requirements), to cause the membership of the board and any committees of the board to be consistent with the terms of the agreement. In accordance with the Stockholders' Agreement, Warburg Pincus has designated to our board of directors and GTCR has designated to our board of directors.

Corporate Reorganization

Concurrently with, or prior to, the completion of this offering, Topco Parent will distribute the shares of our common stock to its partners in accordance with the limited partnership agreement of Topco Parent. See "Corporate Reorganization."

Limitation of Liability and Indemnification of Officers and Directors

Our amended and restated certificate of incorporation and amended and restated bylaws will provide for indemnification of directors and officers to the fullest extent permitted by law, including payment of expenses in advance of resolution of any such matter. Our amended and restated certificate of incorporation will eliminate the potential personal monetary liability of our directors to us or our stockholders for breaches of their duties as directors except as otherwise required under the DGCL. Any amendment to, or repeal of, these provisions will not eliminate or reduce the effect of these provisions in respect of any act, omission or claim that occurred or arose prior to that amendment or repeal. If the DGCL is amended to provide for further limitations on the personal liability of directors of corporations, then the personal liability of our directors will be further limited to the greatest extent permitted by the DGCL.

We have entered into or will enter into separate indemnification agreements with our directors and officers that may be broader than the specific indemnification provisions contained in the DGCL. Each indemnification agreement provides, among other things, for indemnification to the fullest extent permitted by law and our amended and restated certificate of incorporation and amended and restated bylaws against any and all expenses, judgments, fines and amounts paid in settlement of any claim. The indemnification agreements provide for the advancement or payment of all expenses to the indemnitee and for reimbursement to us if it is found that such indemnitee is not entitled to such indemnification under applicable law and our amended and restated certificate of incorporation and amended and restated bylaws. We believe that these agreements are necessary to attract and retain qualified individuals to serve as directors and officers.

The limitation of liability and indemnification provisions included in our amended and restated certificate of incorporation, amended and restated bylaws and the indemnification agreements that we have entered into or will enter into with our directors and officers may discourage stockholders from bringing a lawsuit against our directors and officers for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against our directors and officers, even though any such action, if successful, might benefit us and other stockholders. Further, a stockholder's investment may be adversely affected to the extent that we pay the costs of settlement and damage awards against directors and officers as required by these indemnification provisions.

We maintain standard policies of insurance under which, subject to the limitations of the policies, coverage is provided (i) to our directors and officers against loss arising from claims made by reason of a breach of duty or other wrongful acts as a director or officer, including claims relating to public securities matters, and (ii) to us with respect to payments which we may make to such officers and directors pursuant to our indemnification obligations or otherwise as a matter of law.

Certain of our non-employee directors may, through their relationships with their employers, be insured or indemnified against certain liabilities incurred in their capacity as members of our board of directors.

The underwriting agreement will provide for indemnification, under certain circumstances, by the underwriters of us and our officers and directors for certain liabilities arising under the Securities Act or otherwise.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling our company pursuant to the foregoing provisions, we have been informed that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Policies and Procedures for Related Party Transactions

Pursuant to our written related party transaction policy which will become effective upon the completion of this offering, the audit committee of the board of directors will be responsible for evaluating each related party transaction and making a recommendation to the disinterested members of the board of directors as to whether the transaction at issue is fair, reasonable and within our policy and whether it should be ratified and approved. The audit committee, in making its recommendation, will consider various factors, including the benefit of the transaction to us, the terms of the transaction and whether they are at arm's-length and in the ordinary course of our business, the direct or indirect nature of the related person's interest in the transaction, the size and expected term of the transaction and other facts and circumstances that bear on the materiality of the related party transaction under applicable law and listing standards. The audit committee will review, at least annually, a summary of our transactions with our directors and officers and with firms that employ our directors, as well as any other related person transactions.

DESCRIPTION OF CAPITAL STOCK

The following description summarizes important terms of our capital stock. Because it is only a summary, it does not contain all of the information that may be important to you. For a complete description, you should refer to our amended and restated certificate of incorporation and amended and restated bylaws that will become effective upon or prior to the closing of this offering, copies of which are filed as exhibits to the registration statement of which this prospectus is a part, as well as the relevant portions of the DGCL.

Authorized Capitalization

Upon the completion of this offering, our capital structure will consist of authorized shares of common stock, par value $0.01 per share, and authorized shares of preferred stock, par value $0.01 per share.

Common Stock

General. Immediately following our corporate reorganization, there will be shares of our common stock outstanding, held of record by holders.

Voting Rights. Holders of common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders, subject to the restrictions described below under the caption "—Anti-Takeover Effects of Provisions of Our Amended and Restated Certificate of Incorporation, Our Amended and Restated Bylaws and Delaware Law." The holders of common stock will not have cumulative voting rights in the election of directors. Accordingly, holders of a majority of the shares of common stock entitled to vote in any election of directors may elect all of the directors standing for election. Except for the election of directors, if a quorum is present, an action on a matter is approved if it receives the affirmative vote of the holders of a majority of the voting power of the shares of capital stock present in person or represented by proxy at the meeting and entitled to vote on the matter, unless otherwise required by applicable law, the DGCL, our amended and restated certificate of incorporation or amended and restated bylaws. The election of directors will be determined by a plurality of the votes cast in respect of the shares present in person or represented by proxy at the meeting and entitled to vote, meaning that the nominees with the greatest number of votes cast, even if less than a majority, will be elected. The rights, preferences and privileges of holders of common stock are subject to, and may be impacted by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Dividends. Subject to preferences that may be applicable to any then-outstanding preferred stock, holders of our common stock are entitled to receive ratably those dividends, if any, as may be declared by the board of directors out of legally available funds. See "Dividend Policy."

Liquidation, Dissolution, and Winding Up. Upon our liquidation, dissolution or winding up, the holders of our common stock will be entitled to share equally and ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities, subject to the prior rights of any preferred stock then outstanding.

No Preemptive or Similar Rights. Holders of our common stock have no preemptive or conversion rights or other subscription rights, and there are no redemption or sinking fund provisions applicable to our common stock.

Assessment. All outstanding shares of our common stock are, and the shares of our common stock to be outstanding upon completion of this offering will be, fully paid and nonassessable.

Preferred Stock

Subject to limitations prescribed by Delaware law and the , our board of directors may issue preferred stock, without stockholder approval, in such series and with such designations, preferences, conversion or other rights, voting powers and qualifications, limitations or restrictions thereof, as the board of directors deems appropriate. Our board of directors could, without stockholder approval, issue preferred stock with voting, conversion and other rights that could adversely affect the voting power and impact other rights of the holders of the common stock. Our board of directors may issue preferred stock as an anti-takeover measure without any further action by the holders of common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, may have the effect of delaying, deferring or preventing a change of control of our company by increasing the number of shares necessary to gain control of the company.

Options

As of June 30, 2020, we did not have any outstanding options to purchase shares of our common stock. The board of directors currently intends to adopt the New Equity Plan which will become effective in connection with this offering. The terms of the New Equity Plan have not yet been determined.

Registration Rights

After the completion of this offering, the holders of shares of our common stock will be entitled to certain rights with respect to the registration of such shares under the Securities Act. For a description of registration rights with respect to our common stock, see "Certain Relationships and Related Party Transactions—Registration Rights Agreement."

Anti-Takeover Effects of Provisions of Our Amended and Restated Certificate of Incorporation, Our Amended and Restated Bylaws and Delaware Law

Delaware law contains, and our amended and restated certificate of incorporation and amended and restated bylaws will contain, a number of provisions relating to corporate governance and to the rights of stockholders. Certain of these provisions may be deemed to have a potential "anti-takeover" effect in that such provisions may delay, defer or prevent a change of control or an unsolicited acquisition proposal that a stockholder might consider favorable, including a proposal that might result in the payment of a premium over the market price for the shares held by the stockholders. These provisions include:

Authorized but unissued or undesignated capital stock. Our authorized capital stock consists of shares of common stock and shares of preferred stock. A large quantity of authorized but unissued shares may deter potential takeover attempts because of the ability of our board of directors to authorize the issuance of some or all of these shares to a friendly party, or to the public, which would make it more difficult for a potential acquirer to obtain control of us. This possibility may encourage persons seeking to acquire control of us to negotiate first with our board of directors. The authorized but unissued stock may be issued by the board of directors in one of more transactions. In this regard, our amended and restated certificate of incorporation will grant the board of directors broad power to establish the rights and preferences of authorized and unissued preferred stock. The issuance of shares of preferred stock pursuant to the board of directors' authority described above could decrease the amount of earnings and assets available for distribution to holders of common stock and adversely affect the rights and powers, including voting rights, of such holders and may have the effect of delaying, deferring or preventing a change in control.

Limitation of Liability and Indemnification of Officers and Directors

See the section titled "Certain Relationships and Related Party Transactions—Limitation of Liability and Indemnification of Officers and Directors."

Transfer Agent and Registrar

The company expects to enter into an agreement with to act as transfer agent and registrar for our common stock. The transfer agent and registrar's address is .

Exchange

We intend to apply to have our common stock listed on the under the symbol " ".

DESCRIPTION OF CERTAIN INDEBTEDNESS

We summarize below the principal terms of the agreements that govern our existing indebtedness. We refer you to the exhibits to the registration statement of which this prospectus forms a part for copies of agreements governing the indebtedness described below.

Senior Secured Credit Facilities

Overview

On December 13, 2019, SHH entered into new senior secured first lien credit facilities (the "Senior Secured Credit Facilities") and settled our previously outstanding term loan and senior notes. The Senior Secured Credit Facilities consist of both a senior secured first lien term loan (the "Term Loan") and a senior secured first lien revolving credit facility (the "Revolving Credit Facility") that provides for senior secured commitments in the amount of $190.0 million. The Senior Secured Credit Facilities also provide SHH the right at any time and under certain conditions to request incremental term loans or incremental revolving credit commitments based on a formula defined in the Senior Secured Credit Facilities. As of June 30, 2020, total borrowings under the Term Loan were $2,114.7 million and the Revolving Credit Facility remained unutilized. As of June 30, 2020, SHH had $62.1 million of letters of credit issued against the Revolving Credit Facility, resulting in total availability under the Revolving Credit Facility of $127.9 million.

Interest Rate and Fees

Borrowings under the Revolving Credit Facility bear interest at a rate per annum equal to an applicable margin, plus, at our option, either (a) an alternate base rate or (b) a LIBOR rate. The applicable margin under the Revolving Credit Facility may be reduced by reference to a leverage-based pricing grid with step-downs of 0.25% at a specified senior secured first lien net leverage ratio. In addition to paying interest on any outstanding borrowings under the Revolving Credit Facility, SHH is required to pay a commitment fee to the lenders under the Revolving Credit Facility in respect of the unutilized commitments thereunder and customary letter of credit fees.

The Term Loan is paid in equal quarterly installments in aggregate annual amounts equal to 1.0% of the original Term Loan principal amount, while the remaining balance matures on December 13, 2026. The weighted average interest rate on borrowings under the Term Loan at June 30, 2020 was 5.50%.

Prepayments

The Term Loan requires SHH to prepay outstanding term loans, subject to certain exceptions, with:

- 50% of annual excess cash flow, which percentage will be reduced to 25% and 0% of annual excess cash flow based upon the achievement of specified first lien net leverage ratios and which payments may, at the option of the borrower, be reduced on a dollar-for-dollar basis by certain prepayments, capital expenditures, investments, acquisitions, dividends and cash consideration amounts made in the applicable fiscal year;
- 100% of the net cash proceeds of all non-ordinary course asset sales or other dispositions of property in excess of a certain amount, subject to reinvestment rights and other exceptions; and
- 100% of the net cash proceeds of any incurrence of debt (other than proceeds from debt permitted under the term loan facility, except in respect of refinancing debt).

The foregoing mandatory prepayments apply to the scheduled installments of principal of the Term Loan and any incremental facilities thereunder as directed by the borrower (and absent such direction in direct order of maturity).

SHH may voluntarily repay outstanding loans under the Term Loan and the Revolving Credit Facility at any time without premium or penalty, other than customary breakage costs with respect to certain loans.

Guarantee and Security

All of SHH's obligations under the Senior Secured Credit Facilities are unconditionally guaranteed by the company and each existing and subsequently acquired or organized direct or indirect wholly-owned domestic restricted subsidiary of SHH (such guarantors, the "Guarantors"), with customary exceptions including, among other things, where providing such guarantees is not permitted by law, regulation or contract or would result in material adverse tax consequences. All obligations under the Senior Secured Credit Facilities, and the guarantees of such obligations, are secured by substantially all of the assets of SHH and the Guarantors, subject to permitted liens and other exceptions and exclusions, as outlined in the Senior Secured Credit Facilities. Such collateral is substantially the same collateral that secures the First Lien Notes and the Second Lien Notes (each as defined below), and any security interest or lien on shared collateral securing the First Lien Notes shall have equal priority with any security interest or lien on shared collateral securing the Senior Secured Credit Facilities.

Outstanding letters of credit are collateralized by encumbrances against the Revolving Credit Facility and the collateral pledged thereunder, or by cash placed on deposit with the issuing bank.

Certain Covenants and Events of Default

The Senior Secured Credit Facilities contain a number of covenants that, among other things, restrict, subject to certain exceptions, the ability of SHH and the ability of its restricted subsidiaries to:

- incur additional indebtedness and guarantee indebtedness;
- create or incur liens;
- engage in mergers or consolidations;
- sell, transfer or otherwise dispose of assets;
- make investments, acquisitions or loans or advances;
- pay dividends and distributions on or repurchase capital stock;
- issue certain shares of preferred stock;
- prepay, redeem or repurchase certain subordinated indebtedness;
- enter into agreements which limit its ability and the ability of the restricted subsidiaries to incur liens on assets;
- change its fiscal year;
- change its lines of business;
- enter into certain transactions with affiliates; and
- change the passive holding company status of the direct parent of the borrower.

The Revolving Credit Facility contains a maximum senior secured first lien net leverage ratio covenant of 9.00 to 1.00, tested on the last day of each fiscal quarter if, on the last day of such fiscal quarter, the sum of (i) the aggregate principal amount of the revolving loans then outstanding under the Revolving Credit Facility, plus (ii) the aggregate amount of letter of credit disbursements that have not been reimbursed within two business days following the end of the fiscal quarter, exceeds the greater of $76.0 million and 40.0% of the aggregate principal amount of the revolving commitments then in effect. Although this covenant did not apply as the conditions were not met, as of June 30, 2020 the first lien net leverage ratio, as defined in the Revolving Credit Facility, was approximately 5.10 to 1.00.

The Senior Secured Credit Facilities also contain certain customary affirmative covenants and events of default, including upon a change of control.

First Lien Notes

Overview

On July 31, 2020, SHH issued $100.0 million aggregate principal amount of senior secured first lien notes due 2026 (the "First Lien Notes"). The First Lien Notes bear interest at a rate equal to LIBOR subject to a 1.00% floor plus 6.00% per annum. Interest on the First Lien Notes is payable quarterly in arrears on March 31, June 30, September 30 and December 31 of each year. The First Lien Notes mature on December 13, 2026.

Optional Redemption

SHH is entitled to redeem all or a portion of the First Lien Notes, at any time and from time to time, subject to certain premiums depending on the date of redemption: any time prior to July 31, 2021, a customary make-whole premium applies and, thereafter, specified premiums that decline to zero apply (in each case as described in the indenture governing the First Lien Notes).

Guarantee and Security

All of SHH's obligations under the First Lien Notes are unconditionally guaranteed by the company and each existing and subsequently acquired or organized direct or indirect wholly-owned domestic restricted subsidiary of SHH, with customary exceptions including, among other things, where providing such guarantees is not permitted by law, regulation or contract or would result in material adverse tax consequences. All obligations under the First Lien Notes, and the guarantees of such obligations, are secured by substantially all of the assets of SHH and the guarantors, subject to permitted liens and other exceptions and exclusions, as outlined in the First Lien Notes. Such collateral is substantially the same collateral that secures the Senior Secured Credit Facilities and the Second Lien Notes, and any security interest or lien on shared collateral securing the First Lien Notes shall have equal priority with any security interest or lien on shared collateral securing the Senior Secured Credit Facilities.

Certain Covenants and Events of Default

The indenture governing the First Lien Notes limits the ability of SHH and the ability of most of its subsidiaries to:

- incur additional debt or issue certain preferred shares;
- pay dividends on, repurchase or make distributions in respect of capital stock or make other restricted payments;
- make certain investments;
- sell or transfer certain assets;
- create liens on certain assets to secure debt;
- consolidate, merge, sell or otherwise dispose of all or substantially all of its assets;
- enter into certain transactions with affiliates; and
- designate its subsidiaries as unrestricted subsidiaries.

Subject to certain exceptions, the indenture governing the First Lien Notes permits SHH and its restricted subsidiaries to incur additional indebtedness, including secured indebtedness.

The indenture also contains certain customary affirmative covenants pertaining to notice and filings with the trustee.

There are no financial maintenance covenants in the indenture governing the First Lien Notes. Events of default under the indenture include, among others, nonpayment of principal or interest when due, covenant defaults, bankruptcy and insolvency events, change of control and cross defaults. The indenture provides for events of default which, if any of them occurs, would permit the principal of and accrued interest on the First Lien Notes to become due and payable.

Second Lien Notes

Overview

On December 13, 2019, SHH issued $770.0 million aggregate principal amount of senior secured second lien notes due 2027 (the "Second Lien Notes"). The Second Lien Notes bear interest at a rate equal to LIBOR subject to a 1.00% floor plus 8.00% per annum. Interest on the Second Lien Notes is payable quarterly in arrears on March 31, June 30, September 30 and December 31 of each year. The Second Lien Notes mature on December 13, 2027.

Optional Redemption

SHH is entitled to redeem all or a portion of the Second Lien Notes, at any time and from time to time, subject to certain premiums depending on the date of redemption: any time prior to December 13, 2020, a customary make-whole premium applies and, thereafter, specified premiums that decline to zero apply (in each case as described in the indenture governing the Second Lien Notes). In addition, under certain circumstances, such as an initial public offering or certain changes of control, SHH has certain additional redemption rights (as described in the indenture governing the Second Lien Notes).

Optional Redemption Following a Permitted Change of Control

If SHH experiences certain permitted changes of control (as described in the indenture governing the Second Lien Notes), SHH is entitled at its option to redeem all or a portion of the Second Lien Notes at a redemption price equal to 100% of the principal amount of the Second Lien Notes to be redeemed and accrued and unpaid interest, if any, plus a premium equal to 3.00% of the principal amount of such Second Lien Notes if redeemed during the first year following the effective date of the permitted change of control, 2.00% of the principal amount of such Second Lien Notes if redeemed during the second year following the effective date of the permitted change of control and 1.00% of the principal amount of such Second Lien Notes if redeemed during the third year following the effective date of the permitted change of control.

Guarantee and Security

All of SHH's obligations under the Second Lien Notes are unconditionally guaranteed by the company and each existing and subsequently acquired or organized direct or indirect wholly-owned domestic restricted subsidiary of SHH, with customary exceptions including, among other things, where providing such guarantees is not permitted by law, regulation or contract or would result in material adverse tax consequences. All obligations under the Second Lien Notes, and the guarantees of such obligations, are secured by substantially all of the assets of SHH and the guarantors, subject to permitted liens and other exceptions and exclusions, as outlined in the Second Lien Notes. Such collateral is substantially the same collateral that secures the Senior Secured Credit Facilities and the First Lien Notes, and any security interest or lien on shared collateral securing the Senior Secured Credit Facilities or the First Lien Notes shall have priority over any security interest or lien on shared collateral securing the Second Lien Notes.

Certain Covenants and Events of Default

The indenture governing the Second Lien Notes limits the ability of SHH and the ability of most of its subsidiaries to:

- incur additional debt or issue certain preferred shares;
- pay dividends on, repurchase or make distributions in respect of capital stock or make other restricted payments;
- make certain investments;
- sell or transfer certain assets;
- create liens on certain assets to secure debt;
- consolidate, merge, sell or otherwise dispose of all or substantially all of its assets;
- enter into certain transactions with affiliates; and
- designate its subsidiaries as unrestricted subsidiaries.

Subject to certain exceptions, the indenture governing the Second Lien Notes permits SHH and its restricted subsidiaries to incur additional indebtedness, including secured indebtedness.

The indenture also contains certain customary affirmative covenants pertaining to notice and filings with the trustee.

There are no financial maintenance covenants in the indenture governing the Second Lien Notes. Events of default under the indenture include, among others, nonpayment of principal or interest when due, covenant defaults, bankruptcy and insolvency events, change of control and cross defaults. The indenture provides for events of default which, if any of them occurs, would permit the principal of and accrued interest on the Second Lien Notes to become due and payable.

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for our common stock, and we cannot assure you that a liquid trading market for our common stock will develop or be sustained after this offering. Future sales of substantial amounts of our common stock, including shares issued upon exercise of options, warrants or convertible securities, if any, in the public market after this offering, or the anticipation of such sales or perception that such sales may occur, could adversely affect the market price of our common stock prevailing from time to time and could impair our ability to raise capital through sales of our equity securities. No prediction can be made as to the effect, if any, future sales of shares, or the availability of shares for future sales, will have on the market price of our common stock prevailing from time to time.

Sales of Restricted Shares

Upon the closing of this offering, we will have outstanding an aggregate of shares of common stock, assuming shares are sold in the offering based on an assumed share price of $ (the midpoint of the estimated offering price range on the cover of this prospectus). Of these shares, we expect all of the shares of common stock being sold in this offering will be freely tradable without restriction or further registration under the Securities Act, except for any such shares which may be held or acquired by an "affiliate" of ours, as that term is defined in Rule 144 under the Securities Act, which shares will be subject to the volume limitations and other restrictions of Rule 144 described below. The remaining shares of common stock held by our existing stockholders upon completion of this offering will be "restricted securities," as that phrase is defined in Rule 144, and may be resold only after registration under the Securities Act or pursuant to an exemption from such registration, including, among others, the exemptions provided by Rules 144 and 701 under the Securities Act, which rules are summarized below.

As a result of the lock-up agreements described below and the provisions of Rule 144 and Rule 701 under the Securities Act, additional shares of our common stock will be available for sale in the public market as set forth below.

Rule 144

In general, under Rule 144, persons who became the beneficial owner of shares of our common stock prior to the completion of this offering may not sell their shares until the earlier of (i) the expiration of a six-month holding period, if we have been subject to the reporting requirements of the Exchange Act and have filed all required reports for at least 90 days prior to the date of the sale, or (ii) a one-year holding period.

At the expiration of the six-month holding period, a person who was not one of our affiliates at any time during the three months preceding a sale is entitled to sell an unlimited number of shares of our common stock provided current public information about us is available, and a person who was one of our affiliates at any time during the three months preceding a sale is entitled to sell within any three-month period only a number of shares of common stock that does not exceed the greater of either of the following:

- one percent of the number of shares of common stock then outstanding, which will equal approximately immediately after this offering; or
- the average weekly trading volume of the common stock on the during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale.

At the expiration of the one-year holding period, a person who was not one of our affiliates at any time during the three months preceding a sale would be entitled to sell an unlimited number of shares of our common stock without restriction. A person who was one of our affiliates at any time during the three months preceding a sale would remain subject to the volume restrictions described above.

All sales under Rule 144 are subject to the availability of current public information about us. In addition, sales under Rule 144 by affiliates or persons who have been affiliates within the previous 90 days are also subject to manner of sale provisions and notice requirements. Upon completion of the 180-day lock-up period, approximately shares of our outstanding restricted securities will be eligible for sale under Rule 144 subject to limitations on sales by affiliates.

Rule 701

In general, under Rule 701, any of our employees, directors, officers, consultants or advisors who purchased shares from us in connection with a compensatory stock or option plan or other written agreement before the effective date of our initial public offering, or who purchased shares from us after that date upon the exercise of options granted before that date, are eligible to resell such shares in reliance upon Rule 144 beginning 90 days after the date of this prospectus. If such person is not an affiliate, the sale may be made without compliance with its holding period or current public information requirement. If such a person is an affiliate, the sale may be made under Rule 144 without compliance with its one-year minimum holding period, but subject to the other Rule 144 restrictions.

Lock-up Agreements

We, each of our officers, directors and the holders of % of our common stock will agree, subject to certain exceptions, with the underwriters not to dispose of or hedge any of the shares of common stock or securities convertible into or exchangeable for shares of common stock during the period from the date of this prospectus continuing through the date 180 days after the date of this prospectus, may, in their sole discretion release any of these shares from these restrictions at any time without notice. For a discussion of these restrictions, see the section titled “Underwriting.”

Stockholders’ Agreement

For a description of the stockholders’ agreement that we have entered into with certain holders of our common stock, including investment funds and entities affiliated with the Sponsors, see “Certain Relationships and Related Person Transactions—Stockholders’ Agreement.”

Registration Rights

For a description of the registration rights agreement that we have entered into with certain holders of our common stock, including investment funds and entities affiliated with the Sponsors, see “Certain Relationships and Related Party Transaction — Registration Rights.”

Equity Plans

We intend to file one or more registration statements on Form S-8 under the Securities Act to register all shares of common stock issued or issuable under the New Equity Plan. We expect to file the registration statement covering shares offered pursuant to the New Equity Plan shortly after the date of this prospectus, permitting the resale of such shares by non-affiliates in the public market without restriction under the Securities Act and the sale by affiliates in the public market, subject to compliance with the resale provisions of Rule 144.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS

The following discussion describes the material U.S. federal income tax considerations that are likely to be relevant to the purchase, ownership, and disposition of shares of our common stock. This discussion deals only with shares of our common stock held as capital assets by investors who purchased shares of our common stock in this offering. This discussion does not cover all aspects of U.S. federal taxation that may be relevant to the purchase, ownership or disposition of shares of our common stock by prospective investors in light of their specific facts and circumstances. In particular, this discussion does not address all of the tax considerations that may be relevant to persons in special tax situations, including banks, insurance companies or other financial institutions, dealers in securities, persons that will hold more than 5% of our common stock, certain former citizens or residents of the United States, a person that is a "controlled foreign corporation," a person that is a "passive foreign investment company," persons holding shares of our common stock as part of a hedge, straddle, conversion or other integrated financial transaction, entities that are treated as partnerships for U.S. federal income tax purposes (or partners therein) or persons that are otherwise subject to special treatment under the Internal Revenue Code of 1986, as amended (the "Code"). This section does not address any other U.S. federal tax considerations (such as estate tax, gift taxes or the Medicare tax on net investment income) or any state, local or non-U.S. tax considerations. Except with respect to the discussion in "—Information Reporting and Backup Withholding," this section addresses only Non-U.S. Holders (as defined below).

You should consult your own tax advisors about the tax consequences of the purchase, ownership and disposition of shares of our common stock in light of your own particular circumstances, including the tax consequences under state, local, non-U.S. and other tax laws and the possible effects of any changes in applicable tax laws.

For purposes of this discussion, a "U.S. Holder" means a beneficial owner of shares of our common stock that is an individual citizen or resident of the United States, a domestic corporation or otherwise subject to U.S. federal income tax on a net basis with respect to income from our common stock. A "Non-U.S. Holder" means any beneficial owner of shares of our common stock that is not a U.S. Holder.

This discussion is based on the tax laws of the United States, including the Code, existing and proposed regulations, and administrative and judicial interpretations, all as currently in effect. Such authorities may be repealed, revoked, modified or subject to differing interpretations, possibly on a retroactive basis, so as to result in U.S. federal income tax consequences different from those discussed below.

Dividends

A distribution of cash or property with respect to shares of our common stock generally will be treated as a dividend to the extent paid out of our current or accumulated earnings and profits. If such a distribution exceeds our current and accumulated earnings and profits, the excess will be first treated as a tax-free return of a Non-U.S. Holder's investment, up to the Non-U.S. Holder's tax basis in the shares of our common stock, and thereafter as a capital gain subject to the tax treatment described below in "—Sale, Exchange or Other Taxable Disposition of Common Stock."

Dividends paid to a Non-U.S. Holder generally will be subject to withholding of U.S. federal income tax at a 30% rate, or such lower rate as may be specified by an applicable tax treaty.

Even if a Non-U.S. Holder is eligible for a lower treaty rate, a withholding agent generally will be required to withhold at a 30% rate (rather than the lower treaty rate) unless the Non-U.S. Holder has furnished a valid Internal Revenue Service ("IRS") Form W-8BEN or W-8BEN-E, or other documentary evidence establishing the Non-U.S. Holder's entitlement to the lower treaty rate with respect to such dividend payments, and the withholding agent does not have actual knowledge or reason to know to the contrary.

In addition, under the U.S. tax rules known as the Foreign Account Tax Compliance Act ("FATCA"), a Non-U.S. Holder will generally be subject to a 30% U.S. withholding tax on dividends in respect of our common stock if the Non-U.S. Holder is not FATCA compliant or holds its common stock through a foreign financial institution that is not FATCA compliant. In order to be treated as FATCA compliant, a Non-U.S. Holder must provide certain documentation (usually an IRS Form W-8BEN or W-8BEN-E) containing information about its identity, its FATCA status and, if required, its direct and indirect U.S. owners. These requirements may be modified by the adoption or implementation of a particular intergovernmental agreement between the United States and another country or by future U.S. Treasury Regulations. Documentation that Non-U.S. Holders provide in order to be treated as FATCA compliant may be reported to the IRS and other tax authorities, including information about a Non-U.S. Holder's identity, its FATCA status and, if applicable, its direct and indirect U.S. owners.

If a Non-U.S. Holder is eligible for a reduced rate of U.S. federal withholding tax pursuant to an applicable income tax treaty or otherwise, the Non-U.S. Holder may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS.

Investors should consult their own tax advisors about how these information reporting and withholding tax rules may apply to their investment in shares of our common stock.

Sale, Exchange or Other Taxable Disposition of Common Stock

Non-U.S. Holders generally will not be subject to U.S. federal income tax with respect to gain recognized on a sale, exchange or other taxable disposition of shares of our common stock.

Information Reporting and Backup Withholding

Information returns are required to be filed with the IRS with respect to payments made to certain U.S. and Non-U.S. Holders in connection with distributions or the sale or other disposition of our common stock. In addition, certain U.S. Holders may be subject to backup withholding tax in respect of such payments if they do not provide their taxpayer identification numbers to the applicable withholding agent, fail to certify that they are not subject to backup withholding tax or otherwise fail to comply with applicable backup withholding tax rules. Non-U.S. Holders may be required to comply with applicable certification procedures to establish that they are Non-U.S. Holders in order to avoid the application of certain information reporting requirements or backup withholding tax. Any amount paid as backup withholding may be creditable against the holder's U.S. federal income tax liability or allowed as a refund, provided that the required information is timely furnished to the IRS.

UNDERWRITING

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

Name	Number of Shares
Total	

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

The underwriters propose to offer the common shares directly to the public at the initial public offering price set forth on the cover page of this prospectus and to certain dealers at that price less a concession not in excess of $ per share. Any such dealers may resell shares to certain other brokers or dealers at a discount of up to $ per share from the initial public offering price. After the initial offering of the shares to the public, if all of the common shares are not sold at the initial public offering price, the underwriters may change the offering price and the other selling terms. The offering of the shares by the underwriters is subject to receipt and acceptance and subject to the underwriters' right to reject any order in whole or in part. Sales of any shares made outside of the United States may be made by affiliates of the underwriters.

The underwriters have an option to buy up to additional shares of common stock from us to cover sales of shares by the underwriters which exceed the number of shares specified in the table above. The underwriters have 30 days from the date of this prospectus to exercise this option to purchase additional shares. If any shares are purchased with this option to purchase additional shares, the underwriters will purchase shares in approximately the same proportion as shown in the table above. If any additional shares of common stock are purchased, the underwriters will offer the additional shares on the same terms as those on which the shares are being offered.

The underwriting fee is equal to the public offering price per share of common stock less the amount paid by the underwriters to us per share of common stock. The underwriting fee is $ per share. The following table shows the per share and total underwriting discounts and commissions to be paid to the underwriters assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

	Without option to purchase additional shares exercise	With full option to purchase additional shares exercise
Per Share	$	$
Total	$	$

We estimate that the total expenses of this offering, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding the underwriting discounts and commissions, will be approximately $. We have agreed to reimburse the underwriters for expenses up to $ related to clearance of this offering with the Financial Industry Regulatory Authority, Inc. ("FINRA").

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

We and our executive officers, directors and substantially all holders of our common stock have agreed with the underwriters, subject to certain exceptions, not to dispose of or hedge any common stock or securities convertible into or exchangeable for shares of common stock during the period from the date of this prospectus continuing through the date 180 days after the date of this prospectus, except with the prior written consent of .

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

We will apply to have our common stock approved for listing/quotation on under the symbol " ."

In connection with this offering, the underwriters may engage in stabilizing transactions, which involves making bids for, purchasing and selling shares of common stock in the open market for the purpose of preventing or retarding a decline in the market price of the common stock while this offering is in progress. These stabilizing transactions may include making short sales of common stock, which involves the sale by the underwriters of a greater number of shares of common stock than they are required to purchase in this offering, and purchasing shares of common stock on the open market to cover positions created by short sales. Short sales may be "covered" shorts, which are short positions in an amount not greater than the underwriters' option to purchase additional shares referred to above, or may be "naked" shorts, which are short positions in excess of that amount. The underwriters may close out any covered short position either by exercising their option to purchase additional shares, in whole or in part, or by purchasing shares in the open market. In making this determination, the underwriters will consider, among other things, the price of shares available for purchase in the open market compared to the price at which the underwriters may purchase shares through the option to purchase additional shares. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market that could adversely affect investors who purchase in this offering. To the extent that the underwriters create a naked short position, they will purchase shares in the open market to cover the position.

The underwriters have advised us that, pursuant to Regulation M of the Securities Act of 1933, they may also engage in other activities that stabilize, maintain or otherwise affect the price of the common stock, including the imposition of penalty bids. This means that if the representatives of the underwriters purchase common stock in the open market in stabilizing transactions or to cover short sales, the representatives can require the underwriters that sold those shares as part of this offering to repay the underwriting discount received by them.

These activities may have the effect of raising or maintaining the market price of the common stock or preventing or retarding a decline in the market price of the common stock, and, as a result, the price of the common stock may be higher than the price that otherwise might exist in the open market. If the underwriters commence these activities, they may discontinue them at any time. The underwriters may carry out these transactions on the , in the over-the-counter market or otherwise.

Prior to this offering, there has been no public market for our common stock. The initial public offering price will be determined by negotiations between us and the representatives of the underwriters. In determining the initial public offering price, we and the representatives of the underwriters expect to consider a number of factors including:

- the information set forth in this prospectus and otherwise available to the representatives;

- our prospects and the history and prospects for the industry in which we compete;
- an assessment of our management;
- our prospects for future earnings;
- the general condition of the securities markets at the time of this offering;
- the recent market prices of, and demand for, publicly traded common stock of generally comparable companies; and
- other factors deemed relevant by the underwriters and us.

Neither we nor the underwriters can assure investors that an active trading market will develop for our common shares, or that the shares will trade in the public market at or above the initial public offering price.

Certain of the underwriters and their affiliates have provided in the past to us and our affiliates and may provide from time to time in the future certain commercial banking, financial advisory, investment banking and other services for us and such affiliates in the ordinary course of their business, for which they have received and may continue to receive customary fees and commissions. In addition, from time to time, certain of the underwriters and their affiliates may effect transactions for their own account or the account of customers, and hold on behalf of themselves or their customers, long or short positions in our debt or equity securities or loans, and may do so in the future.

The underwriters and their affiliates are full service financial institutions engaged in various activities, which may include sales and trading, commercial and investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage and other financial and non-financial activities and services. The underwriters and their respective affiliates have provided, and may in the future provide, a variety of these services to the issuer and to persons and entities with relationships with the issuer, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the underwriters and their affiliates, officers, directors and employees may purchase, sell or hold a broad array of investments and actively traded securities, derivatives, loans, commodities, currencies, credit default swaps and other financial instruments for their own account and for the accounts of their customers, and such investment and trading activities may involve or relate to assets, securities and/or instruments of the issuer (directly, as collateral securing other obligations or otherwise) and/or persons and entities with relationships with the issuer. The underwriters and their affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities and instruments.

Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required. The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

Notice to Prospective Investors in the European Economic Area and the United Kingdom

In relation to each Member State of the European Economic Area and the United Kingdom (each a "Relevant State"), no shares have been offered or will be offered pursuant to this offering to the public in that Relevant State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation, except that offers of shares may be made to the public in that Relevant State at any time under the following exemptions under the Prospectus Regulation:

a. to any legal entity which is a qualified investor as defined under the Prospectus Regulation;

b. to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of the representatives for any such offer; or

c. in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of shares shall require the company or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

Each person in a Relevant State (other than a Relevant State where there is a permitted public offer) who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the company and the underwriters that it is a qualified investor within the meaning of the Prospectus Regulation.

In the case of any shares being offered to a financial intermediary as that term is used in Article 5(1) of the Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer to the public other than their offer or resale in a Relevant State to qualified investors, in circumstances in which the prior consent of the underwriters has been obtained to each such proposed offer or resale.

The company, the underwriters and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this provision, the expression an "offer to the public" in relation to any shares in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase or subscribe for any shares, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129 (as amended).

References to the Prospectus Regulation includes, in relation to the UK, the Prospectus Regulation as it forms part of UK domestic law by virtue of the European Union (Withdrawal) Act 2018.

Notice to Prospective Investors in the United Kingdom

In addition, in the United Kingdom, this document is being distributed only to, and is directed only at, and any offer subsequently made may only be directed at persons who are "qualified investors" (as defined in the Prospectus Regulation) (i) who have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the "Order") and/or (ii) who are high net worth companies (or persons to whom it may otherwise be lawfully communicated) falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons") or otherwise in circumstances which have not resulted and will not result in an offer to the public of the shares in the United Kingdom within the meaning of the Financial Services and Markets Act 2000.

Any person in the United Kingdom that is not a relevant person should not act or rely on the information included in this document or use it as basis for taking any action. In the United Kingdom, any investment or investment activity that this document relates to may be made or taken exclusively by relevant persons.

Notice of Prospective Investors in Switzerland

This prospectus is not intended to constitute an offer or solicitation to purchase or invest in the shares. The shares may not be publicly offered, directly or indirectly, in Switzerland within the meaning of the Swiss Financial Services Act ("FinSA") and no application has or will be made to admit the shares to trading on any trading venue (exchange or multilateral trading facility) in Switzerland. Neither this prospectus nor any other offering or marketing material relating to the shares constitutes a prospectus pursuant to the FinSA, and neither this prospectus nor any other offering or marketing material relating to the shares may be publicly distributed or otherwise made publicly available in Switzerland.

Notice to Prospective Investors in the Dubai International Financial Centre

This prospectus relates to an Exempt Offer in accordance with the Markets Rules 2012 of the Dubai Financial Services Authority ("DFSA"). This prospectus is intended for distribution only to persons of a type specified in the Markets Rules 2012 of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus nor taken steps to verify the information set forth herein and has no responsibility for the prospectus. The shares to which this prospectus relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this prospectus you should consult an authorized financial advisor.

In relation to its use in the DIFC, this prospectus is strictly private and confidential and is being distributed to a limited number of investors and must not be provided to any person other than the original recipient, and may not be reproduced or used for any other purpose. The interests in the securities may not be offered or sold directly or indirectly to the public in the DIFC.

Notice to Prospective Investors in Australia

This prospectus:

- does not constitute a disclosure document or a prospectus under Chapter 6D.2 of the Corporations Act 2001 (Cth) (the "Corporations Act");
- has not been, and will not be, lodged with the Australian Securities and Investments Commission ("ASIC"), as a disclosure document for the purposes of the Corporations Act and does not purport to include the information required of a disclosure document for the purposes of the Corporations Act; and
- may only be provided in Australia to select investors who are able to demonstrate that they fall within one or more of the categories of investors, available under section 708 of the Corporations Act ("Exempt Investors").

The shares may not be directly or indirectly offered for subscription or purchased or sold, and no invitations to subscribe for or buy the shares may be issued, and no draft or definitive offering memorandum, advertisement or other offering material relating to any shares may be distributed in Australia, except where disclosure to investors is not required under Chapter 6D of the Corporations Act or is otherwise in compliance with all applicable Australian laws and regulations. By submitting an application for the shares, you represent and warrant to us that you are an Exempt Investor.

As any offer of shares under this document will be made without disclosure in Australia under Chapter 6D.2 of the Corporations Act, the offer of those securities for resale in Australia within 12 months may, under section 707 of the Corporations Act, require disclosure to investors under Chapter 6D.2 if none of the exemptions in section 708 applies to that resale. By applying for the shares you undertake to us that you will not, for a period of 12 months from the date of sale of the shares, offer, transfer, assign or otherwise alienate those shares to investors in Australia except in circumstances where disclosure to investors is not required under Chapter 6D.2 of the Corporations Act or where a compliant disclosure document is prepared and lodged with ASIC.

Notice to Prospective Investors in Hong Kong

The shares have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong) (the "SFO") of Hong Kong and any rules made thereunder; or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32 of Hong Kong) (the "CO") or which do not constitute an offer to the public within the meaning of the CO. No advertisement, invitation or document relating to the shares has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the SFO and any rules made thereunder.

Notice to Prospective Investors in Japan

The shares have not been and will not be registered pursuant to Article 4, Paragraph 1 of the Financial Instruments and Exchange Law of Japan. Accordingly, none of the shares nor any interest therein may be offered or sold, directly or indirectly, in Japan or to, or for the benefit of, any "resident" of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to or for the benefit of a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Act and any other applicable laws, regulations and ministerial guidelines of Japan in effect at the relevant time.

Notice to Prospective Investors in Singapore

Each underwriter has acknowledged that this prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, each underwriter has represented and agreed that it has not offered or sold any shares or caused the shares to be made the subject of an invitation for subscription or purchase and will not offer or sell any shares or cause the shares to be made the subject of an invitation for subscription or purchase, and has not circulated or distributed, nor will it circulate or distribute, this prospectus or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares, whether directly or indirectly, to any person in Singapore other than:

(a) to an institutional investor (as defined in Section 4A of the Securities and Futures Act (Chapter 289) of Singapore, as modified or amended from time to time (the "SFA")) pursuant to Section 274 of the SFA;

(b) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA; or

(c) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

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

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

(b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities or securities-based derivatives contracts (each term as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares pursuant to an offer made under Section 275 of the SFA except:

(i) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;

(ii) where no consideration is or will be given for the transfer;

(iii) where the transfer is by operation of law;

(iv) as specified in Section 276(7) of the SFA; or

(v) as specified in Regulation 37A of the Securities and Futures (Offers of Investments) (Securities and Securities-based Derivatives Contracts) Regulations 2018.

Notice to Prospective Investors in Canada

The shares may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

LEGAL MATTERS

Cleary Gottlieb Steen & Hamilton LLP, New York, New York will pass upon the legality of the shares of common stock to be issued in this offering. Certain legal matters will be passed upon for the underwriters by Simpson Thacher & Bartlett LLP, New York, New York.

EXPERTS

The consolidated financial statements and schedules of Sotera Health Topco, Inc. as of December 31, 2019 and 2018, and for each of the years then ended, appearing in this prospectus and the registration statement of which this prospectus is a part, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act, with respect to our common stock offered by this prospectus. This prospectus, which forms part of the registration statement, does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. Some items are omitted in accordance with the rules and regulations of the SEC. For further information about us and our common stock, we refer you to the registration statement and the exhibits to the registration statement filed as part of the registration statement. The SEC maintains an Internet site at www.sec.gov, from which you can electronically access the registration statement, including the exhibits to the registration statement.

As a result of this offering, we will become subject to the full informational requirements of the Exchange Act. We will fulfill our obligations with respect to such requirements by filing periodic reports and other information with the SEC. We intend to furnish our stockholders with annual reports containing financial statements that have been examined and reported on, with an opinion expressed by an independent registered public accounting firm. We also maintain an Internet site at http://www.soterahealth.com. Our website is not a part of this prospectus.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Sotera Health Topco, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Sotera Health Topco, Inc. (the Company) as of December 31, 2019 and 2018, the related consolidated statements of operations and comprehensive income (loss), equity (deficit) and cash flows for the years then ended, and the related notes and schedules (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2019 and 2018, and the results of its operations and its cash flows for the years then ended in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements 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 and in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the 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 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 financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2019.

Akron, Ohio
September 2, 2020

Sotera Health Topco, Inc.

Consolidated Balance Sheets
(thousands of U.S. dollars)

	As of December 31, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	**$ 62,863**	$ 96,272
Restricted cash short-term	**162**	514
Accounts receivable, net of allowance for uncollectible accounts of $787 in 2019 and $928 in 2018	**88,644**	100,010
Inventories, net	**37,396**	37,599
Prepaid expenses and other current assets	**52,644**	57,359
Income taxes receivable	**10,645**	17,840
Assets held for sale	**—**	3,268
Total current assets	**252,354**	312,862
Property, plant, and equipment, net	**581,954**	586,436
Deferred income taxes	**2,252**	15,764
Other assets	**12,243**	4,154
Other intangible assets, net	**696,006**	766,054
Goodwill	**1,035,865**	1,023,314
Total assets	**$ 2,580,674**	$ 2,708,584
Liabilities and equity		
Current liabilities:		
Accounts payable	**$ 42,004**	$ 46,355
Accrued liabilities	**58,536**	75,709
Deferred revenue	**3,631**	4,615
Current portion of long-term debt	**16,331**	15,343
Current portion of capital lease obligations	**1,288**	1,352
Current portion of asset retirement obligations	**2,200**	—
Total current liabilities	**123,990**	143,374
Long-term debt, less current portion	**2,800,873**	2,189,563
Capital lease obligations, less current portion	**29,883**	31,535
Noncurrent asset retirement obligations	**42,996**	40,543
Deferred lease income	**21,375**	20,955
Post-retirement obligations	**31,266**	19,411
Mandatorily redeemable noncontrolling interest	**13,625**	13,625
Noncurrent liabilities	**20,563**	32,605
Deferred income taxes	**137,235**	171,482
Total liabilities	**3,221,806**	2,663,093
Commitments and contingencies (Note 17)		
Equity:		
Common stock, with $0.01 par value, 3,000 shares authorized, issued and outstanding at December 31, 2019, and December 31, 2018	—	—
Additional paid-in capital	**—**	164,733
Retained earnings (deficit)	**(548,187)**	(10,417)
Accumulated other comprehensive loss	**(94,387)**	(109,957)
Total equity (deficit) attributable to Sotera Health Topco, Inc.	**(642,574)**	44,359
Noncontrolling interests	**1,442**	1,132
Total equity (deficit)	**(641,132)**	45,491
Total liabilities and equity (deficit)	**$ 2,580,674**	$ 2,708,584

See notes to consolidated financial statements.

Sotera Health Topco, Inc.

Consolidated Statements of Operations and Comprehensive Income (Loss)
(thousands of U.S. dollars, except per share amounts)

	Year Ended	
	December 31, 2019	December 31, 2018
Revenues:		
Service	**$ 673,037**	$ 615,510
Product	**105,290**	130,639
Total net revenues	**778,327**	746,149
Cost of revenues:		
Service	**333,290**	326,559
Product	**49,606**	62,338
Total cost of revenues	**382,896**	388,897
Gross profit	**395,431**	357,252
Operating expenses:		
Selling, general and administrative expenses	**147,480**	133,363
Amortization of intangible assets	**58,562**	57,975
Impairment of long-lived assets	**5,792**	34,981
Impairment of GA-MURR intangible assets	**—**	50,086
Total operating expenses	**211,834**	276,405
Operating income	**183,597**	80,847
Interest expense, net	**157,729**	143,326
Loss on extinguishment of debt	**30,168**	—
Foreign exchange loss	**3,862**	13,075
Gain on sale of Medical Isotopes business	—	(95,910)
Other income, net	**(7,246)**	(3,866)
Income (loss) before income taxes	**(916)**	24,222
Provision for income taxes	**19,509**	30,098
Net loss	**(20,425)**	(5,876)
Less: Net income (loss) attributable to noncontrolling interests	**425**	(6)
Net loss attributable to Sotera Health Topco, Inc.	**$ (20,850)**	$ (5,870)
Other comprehensive (loss) income net of tax:		
Pension and post-retirement benefits (net of taxes of ($4,085) and $294, respectively)	**$ (12,126)**	$ 873
Interest rate swaps (net of taxes of $63 and $0, respectively)	**179**	—
Foreign currency translation	**27,402**	(67,917)
Comprehensive income (loss)	**(4,970)**	(72,920)
Less: comprehensive income (loss) attributable to noncontrolling interests	**310**	(186)
Comprehensive loss attributable to Sotera Health Topco, Inc.	**$ (5,280)**	$ (72,734)
Loss per share		
Basic and diluted	$ (6,950)	$ (1,957)
Pro forma basic and diluted (unaudited)		
Weighted average number of shares outstanding		
Basic and diluted	3,000	3,000
Pro forma basic and diluted (unaudited)		

See notes to consolidated financial statements.

Sotera Health Topco, Inc.

Consolidated Statements of Cash Flows
(thousands of U.S. dollars)

	Year Ended	
	December 31, 2019	December 31, 2018
Operating activities		
Net loss	**$ (20,425)**	$ (5,876)
Adjustments to reconcile net loss to net cash provided by operating activities:		
Depreciation	**66,671**	66,910
Amortization of intangible assets	**80,048**	79,906
Impairment of long-lived assets	**5,792**	34,981
Impairment of GA-MURR intangible assets	**—**	50,086
Loss on extinguishment of debt	**30,168**	—
Deferred income taxes	**(18,993)**	(45,317)
Share-based non-cash compensation expense	**6,882**	6,943
Accretion of asset retirement obligations	**2,051**	1,330
Unrealized foreign exchange (gains) / losses	**3,325**	13,460
(Gain)/loss on embedded derivative instruments	**(1,200)**	1,019
Amortization of debt issuance costs	**8,291**	7,270
Gain on sale of Medical Isotopes business	**—**	(95,910)
Other	**(5,218)**	726
Changes in operating assets and liabilities:		
Accounts receivable	**11,764**	(2,906)
Inventories	**(282)**	(7,041)
Other current assets	**15,322**	2,500
Accounts payable	**(8,968)**	15,125
Accrued liabilities	**(18,405)**	(6,935)
Income taxes payable/receivable	**(7,771)**	4,724
Other liabilities	**724**	(2,627)
Other long-term assets	**(735)**	1,195
Net cash provided by operating activities	**149,041**	119,563
Investing activities		
Purchases of property, plant and equipment	**(57,257)**	(72,613)
Purchase of Gibraltar Laboratories, net of cash acquired	**—**	(50,603)
Purchase of Nelson Labs NV, net of cash acquired	**—**	432
Proceeds from sale of the Medical Isotopes business	**—**	212,993
Other	**—**	6,429
Net cash provided by (used in) investing activities	**(57,257)**	96,638
Financing activities		
Proceeds from borrowings	**3,144,600**	—
Payments of debt issuance costs and prepayment premium	**(17,034)**	—
Dividends and distributions to shareholders	**(691,170)**	(175,845)
Payments on debt	**(2,561,084)**	(14,634)
Other	**(1,342)**	(1,378)
Net cash used in financing activities	**(126,030)**	(191,857)
Effect of exchange rate changes on cash and cash equivalents	**485**	(3,676)
Net increase (decrease) in cash and cash equivalents, including restricted cash	**(33,761)**	20,668
Cash and cash equivalents, including restricted cash, at beginning of period	**96,786**	76,118
Cash and cash equivalents, including restricted cash, at end of period	**$ 63,025**	$ 96,786
Supplemental disclosures of cash flow information		
Cash paid during the period for interest	**$ 151,005**	$ 138,850
Cash paid during the period for income taxes, net of tax refunds received	**44,614**	68,610
Property and equipment acquired under capital leases	**1,337**	617
Equipment purchases included in accounts payable	**5,197**	3,487

See notes to consolidated financial statements.

Sotera Health Topco, Inc.

Consolidated Statements of Equity (Deficit)
(thousands of U.S. dollars, except share amounts)

	Shares Common Stock	Amount Common Stock	Additional Paid-In Capital	Retained Earnings / (Accumulated Deficit)	Accumulated Other Comprehensive (Loss) Income	Noncontrolling Interests	Total Equity
Balance at January 1, 2018	**3,000**	**$ —**	**$ 306,610**	**$ 22,630**	**$(43,093)**	**$1,318**	**$ 287,465**
Dividends and distributions to shareholders	—	—	(148,668)	(27,177)	—	—	**(175,845)**
Purchase of noncontrolling interests in Sterigenics Belgium Fleurus, S.A.	—	—	(152)	—	—	—	**(152)**
Non-cash share-based compensation	—	—	6,943	—	—	—	**6,943**
Comprehensive income (loss):							
Pension and post-retirement plan adjustments, net of tax	—	—	—	—	873	—	**873**
Foreign currency translation	—	—	—	—	(67,737)	(180)	**(67,917)**
Net income (loss)	—	—	—	(5,870)	—	(6)	**(5,876)**
Balance at December 31, 2018	**3,000**	**—**	**164,733**	**(10,417)**	**(109,957)**	**1,132**	**45,491**
Cumulative-effect adjustment upon adoption of ASU 2014-09 (Note 2)	**—**	**—**	**—**	2,635	**—**	**—**	**2,635**
Dividends and distributions to shareholders	—	—	(171,615)	(519,555)	—	—	**(691,170)**
Non-cash share-based compensation	—	—	6,882	—	—	—	**6,882**
Comprehensive income (loss):							
Pension and post-retirement plan adjustments, net of tax	—	—	—	—	(12,126)	—	**(12,126)**
Foreign currency translation	—	—	—	—	27,517	(115)	**27,402**
Interest rate swaps	—	—	—	—	179	—	**179**
Net income (loss)	—	—	—	(20,850)	—	425	**(20,425)**
Balance at December 31, 2019	**3,000**	**$ —**	**$ —**	**$ (548,187)**	**$ (94,387)**	**$ 1,442**	**$(641,132)**

See notes to consolidated financial statements.

Sotera Health Topco, Inc.

Notes to Consolidated Financial Statements

1. Significant Accounting Policies

Principles of Consolidation – Sotera Health Topco, Inc. (also referred to herein as the "Company," "we," "our," "us" or "its"), is a fully integrated provider of mission-critical health sciences, lab services and sterilization solutions with operations primarily in the Americas, Europe and Asia.

The accompanying consolidated financial statements include the assets, liabilities, operating results, and cash flows of the Company and its wholly owned subsidiaries prepared in accordance with U.S. generally accepted accounting principles ("GAAP").

We operate and report in three segments, Sterigenics, Nordion and Nelson Labs. We describe our reportable segments in the *Segment and Geographic Information* note. All significant intercompany balances and transactions have been eliminated in consolidation.

Noncontrolling interests represents the noncontrolling stockholders' proportionate share of the total equity in the Company's consolidated subsidiaries. On February 28, 2018, we purchased the remaining 3.8% of equity in Sterigenics Belgium Fleurus, S.A. from noncontrolling stockholders for $0.3 million. As of December 31, 2019, our subsidiaries were wholly owned by us, except for noncontrolling interests of 15% and 33% in our two China subsidiaries. In addition, a 15% noncontrolling interest remains from the August 2018 acquisition of Gibraltar Laboratories, Inc. (now known as Nelson Laboratories Fairfield, Inc.). See the *Acquisitions and Dispositions* note for additional details. We consolidate the results of operations of these subsidiaries with our results of operations and reflect the noncontrolling interests in our two China subsidiaries on our consolidated statements of operations and comprehensive income (loss) as "Net income (loss) attributable to noncontrolling interests." Our required future purchase of 15% noncontrolling interest in Gibraltar Laboratories, Inc., is considered mandatorily redeemable, and therefore no earnings are allocated to this noncontrolling interest.

Use of Estimates – In preparing our consolidated financial statements in conformity with GAAP, we make estimates and assumptions that affect the amounts reported and the accompanying notes. We regularly evaluate the estimates and assumptions used and revise them as new information becomes available. Actual results may vary from those estimates.

Cash and Cash Equivalents – We consider all highly liquid investments purchased with an original maturity of three months or less from the date of purchase to be cash equivalents. Cash and cash equivalents may include various deposit accounts and money market funds.

Allowance for Uncollectible Accounts Receivable – We maintain an allowance for uncollectible accounts receivable for estimated losses in the collection of amounts owed to us by customers. We estimate the allowance based on analyzing a number of factors, including amounts written off historically, customer payment practices, and general economic conditions. We also analyze significant customer accounts on a regular basis and record a specific allowance when we become aware of a specific customer's inability to pay, and generally require no collateral from our customers. We generally do not charge interest on accounts receivable. We record write-offs against the allowance for uncollectible accounts receivable when all reasonable efforts for collection have been exhausted. As a result, the related accounts receivable are reduced to an amount that we reasonably believe is collectible. These analyses require judgment. If the financial condition of our customers worsens, or economic conditions change, we may be required to make changes to our allowance for uncollectible accounts receivable.

Inventories – Inventories as of December 31, 2019 and 2018 are held at Nordion. Finished goods and work-in-process include the cost of material, labor, and certain manufacturing overhead such as insurance,

repairs and maintenance, and property taxes, and are recorded on a weighted average cost basis at the lower of cost or net realizable value. We review inventory on an ongoing basis, considering factors such as deterioration and obsolescence. We record a reserve for excess and obsolete inventory, which was immaterial at December 31, 2019 and 2018, when the facts and circumstances indicate that particular inventories will not be usable. If future market conditions vary from those projected, and our estimates prove to be inaccurate, we may be required to write-down inventory values and record an adjustment to cost of revenues.

Property, Plant, and Equipment – Property, plant, and equipment is carried at cost, or initially at fair value if acquired in an acquisition, less accumulated depreciation and amortization. Except for Cobalt 60 ("Co-60"), a radioactive isotope used in gamma radiation sterilization, all property, plant, and equipment depreciation is computed using the straight-line method over estimated useful lives. Leasehold improvements are amortized over their estimated useful lives or the term of the related lease, whichever is shorter. Co-60 is amortized using an accelerated method, which relates to the natural radioactive decay of the isotope over its estimated useful life which is approximately twenty years. Amortization of Co-60 is included within depreciation expense as a cost of revenue. Expenditures for major software purchases and software developed for internal use are capitalized and depreciated using the straight-line method over the estimated useful lives of the related assets, which are generally three to five years. For software obtained or developed for internal use, all external direct costs for materials and services and certain personnel costs incurred to develop the software during the application development stage are capitalized. At December 31, 2019 and 2018, we had undepreciated software costs of $4.7 million and $5.2 million, respectively, included in property, plant, and equipment, net. We recognized $3.0 million and $3.3 million, of depreciation expense related to software costs for the years ending December 31, 2019 and 2018, respectively.

Depreciation is computed using the assets' estimated useful lives as presented below:

Buildings and building improvements	15–44 years
Machinery and equipment	3–30 years
Leasehold improvements	2–20 years
Furniture and fixtures	3–10 years
Computer hardware and software	2–7 years

From time to time, we build or expand facilities. The cost of construction of these facilities is reflected as construction-in-progress until the asset is ready for its intended use, at which time the costs are reclassified to the appropriate depreciable category of property, plant, and equipment and depreciation commences. Fixed asset projects requiring one or more years to complete construction qualify for capitalization of interest costs in accordance with our policy. Interest related to property, plant and equipment projects with a construction period of less than one year are not capitalized and are immaterial. Repairs and maintenance costs that do not extend the useful life of an asset are expensed as incurred.

Upon sale or retirement of assets, the cost and related accumulated depreciation is removed from the consolidated balance sheet, and the resulting gain or loss is reflected as a component of operating income.

Long-Lived Assets Other than Goodwill – We review long-lived assets, including finite-lived intangibles for impairment whenever events or circumstances indicate that the carrying amount of the asset or asset group may be impaired. Events or circumstances which would result in an impairment assessment include operating losses, a significant change in the use of an asset or asset group, or the planned disposal or sale of the asset or asset group. The asset or asset group would be considered impaired when the future net undiscounted cash flows generated by the asset or asset group are less than its carrying value. An impairment loss would be recognized based on the amount by which the carrying value of the asset or asset group exceeds its estimated fair value.

Amortization of intangible assets is computed using the asset's estimated useful lives as presented below:

Land-use rights	50 years
Customer contracts and related relationships	10–15 years
Proprietary technology	8–20 years
Trade name/trademark	10–15 years
Sealed source and supply agreements	7–20 years

Goodwill and Other Indefinite-Lived Intangibles – Goodwill and other indefinite-lived intangible assets, primarily certain regulatory licenses and tradenames, are tested for impairment annually as of October 1. If circumstances change during interim periods between annual tests that would indicate that the carrying amount of such assets may not be recoverable, the Company would test such assets at an interim date for impairment. Factors which would necessitate an interim impairment assessment include prolonged negative industry or economic trends and significant underperformance relative to historical or projected future operating results.

We performed a quantitative assessment of all reporting units (Sterigenics, Nordion and Nelson Labs) as of October 1, 2019. The fair value of each reporting unit was calculated using a discounted cash flow analysis which was dependent on subjective market participant assumptions determined by management. We further corroborated such discounted cash flow analyses utilizing a market approach to determine the estimated enterprise fair value. Assumptions used in the analyses included discount rates and projected operating cash flows. Estimates of future cash flows are based upon relevant data at a point-in-time, are subject to change, and could vary from actual results. The estimated fair value of each reporting unit exceeded its carrying amount (including goodwill) by a minimum of 60% as of October 1, 2019. We performed a qualitative impairment assessment to evaluate any potential impairment to the indefinite-lived intangible assets. We considered significant events and circumstances that could affect the significant inputs used to determine the estimated fair value of the indefinite-lived intangible assets, and determined, after considering the totality of evidence that it is not more likely than not that the indefinite-lived intangible assets are impaired. In addition, there have been no significant events or circumstances that occurred since the annual assessment date of October 1 that would change the conclusions reached above.

Derivative Instruments – We may enter into derivative instruments and hedging activities to manage, where possible and economically efficient, commodity price risk, foreign currency exchange rate risk and interest rate risk related to borrowings. We also have identified embedded derivatives in certain supply and customer contracts. Certain interest rate swaps were designated as cash flow hedges allowing for changes in fair value to be recorded through comprehensive income (loss). Amounts in accumulated other comprehensive income (loss) will be reclassified into earnings in the same periods during which the hedged transaction affects earnings and are presented in "Interest expense, net" within the consolidated statements of operations and comprehensive income (loss). With the exception of aforementioned interest rate swaps, we currently do not designate any other contracts as hedges for accounting purposes. Derivatives not designated as hedges are recorded at fair value on the consolidated balance sheets, with any changes in the value being recorded in the consolidated statements of operations and comprehensive income (loss) in the same line item as the corresponding hedged item. We classify cash flows from derivative instruments and hedging activities as cash flows from operating activities in the consolidated statements of cash flows. To the extent derivative arrangements are with the same counterparty and contractual right of offset exists under applicable master agreements, we offset assets and liabilities for reporting on the consolidated balance sheets.

Pension, Post-Retirement and Other Post-Employment Benefit Plans – We sponsor a defined-contribution retirement plan that covers substantially all U.S. employees. We also sponsor various post-employment benefit plans at our Nordion business in Canada including defined benefit and defined contribution pension plans, retirement compensation arrangements and plans that provide extended health care coverage to retired

employees. In addition, we provide other benefit plans at our foreign subsidiaries including a supplemental retirement arrangement, a retirement and termination allowance and post-retirement benefit plans, which include contributory healthcare benefits and contributory life insurance coverage. All non-pension post-employment benefit plans are unfunded.

These costs and obligations are affected by assumptions including the discount rate, expected long-term rate of return on plan assets, the annual rate of change in compensation for eligible employees, estimated changes in costs of healthcare benefits, and other demographic and economic factors. We review the assumptions used on an annual basis.

We recognize the over/under funded status of defined benefit pension and post-retirement benefits plans in our consolidated balance sheets. This amount is measured as the difference between the fair value of plan assets and the projected benefit obligation. Changes in the funded status of the plans are recorded in other comprehensive income (loss) in the year they occur. We measure plan assets and obligations as of the balance sheet date. We provide additional information about our pension and other post-retirement benefits plans in the *Employee Benefits* note.

Asset Retirement Obligations ("ARO") – ARO are legal obligations associated with the retirement of long-lived assets or the exit of a leased facility. We recognize a liability for an ARO in the period in which it is incurred if a reasonable estimate of fair value can be made, and the associated asset retirement costs are then capitalized as part of the carrying amount of the long-lived asset. We lease various facilities where sterilization and ionization services are performed. Under the lease agreements, we are required to return the facilities to their original condition and to perform decommissioning activities. In addition, certain of our owned facilities are required to be decommissioned when we vacate the facility. Accretion expense is recognized in cost of revenues in the consolidated statements of operations and comprehensive income (loss) over time as the discounted liability is accreted to its expected settlement value.

Deferred Financing Costs – We have incurred deferred financing fees associated with our long-term debt. The portion of these fees that are capitalized are recorded as a reduction of debt on the consolidated balance sheets and amortized into interest expense over the term of the debt agreement using the effective interest method. Deferred financing costs associated with the Company's revolving credit facilities are classified as assets unless there are outstanding borrowings under such arrangements.

Concentration of Credit Risk, Other Risks and Uncertainties – We maintain cash and cash equivalents in the form of demand deposits in accounts with major financial institutions in the U.S. and in countries where our subsidiaries operate. Deposits in these institutions may exceed amounts of insurance provided on such accounts. We have not experienced any losses on our deposits of cash and cash equivalents.

Our net revenues and accounts receivable are derived from customers located primarily in North America and Europe.

No customer accounted for 10% or more of accounts receivable at December 31, 2019 and 2018, or 10% or more of net revenues for the years ended December 31, 2019 and 2018.

Income Taxes –We use the liability method of accounting for income taxes whereby we recognize deferred tax assets and liabilities for the future tax consequences of temporary differences between the tax bases of assets and liabilities and their reported amounts in the consolidated financial statements. Deferred tax assets will be reduced by a valuation allowance if, based on management's estimate, it is more likely than not that a portion of the deferred tax assets will not be realized in a future period. The estimates used in the recognition of deferred tax assets are subject to revision in future periods based on new facts and circumstances.

We determine whether it is more likely than not that a tax position will be sustained upon examination, including resolution of related appeals or litigation processes, based on the technical merits of the position. In evaluating whether a tax position has met the more-likely-than-not recognition threshold, we presume that the position will be examined by the appropriate taxing authority and that the taxing authority will have full knowledge of all relevant information. A tax position that meets the more-likely-than-not recognition threshold is measured at the largest amount of benefit that is greater than 50% likely of being realized upon ultimate settlement. Determining what constitutes an individual tax position and whether the more-likely-than-not recognition threshold is met for a tax position are matters of judgment based on the individual facts and circumstances of that position evaluated in light of all available evidence. We review and adjust tax estimates periodically because of ongoing examinations by, and settlements with, the various taxing authorities, as well as changes in tax laws, regulations, and precedent.

Our policy is to recognize interest and penalties related to income tax matters as a component of the provision for income taxes in our consolidated statements of operations and comprehensive income (loss).

Foreign Currency Translation – The functional currency of our foreign subsidiaries is generally the local currency. Accordingly, assets and liabilities are generally translated into U.S. dollars at the current rates of exchange as of the balance sheet date, and revenues and expenses are translated using weighted-average rates prevailing during the period. Adjustments from foreign currency translation are included as a separate component of accumulated other comprehensive income (loss). The foreign exchange loss in our consolidated statements of operations and comprehensive income (loss) relates primarily to U.S. denominated intercompany indebtedness in certain of our European and Canadian subsidiaries.

Revenue Recognition – The majority of our sales agreements contain performance obligations satisfied at a point-in-time when control of promised goods or services have transferred to our customers. For agreements with multiple performance obligations, judgment is required to determine whether performance obligations specified in these agreements are distinct and should be accounted for as separate revenue transactions for recognition purposes. In these types of agreements, we generally allocate the sales price to each distinct obligation based on the relative price of each item sold in stand-alone transactions. Sales recognized over time are generally accounted for using an input measure to determine progress completed as of the end of the period.

Refunds, returns, warranties and other related obligations are not material to any of our segments, nor do we incur material incremental costs to secure customer contracts.

Our Sterigenics segment provides outsourced terminal sterilization and irradiation services for the medical device, pharmaceutical, food safety and advanced applications markets. We typically have multiyear service contracts with our significant customers, and these sales contracts are primarily based on a customer’s purchase order. Given the relatively short turnaround times, performance obligations are generally satisfied at a point-in-time upon the completion of sterilization or irradiation processing once approved by our quality assurance process at which time the service is complete. Sterigenics segment revenues are included in service revenues in our consolidated statements of operations and comprehensive income (loss).

Our Nordion segment is a global provider of Co-60 and gamma irradiators, which are key components to the gamma sterilization process. Revenue from the sale of Co-60 sources is recognized as product revenue at a point-in-time upon satisfaction of our performance obligations for delivery of existing sources. Revenue from the production of equipment is recognized as product revenue over time using an input measure of costs incurred and is immaterial to the overall business. Revenues from Co-60 installation and disposal and production irradiator refurbishments and installations are recognized as service revenue.

Our Nelson Labs segment provides outsourced microbiological and analytical chemistry testing and advisory services for the medical device and pharmaceutical industries. We provide our customers mission-critical lab testing services, which assess the product quality, effectiveness, patient safety and end-to-end sterility of products. These services are necessary for our customers' regulatory approvals, product releases and ongoing product performance evaluations. Nelson Labs services are generally provided on a fee-for-service or project basis, and we recognize revenues over time using an input measure of time incurred to determine progress completed at the end of the period. Nelson Labs segment revenues are included in service revenues in our consolidated statements of operations and comprehensive income (loss).

We do not capitalize sales commissions as substantially all of our sales commission programs have an amortization period of one year or less. Furthermore, costs to fulfill a contract are not material.

Provisions for discounts, rebates to customers, and other adjustments are provided for as reductions in net revenues in the period the related sale is recorded. Shipping and handling charges billed to customers are included in net revenues, and the related shipping and handling costs are included in cost of net revenues on the consolidated statements of operations and comprehensive income (loss). Taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction, that are collected by us from a customer, are excluded from net revenue.

Payment terms vary by the type and location of the customer and the products or services offered. Generally, the time between when revenue is recognized and when payment is due is not significant. We do not evaluate whether the selling price contains a financing component for contracts that have a duration of less than one year.

On January 1, 2019, the Company adopted accounting standard update ("ASU") 2014-09, *Revenue from Contracts with Customers* ("ASU 2014-09"), as further described in the *Recent Accounting Standards* note. Prior to its adoption, revenue was recognized upon the completion of sterilization or irradiation processing once approved by our quality assurance process at which time the service was considered complete. Product revenue from the sale of Co-60 was recognized upon delivery, whereas related service revenue from installation and disposal services was recognized when services were completed. Nelson Labs services were recognized upon finalization of each test, typically evidenced with the shipment of a technical laboratory report.

Share-Based Compensation – Equity-based awards issued to employees include restricted unit awards, which vest based on either time or the achievement of certain performance and market conditions ("performance awards"). These equity-based awards represent an interest in our parent, Sotera Health Topco Parent, L.P., and are granted in respect of services provided to the Company and its subsidiaries. Compensation expense resulting from time vesting based awards is recognized in the consolidated statements of operations and comprehensive income (loss), primarily within general and administrative expenses at the grant date fair value over the requisite service period (typically five years on a straight-line basis for time vested awards). Compensation expense resulting from awards that vest upon satisfaction of a performance condition is recognized at grant date fair value when the performance condition is deemed probable, which may cause volatility in the timing of expense recognition. The calculated compensation expense for performance awards is adjusted based on an estimate of awards ultimately expected to vest. For awards with market conditions, the market condition is taken into account when calculating grant date fair value.

The fair value of performance based restricted unit awards is estimated using a simulation-based option valuation model incorporating multiple and variable assumptions over time, including assumptions such as unit price volatility, dividend and other assumptions.

Earnings (Loss) Per Share – Basic earnings (loss) per common share is computed by dividing net loss attributable to Sotera Health Topco, Inc. by the weighted average number of common shares outstanding during the period. Diluted income (loss) per common share incorporates the dilutive effect of common stock equivalents on an average basis during the period. For the periods presented, there were no dilutive effects of common stock equivalents.

Commitments and Contingencies – Certain conditions may exist as of the date of the consolidated financial statements which may result in a loss to the Company but will only be resolved when one or more future events occur or fail to occur. Such liabilities for loss contingencies arising from claims, assessments, litigation, fines, penalties, and other sources, are recorded when management assesses that it is probable that a future liability has been incurred and the amount can be reasonably estimated. Recoveries of costs from third parties, which management assesses as being probable of realization, are recorded to the extent related contingent liabilities are accrued. Legal costs incurred in connection with matters relating to contingencies are expensed in the period incurred. We record gain contingencies when realized.

2. Recent Accounting Standards

Adoption of Accounting Standard Updates

Effective January 1, 2019, we adopted ASU 2014-09, *Revenue from Contracts with Customers*, and all related amendments, with new guidance on recognizing revenue from contracts with customers. Under this guidance, revenue is recognized to depict the transfer of goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. ASU 2014-09 also requires expanded disclosures about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. The new guidance primarily affects the Nelson Labs segment.

We applied the new guidance to all contracts that were not yet completed at the date of adoption using the modified retrospective method. We recognized the cumulative effect of initially applying the new guidance as an adjustment to the opening balance of retained earnings (deficit). Comparative information has not been restated and continues to be reported under the accounting standards in effect for those periods.

The adjustments made to our January 1, 2019 consolidated balance sheet for the adoption of the standards update were as follows:

(thousands of U.S. dollars)	Balance at December 31, 2018	Adjustments for New Standard	Balance at January 1, 2019
Prepaid expenses and other current assets	**$ 57,359**	**$ 3,613**	**$ 60,972**
Deferred income taxes	**171,482**	**978**	**172,460**
Retained earnings (deficit)	**(10,417)**	**2,635**	**(7,782)**

The impact of the adoption of the new revenue requirements on our consolidated statement of operations and comprehensive income (loss) for the year ended December 31, 2019 was an increase of $1.0 million to net revenues and a benefit of $0.8 million to net loss.

The impact of adoption of the new revenue requirements on our consolidated balance sheet as of December 31, 2019 was as follows:

(thousands of U.S. dollars)	As Reported	Less Effect of Adoption	Balance without Adoption
Prepaid expenses and other current assets	$ 52,644	$ 4,622	$ 48,022
Income tax receivable	10,645	(1,204)	11,849
Deferred income taxes	137,235	(37)	137,198
Retained earnings (deficit)	(548,187)	(3,381)	(551,568)

Accounting Standard Updates Issued But Not Yet Adopted

Under the Jumpstart Our Business Startups Act of 2012, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies. As an emerging growth company, we have elected to take advantage of the extended transition period for complying with new or revised accounting standards until those standards would otherwise apply to private companies or at which time we conclude it is appropriate to avail ourselves of early adoption provisions of applicable standards. As a result, our results of operations and financial statements may not be comparable to the results of operations and financial statements of other companies who have adopted the new or revised accounting standards.

In February 2016, the Financial Accounting Standards Board ("FASB") issued *ASU No. 2016-02, Leases* ("Topic 842"). The updated standard requires substantially all leases to be reported on the balance sheet as right-of-use assets and lease obligations. Topic 842 is effective for private companies for annual periods beginning after December 15, 2021. Early adoption is permitted. Topic 842 permits a modified retrospective transition method with the option to elect a package of practical expedients. We elected to early adopt the new standard as of January 1, 2020 resulting in the recognition of right-of-use assets and lease liabilities of $47.4 million and $48.9 million, respectively. The standard did not have a material impact on our consolidated statements of operations and comprehensive income (loss) or on our consolidated statements of cash flows. The level of disclosures related to leases will increase and require changes to our internal controls to support recognition and disclosure requirements under Topic 842.

In June 2016, the FASB issued *ASU 2016-13, Financial Instruments – Credit Losses* ("ASU 2016-13"): *Measurement of Credit Losses on Financial Instruments*, and subsequently issued additional guidance that modified ASU 2016-13. The standard requires an entity to change its accounting approach in determining impairment of certain financial instruments, including trade receivables, from an "incurred loss" to a "current expected credit loss" model. The standard will be effective for private companies for fiscal years beginning after December 15, 2022, including interim periods within such fiscal years. Early adoption is permitted. We are currently assessing the effect that ASU 2016-13 will have on our financial position, results of operations, and disclosures.

In December 2019, the FASB issued *ASU 2019-12 - Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes.* The standard simplifies the accounting for income taxes and makes a number of changes meant to add or clarify guidance on accounting for income taxes. This update is effective for annual financial statement periods beginning after December 15, 2021 and interim periods beginning after December 15, 2022, with early adoption permitted in any interim period for which financial statements have not yet been filed. We are currently assessing the effect that ASU 2019-12 will have on our financial position, results of operations, and disclosures.

3. Revenue Recognition

The following table shows disaggregated net revenues from contracts with external customers by timing of revenue and by segment for the year ended December 31, 2019:

	Sterigenics	Nordion	Nelson Labs	Consolidated
Point in time	$471,708	$116,165	$ —	$ 587,873
Over time	—	—	190,454	190,454
Total	**$471,708**	**$116,165**	**$ 190,454**	**$ 778,327**

Contract Balances

As of December 31, 2019, and January 1, 2019, contract assets included in prepaid expenses and other current assets on the consolidated balance sheet totaled approximately $8.5 million and $8.4 million, respectively, resulting from revenue recognized over time in excess of the amount billed to the customer.

When we receive consideration from a customer prior to transferring goods or services under the terms of a sales contract, we record deferred revenue, which represents a contract liability. Deferred revenue totaled $3.6 million and $4.6 million at December 31, 2019 and 2018, respectively. We recognize deferred revenue after we have transferred control of the goods or services to the customer and all revenue recognition criteria are met.

4. Acquisitions and Dispositions

Acquisition of Gibraltar Laboratories (now known as Nelson Laboratories Fairfield, Inc.)

On August 7, 2018, we acquired 85% of the outstanding shares of Gibraltar Laboratories, Inc. (“Gibraltar”) for $50.6 million, net of cash acquired of $0.5 million. Pursuant to the transaction agreement, we are required to acquire the 15% noncontrolling interest within three years from the date of acquisition. As a result of our requirement to purchase the noncontrolling interest in the future, it represents a mandatorily redeemable financial instrument and the related liability was initially recorded at its estimated fair value of $13.6 million. Subsequent changes in fair value have been immaterial. Based on the mandatory nature of the obligation, no earnings are allocated to the noncontrolling interest.

Gibraltar’s operations are in the New Jersey tri-state area, home to many of the top pharmaceutical manufacturers in the U.S., and it provides microbiological and analytical chemistry testing for pharmaceutical and medical device manufacturers. We acquired Gibraltar primarily for its expertise and customer relationships in testing and servicing the pharmaceutical industry. Additionally, its analytical testing capabilities expanded our presence in the Northeast region of the U.S. and enhanced Nelson Labs’ existing strengths in medical device microbiology and expert advisory services.

The opening balance sheet for the Gibraltar acquisition reflects the net tangible and intangible assets acquired and liabilities assumed at their estimated fair values at the acquisition date.

The fair value of the underlying acquired assets and assumed liabilities at August 7, 2018, the date of the Gibraltar acquisition, was as follows:

(thousands of U.S. dollars) **Allocation of purchase price to the fair value of net assets acquired (net of cash acquired):**	**Amounts Recognized as of December 31, 2018**	**Measurement Period Adjustments**	**Final Acquisition Date Fair Value**
Goodwill	$ 32,586	$ 1,589	**$ 34,175**
Intangibles	34,582	(762)	**33,820**
Property, plant, and equipment	5,444	(866)	**4,578**
Working capital, net	646	—	**646**
Deferred income tax liability	(8,875)	39	**(8,836)**
Other assets/liabilities, net	(155)	—	**(155)**
Total estimated purchase price	$ 64,228	**$ —**	**$ 64,228**

Approximately $34.2 million of goodwill was recorded related to the Gibraltar acquisition, representing the excess of the purchase price over estimated fair values of all the assets acquired and liabilities assumed. The fair value allocated to goodwill and tangible and intangible assets are not deductible for tax purposes. The qualitative elements of goodwill primarily represent the expanded future growth opportunities for the combined company, resulting from contributing factors such as synergies related to cross-selling opportunities with our other businesses, and the addition of Gibraltar's highly skilled workforce. We recorded $33.8 million for intangible assets as part of the acquisition related to customer relationships, proprietary technology, and the Gibraltar tradename.

Gibraltar's results of operations are included in our consolidated financial statements from the date of the transaction within the Nelson Labs segment. Had the transaction occurred on January 1, 2018, unaudited pro forma consolidated results for 2018, would have been as follows:

(thousands of U.S. dollars) **Year Ended December 31,**	**2018**
Net revenues	**$755,955**
Net loss	**(2,672)**

The unaudited pro forma consolidated results are based on our historical financial statements and those of Gibraltar, and do not necessarily indicate the results of operations that would have resulted had the acquisition been completed at the beginning of 2018. The unaudited pro forma consolidated results do not give effect to any synergies of the acquisition and are not indicative of the results of operations in future periods.

Net revenues and net income from the Gibraltar Laboratories acquisition included in the Company's results since August 7, 2018, the date of the acquisition, are as follows:

(thousands of U.S. dollars) **Year Ended December 31,**	**2019**	**2018**
Net revenues	**$17,549**	**$6,593**
Net income	**3,833**	**1,318**

In connection with the Gibraltar acquisition, we incurred approximately $0.5 million and $1.3 million in transaction costs for the years ended December 31, 2019 and 2018, respectively, which were included in selling, general and administrative expenses in the consolidated statements of operations and comprehensive income (loss).

Disposition of the Medical Isotopes Business

On July 30, 2018 we finalized the sale of our Medical Isotopes ("MI") business to a subsidiary of BWX Technologies, Inc. ("BWXT") for $213.0 million. Through the agreement, BWXT acquired essentially all the former medical isotope net assets, including the medical isotope operation and contract manufacturing services in Kanata, Ontario and the medical isotope operation in Vancouver, British Columbia. Both companies continue to operate from Nordion's licensed facility in Kanata, Ontario, and approximately 150 employees transitioned to BWXT at the close of the sale. As a result of the transaction, we recorded a gain on sale of approximately $95.9 million, net of transaction expenses totaling $3.5 million during the year ended December 31, 2018. In addition, we recorded deferred income of $22.7 million and $2.0 million related to the lease of the Kanata facility and its associated regulatory licenses, respectively. The deferred income related to the lease of the Kanata facility is being recognized on a straight-line basis over the 40-year lease period, including lease extensions deemed probable of occurring. The deferred income on the associated operating licenses is included within "Deferred lease income" on the consolidated balance sheets and will be recognized over a period not to exceed 2 years from the date the transaction closed in accordance with the period of time by which BWXT is expected to obtain its own regulatory licenses for the site. The disposition of the MI business does not, nor is it expected to, have a major effect on the Company's consolidated operations and financial results. Prior to its divestiture, MI revenue was $25.4 million and income before income taxes, excluding the gain on sale, was not material in 2018.

5. Inventories

Inventories consist primarily of the following:

(thousands of U.S. dollars) **As of December 31,**	**2019**	**2018**
Raw materials and supplies	**$29,640**	$31,037
Work-in-process	**1,961**	1,371
Finished goods	**5,892**	5,284
	37,493	37,692
Reserve for excess and obsolete inventory	**(97)**	(93)
Inventories	**$37,396**	$37,599

6. Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consist primarily of the following:

(thousands of U.S. dollars) As of December 31,	2019	2018
Prepaid taxes	**$ 18,614**	$ 14,459
Prepaid business insurance	**3,422**	3,511
Prepaid rent	**1,088**	1,164
Accrual for revenue from customers	**8,508**	4,755
Insurance and indemnification receivables	**2,751**	16,516
Current deposits	**5,060**	4,800
Prepaid maintenance contracts	**397**	305
Derivative instruments (see *Financial Instruments* note)	**242**	752
Value added tax receivable	**1,034**	2,491
Prepaid software licensing	**1,089**	985
Stock supplies	**2,263**	1,943
Other	**8,176**	5,678
Prepaid expenses and other current assets	**$ 52,644**	$ 57,359

The reduction in insurance and indemnification receivables is primarily a result of the final judgment and settlement of litigation at Nordion. Refer to the *Accrued Liabilities* note.

7. Property, Plant and Equipment and Capital Leases

Property, plant, and equipment, net, consists of the following:

(thousands of U.S. dollars) As of December 31,	2019	2018
Land and buildings	**$ 279,913**	$ 252,472
Leasehold improvements	**44,808**	47,119
Machinery, equipment, including Co-60	**459,728**	428,755
Furniture and fixtures	**6,984**	6,432
Computer hardware and software	**38,602**	31,591
Asset retirement costs	**4,313**	3,888
Construction-in-progress	**42,168**	50,796
	876,516	821,053
Less accumulated depreciation	**(294,562)**	(234,617)
Property, plant and equipment, net	**$ 581,954**	$ 586,436

Depreciation and amortization expense for property, plant, and equipment, including property under capital leases, was $66.7 million and $66.9 million for the years ended December 31, 2019 and 2018, respectively. Capitalized interest totaled $0.1 million and $1.1 million for the years ended December 31, 2019 and 2018, respectively, and was recorded as a reduction in “Interest expense, net” in the consolidated statements of operations and comprehensive income (loss).

Capital Leases

Included in the table above are certain assets we lease that are classified as capital leases with various terms. Assets held under such lease arrangements are included in property, plant, and equipment, net, as follows:

(thousands of U.S. dollars) As of December 31,	2019	2018
Machinery and equipment	**$ 4,970**	$ 4,800
Buildings	**34,226**	34,569
	39,196	39,369
Less accumulated depreciation	**(8,121)**	(5,774)
Capital leases, net	**$31,075**	$33,595

As discussed in the *Commitments and Contingencies* note, we have been involved in litigation related to our ethylene oxide sterilization operations in Willowbrook, Illinois. On September 30, 2019, we announced plans to exit our operations in Willowbrook citing the unstable legislative and regulatory landscape in Illinois as well as the expiration of the primary Willowbrook facility lease. Prior to this decision, we had approximately $9.8 million in net book value of fixed assets at the Willowbrook facilities, including $1.8 million of construction in process. Based on our initial estimate of fixed assets that can be transferred to other Sterigenics' facilities, we recorded a fixed asset impairment of approximately $5.8 million as recognized in "Impairment of long-lived assets" in the consolidated statement of operations and comprehensive income (loss) for the year ended December 31, 2019. Further, in conjunction with the decision not to reopen our Willowbrook facilities, we incurred certain restructuring costs consisting of employee termination benefits totaling $1.2 million in the year ended December 31, 2019. The $1.2 million in costs represents all termination benefits costs expected to be incurred in connection with the Willowbrook closure, and are included in "Cost of revenues" on the consolidated statement of operations and comprehensive income (loss) and are included in our Sterigenics segment. Decommissioning of the Willowbrook facilities began in October 2019 and is anticipated to take until the end of 2020. At December 31, 2019, we had an ARO of approximately $2.9 million representing our estimate of the costs to decommission the Willowbrook operations, of which $2.2 million is anticipated to be spent in the next 12 months as included in the "Current portion of asset retirement obligations" within the consolidated balance sheet as of December 31, 2019. This amount reflects incremental expense to increase the ARO in 2019 by $1.1 million based on higher expected demolition costs and is included in "Cost of revenues" on the consolidated statement of operations and comprehensive income (loss).

In 2015, we began working with General Atomics ("GA") and the Missouri University Research Reactor ("MURR") on a joint project ("GA-MURR project") to replace our supply of Molybdenum-99 ("Mo-99") utilized in our former MI operations, the production of which ceased after the previous supplier exited the market. This was a multi-year capital project to construct assets dedicated to the production of Mo-99. As a result of a strategic review of the MI business and other factors, we withdrew from the project in early April 2018. We wrote off $32.7 million of long-lived assets and inventory of $0.3 million. We incurred $2.4 million related to contract termination and exit costs associated with the project which were paid in the year recognized. The total fixed asset impairment charge of $32.7 million was recognized as a component of "Impairment of long-lived assets" in the consolidated statement of operations and comprehensive income (loss) for the year-ended December 31, 2018. The $0.3 million of inventory write-offs and $2.4 million of contract termination and exit costs were included in "Cost of revenues" and "Selling, general and administrative expenses", respectively, in the consolidated statement of operations and comprehensive income (loss) for the year ended December 31, 2018. The aforementioned expenses related to the GA-MURR project are reflected as a component of Other within the *Segment and Geographic Information* note.

In the first quarter of 2018, management made plans to pursue the sale of a Nordion office building and associated land. As a result, these assets were classified as held-for-sale and an impairment of $2.3 million was recorded for the year ended December 31, 2018 based on the estimated selling price for the property and was recognized as a component of "Impairment of long-lived assets" in the consolidated statement of operations and comprehensive income (loss). The then estimated fair value of approximately $3.3 million is reported as "Assets held for sale" in the consolidated balance sheet as of December 31, 2018. In 2019, management determined this asset was no longer held for sale and decided to pursue other uses of the property.

8. Goodwill and Other Intangible Assets

Changes to goodwill during the years ended December 31, 2019 and 2018 were as follows:

(thousands of U.S. dollars)	Sterigenics	Nordion	Nelson Labs	Other	Total
Goodwill at January 1, 2018	$638,029	$292,293	$ 87,954	$ 70,926	$1,089,202
Gibraltar Laboratories acquisition[1]	—	—	32,586	—	32,586
Disposition of Medical Isotopes business	—	—	—	(68,156)	(68,156)
Toxikon Europe acquisition measurement period adjustments	—	—	1,428	—	1,428
Reallocation of goodwill	(20,000)	—	20,000	—	—
Changes due to foreign currency exchange rates	(4,392)	(23,021)	(1,563)	(2,770)	(31,746)
Goodwill at December 31, 2018	613,637	269,272	140,405	—	1,023,314
Gibraltar Laboratories acquisition[1] measurement period adjustments	**—**	**—**	**1,589**	**—**	**1,589**
Changes due to foreign currency exchange rates	**(948)**	**12,618**	**(708)**	**—**	**10,962**
Goodwill at December 31, 2019	**$612,689**	**$281,890**	**$ 141,286**	**$ —**	**$1,035,865**

1 Gibraltar Laboratories is now known as Nelson Laboratories Fairfield, Inc.

Other intangible assets consist of the following:

(thousands of U.S. dollars) As of December 31, 2019	Gross Carrying Amount	Accumulated Amortization
Finite-lived intangible assets		
Customer relationships	**$ 612,068**	$ 248,931
Proprietary technology	**87,971**	30,224
Trade names	**7,201**	1,860
Land-use rights	**8,896**	1,011
Sealed source and supply agreements	**235,706**	74,825
Other	**336**	243
Total finite-lived intangible assets	**952,178**	**357,094**
Indefinite-lived intangible assets		
Regulatory licenses and other[1]	**80,103**	—
Trade names / trademarks	**20,819**	—
Total indefinite-lived intangible assets	**100,922**	**—**
Total	**$ 1,053,100**	**$ 357,094**

As of December 31, 2018	Gross Carrying Amount	Accumulated Amortization
Finite-lived intangible assets		
Customer relationships	$ 611,529	$ 193,077
Proprietary technology	86,948	23,020
Trade names	7,209	1,371
Land-use rights	9,013	803
Sealed source and supply agreements	225,084	56,017
Other	343	134
Total finite-lived intangible assets	940,126	274,422
Indefinite-lived intangible assets		
Regulatory licenses and other[1]	76,493	—
Trade names / trademarks	23,857	—
Total indefinite-lived intangible assets	100,350	—
Total	$ 1,040,476	$ 274,422

Amounts include the impact of foreign currency translation. Fully amortized amounts are written off.

1 Includes certain transportation certifications, a class 1B nuclear license and other intangibles related to obtaining such licensure. These assets are considered indefinite-lived as the decision for renewal by the Canadian Nuclear Safety Commission is highly based on a licensee's previous assessments, reported incidents, and annual compliance and inspection results. New applications for license can take a significant amount of time and cost; whereas an existing licensee with a historical record of compliance and current operating conditions more than likely ensures renewal for another 10 year license period as Nordion has demonstrated over its 70 years of history.

As referenced in the *Property, Plant and Equipment and Capital Leases* note, we withdrew from the GA-MURR project in early April 2018. In addition to the impairment of fixed assets, an intangible asset initially recorded at

its estimated fair value in connection with the Company's 2015 change in control related to the Company's MURR supply agreement with a carrying value of $50.1 million was written off. The resulting impairment charge of $50.1 million was recognized in "Impairment of GA-MURR intangible assets" in the consolidated statement of operations and comprehensive income (loss) for the year ended December 31, 2018.

Amortization expense for other intangible assets was $80.0 million ($21.5 million is included in "Cost of revenues" and $58.5 million in "Selling, general and administrative expenses" in the consolidated statements of operations and comprehensive income (loss)) and $79.9 million ($21.9 million is included in "Cost of revenues" and $58.0 million in "Selling, general and administrative expenses" in the consolidated statements of operations and comprehensive income (loss)) for the years ended December 31, 2019 and 2018, respectively.

The estimated aggregate amortization expense for finite-lived intangible assets for each of the next five years and thereafter is as follows:

(thousands of U.S. dollars)	
2020	**$ 80,854**
2021	**80,426**
2022	**76,486**
2023	**76,476**
2024	**75,696**
Thereafter	**205,146**
Total	**$ 595,084**

The weighted-average remaining useful life of the finite-lived intangible assets was approximately 10 years as of December 31, 2019.

9. Accrued Liabilities

Accrued liabilities consist of the following:

(thousands of U.S. dollars)		
As of December 31,	**2019**	**2018**
Accrued employee compensation	**$ 28,912**	$ 26,895
Legal reserves	**2,751**	18,506
Accrued interest expense	**10,648**	9,998
Embedded derivatives	**3,478**	5,248
Professional fees	**4,329**	5,390
Accrued utilities	**1,135**	1,049
Insurance accrual	**1,241**	1,478
Accrued taxes	**2,363**	2,651
Other	**3,679**	4,494
Accrued liabilities	**$ 58,536**	$ 75,709

The reduction in legal reserves is a result of the final judgment and settlement of litigation at Nordion in early 2019 for which we had insurance and indemnification receivables for a significant portion. Refer to the *Prepaid Expenses and Other Current Assets* note.

Sotera Health Topco, Inc.

Notes to Consolidated Financial Statements

10. Long-Term Debt and Capital Lease Obligations

Long-term debt and capital lease obligations consist of the following:

(thousands of U.S. dollars) As of December 31,	2019	2018
Term loan, due 2022	**$ —**	$ 1,350,303
Senior notes, due 2023	**—**	450,000
Term loan, due 2026	**2,120,000**	—
Senior notes, due 2027	**770,000**	—
Senior PIK Toggle notes due 2021	**—**	425,000
Capital lease obligations	**31,171**	32,887
Other long-term debt	**881**	2,049
Total long-term debt and capital lease obligations	**2,922,052**	2,260,239
Less current portion	**(17,619)**	(16,695)
Less unamortized debt issuance costs and debt discounts	**(73,677)**	(22,446)
Total long-term debt and capital lease obligations, less current portion and debt issuance costs and debt discounts	**$ 2,830,756**	$ 2,221,098

Debt Facilities

1st Lien Senior Secured Credit Facilities

On December 13, 2019, Sotera Health Holdings, LLC (“SHH”), our wholly owned subsidiary, entered into new Senior Secured 1st Lien Credit Facilities (the “1st Lien Credit Facilities”) and settled its previously outstanding term loan and senior notes.

The 1st Lien Credit Facilities consist of both a 1st Lien Term Loan (“Term Loan”) and Revolving Credit Facility that provide for additional senior secured financing of $190.0 million. The Term Loan matures on December 13, 2026, and the Revolving Credit Facility matures on December 13, 2024. The 1st Lien Credit Facilities also provide SHH the right at any time and under certain conditions to request incremental term loans or incremental revolving credit commitments based on a formula defined in the 1st Lien Credit Facilities. As of December 31, 2019, total borrowings under the Term Loan were $2,120.0 million and the Revolving Credit Facility remained unutilized. The Term Loan may bear interest at LIBOR or an alternate base rate (“ABR”) subject to a 1.00% floor plus, an incremental margin of 4.50% in the case of LIBOR loans and 3.50% in the case of ABR loans.

Beginning on June 30, 2020, the Term Loan is paid in equal quarterly installments in aggregate annual amounts equal to 1.0% of the Term Loan original principal amount, while the remaining balance matures on December 13, 2026. The weighted average interest rate on borrowings under the Term Loan at December 31, 2019 was 6.29%.

As of December 31, 2019, capitalized debt issuance costs and debt discounts totaled $4.7 million and $44.0 million, respectively, related to the 1st Lien Credit Facilities. Such costs are recorded as a reduction of debt on our consolidated balance sheets and amortized as a component of interest expense over the term of the debt agreement.

Borrowings under the Revolving Credit Facility bear interest at a rate per annum equal to an applicable margin, plus, at our option, either (a) an ABR or (b) a LIBOR rate. The applicable margin under the Revolving Credit Facility may be reduced by reference to a leverage-based pricing grid with step-downs of 0.25% at a specified

senior secured first lien net leverage ratios. In addition to paying interest on any outstanding borrowings under the Revolving Credit Facility, SHH is required to pay a commitment fee to the lenders under the Revolving Credit Facility in respect of the unutilized commitments thereunder and customary letter of credit fees. As of December 31, 2019, there are no borrowings on the Revolving Credit Facility. The Revolving Credit Facility contains a maximum senior secured first lien net leverage ratio covenant of 9.00 to 1.00, tested on the last day of each fiscal quarter if, on the last day of such fiscal quarter, the sum of (i) the aggregate principal amount of the revolving loans then outstanding under the Revolving Credit Facility, plus (ii) the aggregate amount of letter of credit ("LC") disbursements that have not been reimbursed within two business days following the end of the fiscal quarter, exceeds the greater of $76.0 million and 40.0% of the aggregate principal amount of the revolving commitments then in effect. Although this covenant did not apply as the conditions were not met, as of December 31, 2019 the first lien net leverage ratio, as defined in the Revolving Credit Facility, was approximately 5.40 to 1.00.

The 1st Lien Credit Facilities contain additional covenants that, among other things, restrict, subject to certain exceptions, our ability and the ability of our restricted subsidiaries to engage in certain activities, such as incur indebtedness or permit to exist any lien on any property or asset now owned or hereafter acquired, as specified in the debt facility. The 1st Lien Credit Facilities also contain certain customary affirmative covenants and events of default, including upon a change of control. As of December 31, 2019, we were in compliance with all the 1st Lien Credit Facilities covenants.

All of SHH's obligations under the 1st Lien Credit Facilities are unconditionally guaranteed by the Company and each existing and subsequently acquired or organized direct or indirect wholly-owned domestic restricted subsidiary of the Company, with customary exceptions including, among other things, where providing such guarantees is not permitted by law, regulation or contract or would result in material adverse tax consequences. All obligations under the 1st Lien Credit Facilities, and the guarantees of such obligations, are secured by substantially all assets of the borrower and guarantors, subject to permitted liens and other exceptions and exclusions, as outlined in the 1st Lien Credit Facilities.

Outstanding letters of credit are collateralized by encumbrances against the Revolving Credit Facility and the collateral pledged thereunder, or by cash placed on deposit with the issuing bank. As of December 31, 2019, the Company had $62.5 million of letters of credit issued against the Revolving Credit Facility, resulting in total availability under the Revolving Credit Facility of $127.5 million.

In October 2017, SHH entered into two interest rate cap agreements with a total notional amount of $400.0 million for a total premium of $0.6 million. The interest rate caps limit the Company's cash flow exposure related to the LIBOR base rate under the variable rate term loan borrowings to 3.0%. The interest rate cap agreements terminate on September 30, 2020. The interest rate caps were not designated as hedges and are recorded at fair value on the consolidated balance sheets, with any changes in the value being recorded in the consolidated statements of operations and comprehensive income (loss). See the *Financial Instruments and Financial Risk* note for a summary of the activity of the interest rate caps for the periods presented.

During the third quarter of 2019, SHH entered into two interest rate swap agreements to hedge exposure to interest rate movements and to manage interest expense related to outstanding variable-rate debt. These swaps were designated as hedges against the changes in cash flows attributable to changes in LIBOR, the benchmark interest rate being hedged. We receive interest at one-month LIBOR and pay a fixed interest rate under the terms of the swap agreement. The swap agreements terminated on August 31, 2020. The notional amount of the interest rate swap agreements totals $1,000.0 million. See the *Financial Instruments and Financial Risk* note for a summary of the activity of the interest rate swaps for the periods presented.

2nd Lien Senior Secured Notes

On December 13, 2019, SHH issued $770.0 million of 2nd Lien Senior Secured Notes (the "2nd Lien Notes"), which mature on December 13, 2027. The 2nd Lien Notes bear interest at a rate equal to LIBOR subject to a 1.00% floor plus 8.00% per annum. The weighted average interest rate on the 2nd Lien Notes at December 31, 2019 was 9.89%.

SHH is entitled to redeem all or a portion of the 2nd Lien Notes, at any time and from time to time, subject to certain premiums depending on the date of redemption: any time prior to December 13, 2020, a customary make-whole premium applies and, thereafter, specified premiums that decline to zero apply (in each case as described in the indenture governing the 2nd Lien Notes). In addition, under certain circumstances, such as an initial public offering or certain changes of control, SHH has certain additional redemption rights (as described in the indenture governing the 2nd Lien Notes).

All of SHH's obligations under the 2nd Lien Notes are unconditionally guaranteed by the Company and each existing and subsequently acquired or organized direct or indirect wholly-owned domestic restricted subsidiary of the Company, with customary exceptions including, among other things, where providing such guarantees is not permitted by law, regulation or contract or would result in material adverse tax consequences. All obligations under the 2nd Lien Notes, and the guarantees of such obligations, are secured by substantially all of the assets of the borrower and guarantors, subject to permitted liens and other exceptions and exclusions, as outlined in the 2nd Lien Notes. Such collateral is substantially the same collateral that secures the 1st Lien Credit Facilities, and any security interest or lien on shared collateral securing the 1st Lien Credit Facilities has priority over any security interest or lien on shared collateral securing the 2nd Lien Notes.

As of December 31, 2019, capitalized debt issuance costs and debt discounts were $1.8 million and $23.2 million, respectively, related to the 2nd Lien Notes, which are recorded as a reduction of debt on our consolidated balance sheet and amortized into interest expense over the term of the debt agreement.

2019 Refinancing

In conjunction with the December 2019 refinancing, the Company redeemed, in full, the previously outstanding $1,659.0 million aggregate Term Loan due 2022, its $450.0 million Senior Notes due 2023 ("Senior Notes") and $425.0 million Senior PIK ("paid in kind") Toggle Notes due 2021. In total, we wrote off $13.5 million of debt issuance and discount costs and recognized $14.6 million representing premiums paid in connection with the early extinguishment of the Senior Notes. In connection with the refinancing, we also recognized an additional $2.1 million of expense related to debt issuance and discount costs. We recognized these costs within the loss on extinguishment of debt in our consolidated statements of operations and comprehensive income (loss). Any additional proceeds were used to fund a dividend to shareholders of $275.0 million.

Prior to the refinancing referenced above, the Company had the following long-term debt:

- Senior secured credit facilities consisting of a term loan and a revolving credit facility that provided for additional senior secured financing of $172.5 million. Borrowings under the term loan bore interest at either (i) an alternative base rate ("ABR") plus an additional margin of 2.00% or (ii) LIBOR plus an additional margin of 3.00%. Each of ABR and LIBOR were subject to a floor of 1.00%,
- $450 million aggregate principal amount of senior notes, at an interest rate of 6.5% per annum, payable semi-annually, and
- $425 million aggregate principal amount of Senior PIK ("paid in kind") Toggle notes at a rate of 8.125%/8.875% per annum, payable semi-annually.

Aggregate Maturities

Aggregate maturities of the Company's long-term debt, including capital leases, and excluding debt discounts, as of December 31, 2019, are as follows:

(thousands of U.S. dollars)	
2020	**$ 17,619**
2021	**22,304**
2022	**22,300**
2023	**22,833**
2024	**22,523**
Thereafter	**2,814,473**
Total	**$ 2,922,052**

Aggregate Future Minimum Lease Payments Under Capital Leases

As of December 31, 2019, aggregate future minimum lease payments under capital leases are as follows:

(thousands of U.S. dollars)	
2020	**$ 3,158**
2021	**2,900**
2022	**2,824**
2023	**2,833**
2024	**2,892**
Thereafter	**36,453**
Total minimum lease payments	**51,060**
Less amounts representing interest	**(19,889)**
Present value of net minimum lease payments	**$ 31,171**

11. Income Taxes

The geographic sources of income (loss) before income taxes were as follows:

(thousands of U.S. dollars) **Year ended December 31,**	**2019**	**2018**
U.S.	**$ (99,733)**	$ (45,134)
Foreign	**98,817**	69,356
Income (loss) before income taxes	**$ (916)**	$ 24,222

Provision for income taxes consists of the following:

(thousands of U.S. dollars) Year ended December 31,	2019	2018
Current		
Federal U.S.	**$ 17,954**	$ 22,302
State U.S.	**3,662**	4,882
Foreign	**16,886**	48,233
Total current provision	**38,502**	75,417
Deferred		
Federal U.S.	**(18,177)**	(15,437)
State U.S.	**(5,958)**	(2,396)
Foreign	**5,142**	(27,486)
Total deferred benefit	**(18,993)**	(45,319)
Total provision for income taxes	**$ 19,509**	$ 30,098

The provision for income taxes is reconciled with the U.S. federal statutory rate as follows:

(thousands of U.S. dollars) Year ended December 31,	2019	2018
(Benefit) provision computed at federal statutory rate	**$ (192)**	$ 5,088
(Decrease) increase in taxes as a result of:		
State taxes, net of federal benefit	**(2,681)**	(247)
Valuation allowance	**5,147**	(641)
Global intangible low-tax income (GILTI)	**10,349**	4,902
Nondeductible share-based compensation	**3,545**	1,458
Foreign tax rate	**5,550**	5,571
Impact of rate changes on deferred tax balances	**(559)**	5,296
Tax holiday	**(571)**	(456)
Audit settlement	**879**	2,517
Other	**(1,958)**	6,610
Total provision for income taxes	**$19,509**	$30,098

The components of the tax effects of temporary differences and carryforwards that gave rise to significant portions of the deferred tax assets and liabilities are as follows:

(thousands of U.S. dollars)

As of December 31,	2019	2018
Net operating loss carryforwards	**$ 10,876**	$ 11,173
Net capital loss carryforwards	**3,916**	—
Reserves and accruals	**14,246**	16,700
Employee benefits and compensation	**8,279**	5,434
Unrealized foreign currency exchange	**3,083**	2,464
Asset retirement obligation	**10,535**	9,380
Disallowed interest carryforward	**41,723**	21,161
Other	**5,393**	5,130
Deferred tax assets before valuation allowance	**98,051**	71,442
Valuation allowance	**(22,962)**	(16,678)
Net deferred tax assets	**75,089**	54,764
Depreciation and amortization	**(210,010)**	(178,764)
Partnership basis difference	**—**	(31,627)
Other	**(62)**	(91)
Total deferred tax liabilities	**(210,072)**	(210,482)
Net deferred tax liabilities	**$ (134,983)**	$ (155,718)
Noncurrent net deferred tax assets	**$ 2,252**	$ 15,764
Noncurrent net deferred tax liabilities	**(137,235)**	(171,482)
Noncurrent net deferred tax liabilities	**$ (134,983)**	$ (155,718)

At December 31, 2019 and 2018, the Company had available state net operating loss carryforwards of $11.8 million and $0, respectively, of which $11.5 million have no expiration date, and foreign net operating loss carryforwards of approximately $44.2 million and $46.7 million, respectively, the majority of which have no expiration date. At December 31, 2019 and 2018, a valuation allowance was established against foreign net operating loss carryforwards for $12.4 million and $12.1 million, respectively. Based on management's assessment, it is not more likely than not that these deferred tax assets will be realized through future taxable income.

At December 31, 2019 and 2018, no deferred tax liability has been recorded for repatriation of earnings for purposes of the Company's consolidated financial statements as these earnings are deemed to be indefinitely reinvested. Determining the amount of unrecognized deferred tax liability related to any remaining undistributed foreign earnings not subject to the transition tax and additional outside basis difference in these entities (i.e., basis difference in excess of that subject to the one-time transition tax) is not practicable.

As of December 31, 2019, and 2018, the gross reserve for uncertain tax positions, excluding accrued interest and penalties, was $0 and $9.9 million, respectively, as noted in the following reconciliation. In 2018 an allowance of $8.8 million was established relating to the uncertainty of the deductibility of certain assets in relation to Nordion's sale of its Medical Isotopes business, which uncertainties were resolved in 2019. The uncertain tax positions were reversed in 2019 once full deductibility was confirmed.

The Company's unrecognized income tax benefits were as follows:

(thousands of U.S. dollars) For the period from January 1 – December 31,	2019	2018
Gross unrecognized tax benefits, beginning of year	**$10,239**	$ 1,383
Additions related to current year	**—**	8,832
Changes related to prior years	**—**	300
Settlements	**(9,939)**	—
Other	**—**	(276)
Gross unrecognized tax benefits, end of period	**$ 300**	$10,239

The Company recognizes interest and penalties as part of the provision for income taxes. For the years ended December 31, 2019 and 2018, interest and penalties related to uncertain income tax positions that were recognized in the consolidated statements of operations and comprehensive income (loss) were not material.

The Company, which represents all of its subsidiaries, files income tax returns in the U.S. federal jurisdiction and various states and foreign jurisdictions. The Company is no longer subject to U.S. federal, state, and local tax examinations before 2015, and non-U.S. income tax examinations by tax authorities for years before 2010. Tax years through December 31, 2016 have been audited by the Internal Revenue Service ("IRS") and are effectively closed for U.S. federal income tax purposes. The 2017 tax year is currently under audit. For Nordion's Canadian tax, all tax years through October 31, 2014 have been closed through audit or statute, and fiscal year 2016 is currently under audit.

A portion of the Company's foreign operations benefit from a tax holiday, which is set to expire in 2025. This tax holiday may be terminated early if certain conditions are not met. The tax benefit attributable to this holiday was $0.6 million and $0.5 million for the fiscal years ended December 31, 2019 and 2018, respectively.

12. Employee Benefits

Employee Retirement Benefits in the U.S.

We have a defined-contribution retirement plan that covers all U.S. employees upon date of hire. Contributions are directed by each participant into various investment options. Under this plan, we match participants' contributions based on plan provisions. The Company's contributions, which are expensed as incurred, were $3.8 million and $3.5 million for the years ended December 31, 2019 and 2018, respectively, and are recorded in the same line as the respective employee's wages. Administrative expenses related to the plan are paid by the Company and are not material.

Employee Retirement Benefits Outside the U.S.

The Company participates in qualified supplemental retirement and savings plans in various countries outside the U.S. where we operate. Under these defined-contribution plans, funding and costs are generally based upon a predetermined percentage of employee compensation. The Company's contributions, which are expensed as incurred and recorded in the same line as the respective employee's wages were $1.1 million and $0.9 million for the years ended December 31, 2019 and 2018, respectively.

Defined Benefit Pension Plans

The Company also sponsors various post-employment benefit plans including, in certain countries outside the U.S., defined benefit and retirement compensation arrangements, and plans that provide extended health care coverage to retired employees, the majority of which relate to Nordion.

Defined Benefit Pension Plan

The interest cost and expected return on plan assets are recorded in "Other income, net" and the service cost component is included in the same financial statement line item as the applicable employee's wages in the consolidated statements of operations and comprehensive income (loss). The components of net periodic benefit cost for the defined benefit pension plans were as follows.

Year ended December 31, *(thousands of U.S. dollars)*	**2019**	2018
Service cost	**$ 1,147**	$ 2,258
Interest cost	**8,521**	8,690
Expected return on plan assets	**(13,218)**	(13,170)
Net periodic benefit	**$ (3,550)**	$ (2,222)

The following weighted average assumptions were used in the determination of the projected benefit obligation and the net periodic benefit:

Year ended December 31,	**2019**	2018
Projected benefit obligation		
Discount rate	**3.07%**	3.67%
Rate of compensation increase	**3.00%**	3.00%
Periodic benefit		
Discount rate	**3.67%**	3.59%
Expected return on plan assets	**5.50%**	5.00%
Rate of compensation increase	**3.00%**	3.00%

The changes in the projected benefit obligation, fair value of plan assets, and the funded status of the plans are as follows:

(thousands of U.S. dollars) As of December 31,	2019	2018
Change in projected benefit obligation		
Projected benefit obligation, as of beginning of the year	**$246,922**	$284,977
Service cost	**1,353**	2,684
Interest cost	**8,521**	8,690
Benefits paid	**(10,663)**	(10,954)
Actuarial loss (gain)	**35,813**	(12,375)
Curtailments	**—**	(4,313)
Foreign currency exchange rate changes	**12,329**	(21,787)
Projected benefit obligation, end of year	**$294,275**	$246,922
Change in fair value of plan assets		
Fair value of plan assets as of the beginning of the year	**238,204**	272,835
Actual return on plan assets	**35,045**	(4,726)
Benefits paid	**(10,663)**	(10,954)
Employer contributions	**725**	1,576
Employee contributions	**205**	426
Foreign currency exchange rate changes	**11,732**	(20,953)
Fair value of plan assets, end of year	**$275,248**	$238,204
Underfunded status at end of year	**$ (19,027)**	$ (8,718)
Accumulated benefit obligation, end of year	**$288,355**	$241,983

All defined benefit pension plans are underfunded as of December 31, 2019 and 2018.

The funded status measured as the difference between the fair value of the plan assets and the projected benefit obligation are included in post-retirement obligations in the consolidated balance sheets.

A reconciliation of the funded status to amounts recognized in the consolidated balance sheets is as follows:

(thousands of U.S. dollars) As of December 31,	2019	2018
Projected benefit obligation	**$294,275**	$246,922
Fair value of plan assets	**275,248**	238,204
Plan assets less than projected benefit obligation	**(19,027)**	(8,718)
Unrecognized net actuarial loss	**36,166**	20,922
Net amount recognized at year end	**$ 17,139**	$ 12,204
Noncurrent liabilities	**$ (19,027)**	$ (8,718)
Accumulated other comprehensive (income) loss	**36,166**	20,922
Net amount recognized at year end	**$ 17,139**	$ 12,204

The following table illustrates the amounts in accumulated other comprehensive (income) loss that have not yet been recognized as components of pension expense:

(thousands of U.S. dollars) As of December 31,	2019	2018
Net actuarial loss	**$36,166**	$20,922
Deferred income taxes	**(9,136)**	(5,285)
Accumulated other comprehensive loss – net of tax	**$27,030**	$15,637

The weighted average asset allocation of the Company's pension plans was as follows:

Asset Category	Target	2019	2018
Cash	0%	**0.2%**	0.3%
Fixed income	40%	**39.5%**	43.5%
Equities	37%	**37.6%**	56.2%
Hedge Funds	23%	**22.7%**	0%
Total	100%	**100%**	100%

The Company maintains target allocation percentages among various asset classes based on investment policies established for the pension plans, which are designed to maximize the total rate of return (income and appreciation) after inflation, within the limits of prudent risk taking, while providing for adequate near-term liquidity for benefit payments. Such investment strategies have adopted an equity-based philosophy in order to achieve their long-term investment goals by investing in assets that often have uncertain returns, such as Canadian and other foreign equities, and non-government bonds. However, the Company also attempts to reduce its overall level of risk by diversifying the asset classes and further diversifying within each individual asset class.

The Company's expected return on asset assumptions are derived from studies conducted by actuaries and investment advisors. The studies include a review of anticipated future long-term performance of individual asset classes and consideration of the appropriate asset allocation strategy given the anticipated requirements of the plans to determine the average rate of earnings expected on the funds invested to provide for the pension plans benefits. While the study considers recent fund performance and historical returns, the assumption is primarily a long-term, prospective rate.

The following table provides a basis of fair value measurement for plan assets held by the Company's pension plans that are measured at fair value on a recurring basis. Refer to the discussion of fair value hierarchy in the *Financial Instruments and Financial Risk* note.

As of December 31, 2019 *(thousands of U.S. dollars)*	**Level 1**	**Level 2**	**Total**
Cash and cash equivalents	**$ 550**	**$ —**	**$ 550**
Fixed income securities	—	**108,723**	**108,723**
Equity securities	—	**92,208**	**92,208**
Hedge Funds	—	**73,767**	**73,767**
Total	**$ 550**	**$274,698**	**$275,248**

As of December 31, 2018	**Level 1**	**Level 2**	**Total**
Cash and cash equivalents	$ 714	$ —	$ 714
Fixed income securities	—	103,619	103,619
Equity securities	—	133,871	133,871
Total	$ 714	$ 237,490	$238,204

Expected future benefit payments from plan assets are as follows:

Year ended December 31 *(thousands of U.S. dollars)*	
2020	**$ 11,126**
2021	**11,647**
2022	**12,034**
2023	**12,314**
2024	**12,584**
2025 – 2029	**66,160**
	$ 125,865

Other Post Retirement Benefit Plans

Other benefit plans are all related to our foreign subsidiaries and include a supplemental retirement arrangement, a retirement and termination allowance, and post-retirement benefit plans, which include contributory health and dental care benefits and contributory life insurance coverage. All, but one, non-pension post-employment benefit plans are unfunded.

The interest cost and amortization of net actuarial (gain) loss are recorded in "Other income, net" and the service cost component is included in the same financial statement line item as the applicable employee's wages in the consolidated statements of operations and comprehensive income (loss). The components of net periodic benefit cost for the other post-retirement benefit plans were as follows:

(thousands of U.S. dollars) **Year Ended December 31,**	**2019**	2018
Service cost	**$ 30**	$ 61
Interest cost	**372**	358
Amortization of net actuarial (gain) loss	**123**	1
Net periodic benefit cost	**$525**	$420

The weighted average assumptions used to determine the projected benefit obligation and net periodic pension cost for these plans were as follows:

Year Ended December 31,	**2019**	2018
Projected benefit obligation		
Discount rate	**3.13%**	3.52%
Rate of compensation increase	**3.0%**	3.0%
Initial health care cost trend rate	**7.0%**	5.72%
Ultimate health care cost trend rate	**4.0%**	4.5%
Years until ultimate trend rate is reached	**13**	14
Benefit cost		
Discount rate	**3.52%**	3.55%
Rate of compensation increase	**3.0%**	3.0%

Assumed health care cost trend rates have a significant effect on the amounts reported for the health care plans. A one-percentage point change in assumed health care cost trend rates would have had the following impact on our consolidated financial statements in 2019:

(thousands of U.S. dollars)	**1% Increase**	**1% Decrease**
Change in net periodic benefit cost	**$ 27**	**$ (25)**
Change in projected benefit obligation	**979**	**(802)**

The changes in the projected benefit obligation and the funded status of the other post-retirement plans were as follows:

(thousands of U.S. dollars) As of December 31,	2019	2018
Change in projected benefit obligation		
Projected benefit obligation	**$ 11,019**	$ 12,842
Service cost	**30**	61
Interest cost	**372**	358
Benefits paid	**(676)**	(752)
Actuarial loss (gain)	**1,166**	(603)
Curtailments	**170**	88
Foreign currency exchange rate changes	**540**	(975)
Projected benefit obligation, end of year	**$ 12,621**	$ 11,019
Change in fair value of plan assets		
Fair value of plan assets as of the beginning of the year	**$ 325**	$ 306
Benefits paid	**(676)**	(752)
Employer contributions	**546**	628
Employee contributions	**170**	168
Foreign currency exchange rate changes	**16**	(25)
Fair value of plan assets, end of year	**$ 381**	$ 325
Underfunded status at end of year	**$(12,240)**	$(10,694)
Accumulated benefit obligation, end of year	**$ 12,473**	$ 10,880

All other post-retirement benefit pension plans are underfunded as of December 31, 2019 and 2018.

A reconciliation of the funded status to the net plan liabilities recognized in the consolidated balance sheets is as follows:

(thousands of U.S. dollars) As of December 31,	2019	2018
Projected benefit obligation	**$(12,621)**	$(11,019)
Fair value of plan assets	**381**	325
Plan assets less than projected benefit obligation	**(12,240)**	(10,694)
Unrecognized actuarial gains (losses)	**107**	(913)
Net amount recognized at year end	**$(12,133)**	$(11,607)
Noncurrent liabilities	**$(12,240)**	$(10,694)
Accumulative other comprehensive income (loss)	**107**	(913)
Net amount recognized at year end	**$(12,133)**	$(11,607)

The other benefit plan liabilities are presented on the consolidated balance sheets as post retirement obligations.

The following table illustrates the amounts in accumulated other comprehensive income (loss) that have not yet been recognized as components of other benefit plan expense:

(thousands of U.S. dollars) As of December 31,	2019	2018
Net actuarial income (loss)	**$107**	$(913)
Deferred income taxes	**(27)**	229
Accumulated other comprehensive income (loss) – net of tax	**$ 80**	$(684)

Based on the actuarial assumptions used to develop the Company's benefit obligations as of December 31, 2019, the following benefit payments are expected to be made to plan participants:

Years ended December 31 *(thousands of U.S. dollars)*	
2020	**$ 617**
2021	**610**
2022	**614**
2023	**590**
2024	**565**
2025 – 2029	**2,783**
Total	**$5,779**

We currently expect funding requirements of approximately $3.0 million in each of the next five years to fund the regulatory solvency deficit, as defined by Canadian federal regulation, which require solvency testing on defined benefit pension plans.

During the years ended December 31, 2019 and 2018, we contributed $0.7 million and $0.6 million, respectively, to defined benefit plans on behalf of our employees.

The Company may obtain a qualifying letter of credit for solvency payments, up to 15% of the market value of solvency liabilities as determined on the valuation date, instead of paying cash into the pension fund. As of December 31, 2019 and 2018, we had letters of credit outstanding relating to the defined benefit plans totaling $41.0 million and $38.0 million, respectively. The deficit has risen due to falling real interest rates where the pension liabilities increased more than the increase in the value of pension assets. The actual funding requirements over the five-year period will be dependent on subsequent annual actuarial valuations. These amounts are estimates, which may change with actual investment performance, changes in interest rates, any pertinent changes in Canadian government regulations and any voluntary contributions.

13. Related Parties

The immediate family of a member of management are 25% owners of a facility that is under lease by the Company through June 2024, with one five-year renewal option through June 2029. The rental expense related to this facility is approximately $1.0 million per year.

During 2017, the Company issued loans totaling $0.6 million to two members of management to assist with the purchase of Class A Units. The loans are interest-bearing, and repayment of each loan is required within 3 years from the date of its execution. The total value of the loans as of December 31, 2018 was $0.1 million, and they were fully paid off in 2019.

In addition, we do business with a number of other companies affiliated with Warburg Pincus and GTCR, our Sponsors. All transactions with these companies have been conducted in the ordinary course of our business and are not material to our operations.

14. Other Comprehensive Income (Loss)

Amounts in accumulated other comprehensive income (loss) are presented net of the related tax. Foreign currency translation is not adjusted for income taxes.

Changes in our accumulated other comprehensive income (loss) balances, net of tax, were as follows:

(thousands of U.S. dollars)	Defined Benefit Plans	Foreign Currency Translation	Interest Rate Swaps	Total
Beginning balance – January 1, 2019	**$(14,987)**	**$ (94,970)**	**$ —**	**$(109,957)**
Other comprehensive income (loss) before reclassifications	(676)	27,517	179	27,020
Amounts reclassified from accumulated other comprehensive income (loss)	(11,450)	—	—	(11,450)
Net current-period other comprehensive income (loss)	**(12,126)**	**27,517**	**179**	**15,570**
Ending balance – December 31, 2019	**$(27,113)**	**$ (67,453)**	$179	**$ (94,387)**
Beginning balance – January 1, 2018	**$(15,860)**	**$ (27,233)**	**$ —**	**$ (43,093)**
Other comprehensive income (loss) before reclassifications	443	(67,737)	—	(67,294)
Amounts reclassified from accumulated other comprehensive income (loss)	430	—	—	430
Net current-period other comprehensive income (loss)	**873**	**(67,737)**	**—**	**(66,864)**
Ending balance – December 31, 2018	**$(14,987)**	**$ (94,970)**	$—	**$(109,957)**

15. Share-Based Compensation

The Company's equity-based awards issued to employees include restricted unit awards which vest based on either time or the achievement of certain performance and market conditions. These equity-based awards represent an interest in our parent, Sotera Health Topco Parent, L.P. ("Topco Parent"), and are granted in respect of services provided to the Company and its subsidiaries.

Class B-1 time vesting units vest on a daily basis pro rata over a five-year period (20% per year), subject to the grantee's continued services on each vesting date. Upon the occurrence of a change in control of the Company, all then outstanding unvested Class B-1 Units held by Unitholders will become vested as of the date of consummation of such change in control, subject to the Unitholder's continued services through the consummation of the change in control.

Class B-2 Units are considered performance vesting units, and are scheduled to vest only upon satisfaction of certain thresholds. These units vest as of the first date on which (i) our Sponsors have received two and one-half times their invested capital in Topco Parent and (ii) the Sponsors' internal rate of return exceeds twenty percent, subject to such grantee's continued services through such date. No compensation expense has been recorded on the Class B-2 Units at this time as the related performance conditions are not considered probable of achievement. In the event of a change in control of the Company, any outstanding Class B-2 Units that remain

unvested immediately following the consummation of such a change in control of the Company shall be immediately canceled and forfeited without compensation.

Class C Units were issued in June 2016, are considered performance and time vesting units, and were accounted for as liability awards. No compensation expense was recorded on the Class C Units prior to the third quarter of 2019, as the related performance conditions were not considered probable of achievement. In the third quarter of 2019, all Class C Units vested based on the achievement of the aggregate distributions to the A Unitholder Partners and approval of the Board of Sotera Health Topco Parent, L.P. for accelerated vesting, and $10.0 million of stock-compensation expense was recognized and paid in accordance with the terms for redemption of outstanding Class C Units. No Class C Units remain outstanding.

The Company recognized $16.9 million ($10.0 million related to Class C Units and $6.9 million related to Class B-1 Units) and $6.9 million (related to Class B-1 units) of stock-based compensation for the years ended December 31, 2019 and 2018, respectively.

Fair value of the Class B-1 time vesting, B-2 performance vesting, and C Performance vesting units granted is estimated on the date of grant using a simulation-based option valuation model incorporating multiple and variable assumptions over time, including assumptions such as employee forfeitures, unit price volatility and dividend assumptions.

The assumptions used to calculate the fair value of the Class B-1, Class B-2, and Class C units were as follows:

	2019	2018
Risk-free interest rate	**2.7%**	1.8%
Expected volatility	**49%**	59%
Expected dividends	**None**	None
Expected time until exercise (years)	**1.5**	2.5

A summary of the activity for the years ended December 31, 2019 and 2018 related to the Class B-1, B-2 and C units issued to Company employees is presented below:

	B-1 Time Vesting	B-2 Performance Vesting	C Performance Vesting
At January 1, 2018	**53,344,377**	**17,004,885**	**4**
Granted	225,000	75,000	—
Forfeited	(1,734,173)	(578,058)	—
Vested	(19,651,070)	—	—
At December 31, 2018	**32,184,134**	**16,501,827**	**4**
Granted	**3,387,500**	**987,500**	**—**
Forfeited	**(4,028,843)**	**(2,478,071)**	**—**
Vested	**(17,092,528)**	**—**	**(4)**
At December 31, 2019	**14,450,263**	**15,011,256**	**—**

The following table provides a summary of the weighted average unit grant date fair value, weighted average remaining contractual term, total compensation cost and unrecognized compensation cost:

December 31, 2019 (*dollars in millions, except per award values*)	B-1 Time Vesting	B-2 Performance Vesting	C Performance Vesting	All Awards
Weighted average grant date fair value per unit of unvested units	$ 0.41	$ 0.34	N/A	$ 0.37
Weighted average remaining contractual term	0.8 years	N/A	N/A	N/A
Total compensation cost recognized during 2019	$ 6.9	$ —	$ 10.0	$ 16.9
Unrecognized compensation cost at December 31	$ 6.0	$ 5.1	N/A	$ 11.1

N/A – not applicable

16. Supplemental Pro Forma Loss Per Share (unaudited)

In connection with an initial public offering, holders of units held in Topco Parent L.P. will become holders of equity interests of Sotera Health Topco, Inc. Upon the effective date, the effect of conversion of Topco Parent L.P. outstanding units will result in an increase of [●] shares of Sotera Health Topco, Inc. preferred stock and/or common stock. As the conversion of the outstanding securities will occur subsequent to December 31, 2019 and the conversion will result in a material increase of loss per share (excluding effects of the offering), unaudited supplemental pro forma loss per share for the year ended December 31, 2019 is presented below giving effect to the conversion.

In addition, under SEC SAB Topic 1.B.3, a dividend declared in the latest year would be deemed to be in contemplation of the offering with the intention of repayment out of offering proceeds to the extent that the dividend exceeded earnings during the previous twelve months. During the year ended December 31, 2019, the Company paid $691.2 million of dividends, which exceeded the $20.9 million of net loss attributable to Sotera Health Topco, Inc. for the year ended December 31, 2019. As the Company had a net loss for the year ended December 31, 2019, no amount of the dividend was considered paid out of recent earnings, and as such, the unaudited supplemental pro forma loss per share and pro forma equivalent shares give effect to the issuance of the number of shares that would be required to generate net proceeds sufficient to make the dividends of $691.2 million in 2019. The number of incremental shares that would be required to be issued to pay the dividend is based on the assumed initial public offering price of $[●] per share, the midpoint of the estimated offering price range set forth on the cover of the Company's prospectus after deducting estimated underwriting discount and commissions and estimated offering expenses of $[●] per share. As a result, [●] shares to be issued in the offering (the estimated proceeds from which are greater than the amount by which the 2019 dividends exceeded earnings) have been included in the denominator for purposes of pro forma loss per share calculations for the year ended December 31, 2019.

The following table sets forth a computation of unaudited supplemental pro forma basic and diluted loss per share for the year ended December 31, 2019:

	(unaudited) December 31, 2019
Weighted average common shares outstanding—Basic and Diluted	3,000
Additional pro forma shares giving effect to the conversion of Topco Parent L.P. shares and units	
Additional pro forma shares required to be issued in the offering necessary to pay the dividend	
Supplemental pro forma weighted average common shares outstanding—Basic and Diluted	
Supplemental pro forma net loss per share—Basic and Diluted	

17. Asset Retirement Obligations ("ARO")

Our ARO represent the present value of future remediation costs and an increase in the carrying amounts of the related assets in property, plant and equipment in the consolidated balance sheets. The capitalized future site remediation costs are depreciated and the ARO are accreted over the life of the related assets which is included in depreciation and amortization expense, respectively.

The fair value of the ARO is determined based on estimates requiring management judgment. The key assumptions include the timing and estimated decommissioning costs of the remediation activities and credit adjusted risk free interest rates. Changes in the assumptions based on future information may result in adjustments to the estimated obligations over time. No market risk premium has been included in the calculation for the ARO since no reliable estimate can be made by the Company. Any difference between costs incurred upon settlement of an ARO and the liability recognized for the estimated cost of asset retirements will be recognized as a gain or loss in our current period operating results.

Each year, we review decommissioning costs and consider changes in marketplace rates. The following table describes changes to our ARO liability during the years presented:

(thousands of U.S. dollars)

For the Year Ended	2019	2018
ARO – beginning of period	**$40,543**	$41,297
Changes in estimates	**1,640**	61
Accretion expense	**2,051**	1,366
Foreign currency exchange and other	**962**	(2,181)
ARO – end of period	**45,196**	40,543
Less current portion of ARO	**2,200**	–
Noncurrent ARO – end of period	**$42,996**	$40,543

We recorded depreciation expense on the ARO of $0.3 million and $0.2 million, for the years ended December 31, 2019 and 2018, respectively.

We are obligated to provide financial assurance to local and state licensing authorities for possible future decommissioning costs associated with the various facilities that hold Co-60. At December 31, 2019 and 2018, $49.3 million and $47.8 million, respectively, of the standby letters of credit referenced above and surety bonds

were outstanding in favor of the various local and state licensing authorities in the event we defaulted on our decommissioning obligation.

18. Commitments and Contingencies

Leases

We lease certain facilities and equipment under various operating leases that expire through October 2034. At December 31, 2019, aggregate future minimum lease payments, net of sublease income, under all operating leases is shown below:

(thousands of U.S. dollars) **Years ended December 31,**	**Operating Leases**
2020	**$ 11,782**
2021	**10,283**
2022	**9,151**
2023	**6,413**
2024	**4,286**
Thereafter	**18,258**
Total	**$ 60,173**

Most of our real property leases provide for renewal periods and rent escalations and stipulate that we pay taxes, maintenance, and certain other operating expenses applicable to the leased premises. We recognize rent expense on a straight-line basis over the lease period and accrue for rent expenses incurred but not paid.

Total rent expense for all operating leases for the years ended December 31, 2019 and 2018 was $13.3 million and $13.6 million, respectively.

We depend on a limited number of suppliers for certain of our supply and direct material costs. This includes obligations under various supply agreements in our Nordion segment for Co-60 that are enforceable and legally binding on us. As of December 31, 2019, we had minimum purchase commitments primarily with domestic and international suppliers of raw materials for the Nordion business totaling $1,619 million. The terms of these long-term supply or service arrangements range from 1 to 45 years. In addition, our Sterigenics segment has obligations to purchase ethylene oxide (“EO”) gas. Our contract to purchase EO gas in the U.S. requires us to purchase all of our requirements from one supplier, and our contracts to purchase EO gas outside the U.S. generally require that we purchase a specified percentage of our requirements for our operations in the countries covered by those contracts. Although our EO gas contracts generally do not contain fixed minimum purchase volumes, we estimate the amounts based on the percentage of our requirements specified in the contracts and our budgeted purchase volumes for future periods covered under the contracts to be $28.2 million as of December 31, 2019. Such volumes are expected to be utilized in the normal course of our business and are not recognized on the consolidated balance sheets as a liability.

From time to time, we may be subject to various lawsuits and other claims in the ordinary course of our business. In addition, from time to time, we receive communications from government or regulatory agencies concerning investigations or allegations of noncompliance with laws or regulations in jurisdictions in which we operate.

We establish reserves for specific liabilities in connection with regulatory and legal actions that we determine to be probable and reasonably estimable. No material amounts have been accrued in our consolidated financial

statements with respect to any loss contingencies. In certain of the matters described below, we are not able to make a reasonable estimate of any liability because of the uncertainties related to the outcome and/or the amount or range of loss. While it is not possible to determine the ultimate disposition of each of these matters, we do not expect that the ultimate resolution of pending regulatory and legal matters in future periods, including the matters described below, will have a material effect on our financial condition or results of operations. Despite the above, the Company may incur material defense and settlement costs, diversion of management resources and other factors.

FM Global Business Interruption Claim (NRU Outage)

Nordion, due to the shutdown of AECL's NRU reactor in 2009, suffered a cessation of supply of radioisotopes and business interruption loss. Nordion, by Statement of Claim dated October 22, 2010, issued in Ontario Superior Court an action against the insurer, Factory Mutual Insurance Company (FM Global), claiming $25.0 million USD in losses resulting from the shutdown of AECL's reactor and its inability to supply radioisotopes through the specified period of approximately 15 months. FM Global objected to Nordion's claim.

Trial commenced in March 2019 and was completed in September 2019. On March 30, 2020, Nordion received a favorable judgment in the amount of $25.0 million USD, plus pre-judgment interest, for a total judgment value of $39.8 million USD, or $56.4 million CAD based on then prevailing exchange rates should Nordion opt for conversion to Canadian funds. In addition, costs and disbursements have been assessed and awarded by the trial court in favor of Nordion in the approximate amount of $1.1 million CAD ($0.8 million USD) and $161,863 CAD ($0.1 million USD), respectively. On April 27, 2020, FM Global filed notice to appeal the judgment before the Court of Appeal of Ontario. Pending a favorable judgment in the appellate court, any final proceeds would be subject to a contingent fee owed to legal counsel and applicable taxes. As the judgment is considered a contingent gain, any favorable outcome will be recognized in a future period when all appeals are exhausted. It is anticipated that the appeal process could take a year or more to complete.

Willowbrook, Illinois – Government Litigation

On October 30, 2018, the Illinois Attorney General and the State's Attorney of DuPage County, Illinois, sued Sterigenics U.S., LLC (the "IAG Action") alleging that authorized EO air emissions from a commercial sterilization facility Sterigenics formerly operated in Willowbrook, Illinois "cause, threaten, or allow air pollution" in violation of the Illinois Environmental Protection Act. The IAG Action did not assert that Sterigenics violated its permit from the Illinois Environmental Protection Agency ("IEPA") authorizing Sterigenics' release of regulated levels of EO at the Willowbrook facility.

On February 15, 2019, the acting IEPA director, John Kim, issued a "Seal Order" effectively precluding Sterigenics' operations at the Willowbrook facility based on many of the same allegations asserted in the IAG Action. Sterigenics disputed those allegations and opposed the IEPA's Seal Order. The Seal Order was resolved by a Consent Order entered on September 6, 2019. The Consent Order provided that Sterigenics did not admit the allegations of the IAG Action, provided for the removal of the Seal Order and allowed the Willowbrook facility to reopen upon implementation of supplemental emissions control measures consistent with a new law that became effective in Illinois in June 2019 and an IEPA permit that was approved in September 2019. Following entry of the Consent Order, the Seal Order was withdrawn.

On September 30, 2019, Sterigenics announced the closure of the Willowbrook facility due to the inability to reach an agreement to renew the facility's lease and the unstable legislative and regulatory landscape in Illinois. Sterigenics is in the process of decommissioning the facility and completing the work required by the terms of its lease to return the property to the landlord.

Ethylene Oxide Tort Litigation – Illinois

Since September 2018, tort lawsuits on behalf of nearly 800 plaintiffs (which are described further in the following paragraphs) have been filed in Illinois state court against Sotera Health LLC, Sterigenics U.S., LLC and other parties related to Sterigenics' Willowbrook, Illinois operations. Specifically, those plaintiffs allege that they suffered personal injuries including cancer and other diseases, or wrongful death, resulting from purported emissions and releases of EO from the Willowbrook facility. Plaintiffs seek damages in an amount to be determined by the trier of fact. Plaintiffs have voluntarily dismissed without prejudice a number of cases since September 2018, including certain individual cases alleging personal injuries and two class actions seeking property damages.

Sterigenics successfully sought consolidation of certain of these cases for pretrial purposes, which cases have now been consolidated before Judge Lawler in the Cook County Circuit Court, Illinois (the "Consolidated Case"). At present, 71 individual personal injury claims remain pending in the Consolidated Case. All plaintiffs in the Consolidated Case filed a single Master Complaint on October 24, 2019 by which Sotera Health LLC was added as a co-defendant, followed by a First Amended Master Complaint on January 31, 2020. On April 28, 2020, the defendants filed motions to dismiss the claims in the First Amended Master Complaint. On August 17, 2020, the Court entered an order largely denying the motions to dismiss, and the same day plaintiffs filed a Second Amended Master Complaint. Fact discovery is taking place in the Consolidated Case. A May 3, 2021 trial date has been set for Kamuda v. Sterigenics, the first-filed of the individual cases now included in the Consolidated Case, which is the first scheduled trial in these proceedings. Four additional cases now included in the Consolidated Case are currently scheduled for trials starting in June, August, September and November 2021. We anticipate that additional trials will be scheduled after 2021 in roughly the order in which the individual cases were filed.

On or about August 21, 2020, approximately 750 plaintiffs filed similar personal injury lawsuits against Sotera Health LLC, Sterigenics U.S., LLC and other parties in the Cook County Circuit Court, Illinois (but not in the existing Consolidated Case). We expect that most or all of these newly filed cases will be consolidated for pre-trial purposes with the Consolidated Case. There is currently no date set for the defendants to answer or otherwise respond to these newly filed cases.

On August 19, 2020, a lawsuit against Sotera Health LLC, Sterigenics U.S., LLC and other parties was filed by seven plaintiffs in the DuPage County Circuit Court, Illinois. The plaintiffs allege that they suffered personal injuries including but not limited to cancer resulting from purported emissions and releases of EO from the Willowbrook facility. Plaintiffs seek damages in an amount to be determined by the trier of fact. It is possible that this case will also be transferred to and consolidated with the above described Consolidated Case pending in Cook County, Illinois.

Additional personal injury and property damage lawsuits may be filed in the future against Sotera Health LLC and Sterigenics U.S., LLC relating to Sterigenics' Willowbrook facility or other EO processing facilities. Sotera Health LLC and Sterigenics U.S., LLC intend to defend themselves vigorously in all such EO tort litigation.

The Company carries insurance to cover alleged environmental liabilities with limits of $10.0 million per occurrence and $20.0 million in the aggregate. The per occurrence limit related to the Willowbrook EO tort litigations was fully utilized by June 30, 2020. We have not provided for a contingency reserve in connection with these claims. While we intend to vigorously defend the Willowbrook proceedings, there can be no assurance that we will be successful. We are unable to predict the incidence or outcome of such litigation or to reasonably estimate the possible range of any losses that could be incurred. An adverse outcome in one or more of these proceedings could have a material adverse effect on our business, financial condition and results of operations.

Ethylene Oxide Tort Litigation – Georgia

On May 19, 2020 a lawsuit against Sotera Health, LLC, Sterigenics U.S., LLC and other parties was filed in the State Court of Cobb County, Georgia by 53 employees of a contract sterilization customer of Sterigenics. Plaintiffs claim personal injuries resulting from alleged exposure to residual ethylene oxide while working at the customer's distribution center in Lithia Springs, Georgia and seek damages in an amount to be determined by the trier of fact. Motions to dismiss were filed by all defendants in August 2020. All defendants are being defended and indemnified by Sterigenics' contract sterilization customer (plaintiffs' employer).

In May 2020, the Cobb County, Georgia Board of Tax Assessors reduced certain residential property value assessments around the Sterigenics Atlanta facility by 10% citing an "Epd-identified environmental issue," without providing the requisite factual support for the reduction. On August 14, 2020, Sterigenics U.S., LLC filed a lawsuit against members of the Cobb County Board of Tax Assessors in the U.S. District Court for the Northern District of Georgia, seeking a declaration that the reduction in property value assessments is unlawful and is causing Sterigenics reputational and imminent economic harm. Defendants' responses to the complaint are due in September 2020, at which time the Court will also receive submissions by the parties on issues of standing and jurisdiction.

On August 17, 2020 a lawsuit against Sotera Health LLC, Sterigenics U.S., LLC and other parties was filed by two plaintiffs in the State Court of Cobb County, Georgia. Plaintiffs allege that they suffered personal injuries and loss of consortium resulting from purported emissions and releases of EO from Sterigenics' Atlanta facility. Plaintiffs seek damages in an amount to be determined by the trier of fact.

The Company carries insurance to cover alleged environmental liabilities with limits of $10.0 million per occurrence and $20.0 million in the aggregate, which is the same policy referred to under Ethylene Oxide Tort Litigation - Illinois above. We have not provided for a contingency reserve in connection with these claims.

Additional personal injury and property damage lawsuits may be filed in the future against Sotera Health LLC and Sterigenics U.S., LLC relating to Sterigenics' Atlanta facility or other EO processing facilities. Sotera Health LLC and Sterigenics U.S., LLC intend to defend themselves vigorously in all such EO tort litigation. While we intend to vigorously defend these proceedings, there can be no assurance that we will be successful. We are unable to predict the incidence or outcome of such litigation or to reasonably estimate the possible range of any losses that could be incurred. An adverse outcome in one or more of these proceedings could have a material adverse effect on our business, financial condition and results of operations.

Suspension of Georgia Facility Operations & Related Litigation

On August 7, 2019, Sterigenics U.S., LLC entered into a voluntary Consent Order with the Georgia Environmental Protection Division ("EPD") under which Sterigenics agreed to install emissions reduction enhancements at its Atlanta facility to further reduce the facility's EO emissions below already permitted levels. Sterigenics voluntarily suspended operations at the facility in early September 2019 to expedite completion of the enhancements. Installation of these enhancements is complete, and Sterigenics successfully tested the enhanced emissions controls in cooperation with EPD during the second quarter of 2020 while the facility was in operation.

In October 2019, while Sterigenics had voluntarily suspended the facility's operations, Cobb County, Georgia officials asserted that the facility had an incorrect "certificate of occupancy" and could not resume operations without obtaining a new certificate of occupancy after a third-party code compliance review they required.

After the Cobb County officials would not allow Sterigenics to resume operations, on March 30, 2020, Sterigenics U.S., LLC filed a lawsuit in the United States District Court for the Northern District of Georgia

against Cobb County, Georgia and Cobb County officials Nicholas Dawe and Kevin Gobble. In the lawsuit, Sterigenics sought immediate injunctive relief and permanent declaratory relief to resume normal operations of the Atlanta facility in the interest of public health and on the basis that the positions asserted by Cobb County were unfounded. On April 1, 2020 the Court entered a Temporary Restraining Order prohibiting Cobb County officials from precluding or interfering with the facility's normal operations. On April 8, 2020, the Court entered a Consent Order extending the Temporary Restraining Order and allowing the facility to continue normal operations until entry of a final judgment in the case. On June 24, 2020 Sterigenics filed an amended complaint, and on July 22, 2020 defendants filed a motion to dismiss the claims. Sterigenics has responded in opposition to the motion, and the motion will be fully briefed by September 16, 2020. A ruling on the motion to dismiss is expected by November 2020. No trial date has been set. Sterigenics' EO processing facilities have consistently operated in compliance with air emission permits issued by state authorities and applicable USEPA air emission regulations. The USEPA is expected to propose updated air emission regulations for EO processing facilities in the coming months, and Sterigenics intends to make appropriate investments in its facilities to ensure compliance with new regulatory requirements.

19. Financial Instruments and Financial Risk

Derivative Instruments

We do not use derivatives for trading or speculative purposes and are not a party to leveraged derivatives.

We have embedded derivatives in certain of our customer and supply contracts as a result of the currency of the contract being different from the functional currency of the parties involved. Changes in the fair value of the embedded derivatives are recognized in "Other income, net" in the consolidated statements of operations and comprehensive income (loss).

In October 2017, we entered into two interest rate cap agreements with a total notional amount of $400.0 million for a total option premium of $0.6 million. The interest rate cap agreements terminate on September 30, 2020.

During the third quarter of 2019, we entered into two interest rate swap agreements to hedge our exposure to interest rate movements and to manage interest expense related to our outstanding variable-rate debt. These swaps were designated as hedges against the changes in cash flows attributable to changes in LIBOR, the benchmark interest rate being hedged. We receive interest at one-month LIBOR and pay a fixed interest rate under the terms of the swap agreement. The termination date of the swap agreements was August 31, 2020. The notional amount of the interest rate swap agreements totals $1,000.0 million.

The following table provides the fair values of our derivative instruments:

(thousands of U.S. dollars)	December 31, 2019	December 31, 2018
Assets		
Interest rate caps	**$ 1**	$ 335
Interest rate swaps	**242**	—
Embedded derivatives[(a)]	**—**	752
Liabilities		
Embedded derivatives[(a)]	**$ 3,478**	$ 5,248

(a) As of December 31, 2019, and 2018, total notional amounts for certain of the Company's supply and sales contracts for embedded derivatives were approximately $96 million and $117 million, respectively.

The interest rate caps are included in “Other assets” as of December 31, 2018 whereas interest rate swaps and embedded derivatives assets are included in “Prepaid expenses and other current assets” on our consolidated balance sheets. Embedded derivative liabilities are included in “Accrued liabilities” on the consolidated balance sheets.

The following tables summarize the activities of our derivative instruments for the periods presented, and the line item in the consolidated statements of operations and comprehensive income (loss):

(thousands of U.S. dollars) Year Ended December 31,	2019	2018
Unrealized loss on interest rate caps recorded in interest expense, net	**$ 335**	$ 76
Unrealized (gain) loss on embedded derivatives recorded in other expense (income), net	**(1,200)**	1,019

In addition, during the year-ended December 31, 2019, we recognized $0.2 million of gains in accumulated other comprehensive income (loss) related to the change in fair value of the interest rate swaps. The amounts included in accumulated other comprehensive income will be reclassified to interest expense should the hedge no longer be considered effective. No amount of ineffectiveness was included in net income (loss) for the period ended December 31, 2019.

Credit Risk

Certain of our financial assets, including cash and cash equivalents, are exposed to credit risk.

We are also exposed, in our normal course of business, to credit risk from our customers. As of December 31, 2019 and 2018, accounts receivable was net of an allowance for uncollectible accounts of $0.8 million and $0.9 million, respectively.

Credit risk on financial instruments arises from the potential for counterparties to default on their contractual obligations to us. We are exposed to credit risk in the event of non-performance, but do not anticipate non-performance by any of the counterparties to our financial instruments. We limit our credit risk by dealing with counterparties that are considered to be of high credit quality. In the event of non-performance by counterparties, the carrying value of our financial instruments represents the maximum amount of loss that would be incurred.

Fair Value Hierarchy

The fair value of our financial instruments 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 valuation techniques we would use to determine such fair values are described as follows: Level 1—fair values determined by inputs utilizing quoted prices in active markets for identical assets or liabilities; Level 2—fair values based on observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, or other inputs that are observable; Level 3—fair values determined by unobservable inputs reflecting our own assumptions, consistent with reasonably available assumptions made by other market participants.

The following table discloses the Company's financial assets and liabilities measured at fair value on a recurring basis:

As of December 31, 2019 *(thousands of U.S. dollars)*	**Level 1**	**Level 2**	**Level 3**	**Total**
Interest rate caps	**$ —**	**$ 1**	**$ —**	**$ 1**
Interest rate swaps	**—**	**242**	**—**	**242**
Embedded derivative liabilities	**—**	**(3,478)**	**—**	**(3,478)**

As of December 31, 2018 *(thousands of U.S. dollars)*	**Level 1**	**Level 2**	**Level 3**	**Total**
Interest rate caps	$ —	$ 335	$ —	$ 335
Embedded derivative assets	—	752	—	752
Embedded derivative liabilities	—	(5,248)	—	(5,248)

The fair value of our 1st Lien Term Loan due 2026 and the 2nd Lien Secured Notes due 2027 was $2,130.6 million and $770 million, respectively as of December 31, 2019. The fair value of our Term Loan (including current maturities), Secured Notes, and Senior PIK Toggle Notes was $1,299.0 million, $432.0 million, and $403.8 million at December 31, 2018, respectively. The fair values were calculated using external pricing information, which is considered a Level 2 input as described above.

20. Segment and Geographic Information

We identify our operating segments based on the way we manage, evaluate and internally report our business activities for purposes of allocating resources and assessing performance. We currently have three reportable segments: Sterigenics, Nordion and Nelson Labs. We have determined our reportable segments based upon an assessment of organizational structure, service types, and internally prepared financial statements. Our chief operating decision maker evaluates performance and allocates resources based on net revenues and segment income after the elimination of intercompany activities. The accounting policies of our reportable segments are the same as those described in the *Significant Accounting Policies* note.

Sterigenics

The Sterigenics segment provides outsourced terminal sterilization and irradiation services for the medical device, pharmaceutical, food safety and advanced applications markets.

Nordion

Nordion is a global provider of Co-60 and gamma irradiators, which are key components to the gamma sterilization process.

Nelson Labs

Nelson Labs provides outsourced microbiological and analytical chemistry testing and advisory services for the medical device and biopharmaceutical industries.

Other

The other reportable segment consisted of the Medical Isotopes business, a global supplier of critical medical isotopes for research, healthcare diagnostic and therapeutic uses. On July 30, 2018, we finalized the sale of the Medical Isotopes assets for $213.0 million.

Sotera Health Topco, Inc.

Notes to Consolidated Financial Statements

For the year ended December 31, 2019, four customers reported within the Nordion segment individually represented 10% or more of the segment's total net revenues. These customers represented 14.1%, 12.9%, 12.7%, and 10.1% of the total segment's external net revenues for the year ended December 31, 2019.

(thousands of U.S. dollars)	Year Ended December 31, 2019				
	Sterigenics	Nordion	Nelson Labs	Other	Consolidated
Net revenues[1]	$471,708	$116,165	$ 190,454	$—	**$ 778,327**
Segment income[2]	244,904	62,196	72,832	—	**379,932**
Capital expenditures	51,123	2,034	4,100	—	**57,257**

	Year Ended December 31, 2018				
	Sterigenics	Nordion	Nelson Labs	Other	Consolidated
Net revenues[1]	$435,733	$118,829	$166,217	$25,370	**$ 746,149**
Segment income[2]	216,490	60,288	58,915	4,944	**340,637**
Capital expenditures	61,297	4,261	6,661	394	**72,613**

1 Revenues are reported net of intersegment sales. Our Nordion segment recognized $40.9 million and $33.4 million in revenues from sales to our Sterigenics segment for the years ended December 31, 2019 and 2018, respectively, that is not reflected in net revenues in the table above. Intersegment sales for Sterigenics and Nelson Labs are immaterial for both periods.

2 Segment income is only provided on a net basis to the chief operating decision maker and is reported net of intersegment profits.

Corporate operating expenses for executive management, accounting, information technology, legal, human resources, treasury, corporate development, tax, purchasing, and marketing are allocated to the segments based on total revenue.

Total assets and depreciation and amortization expense by segment are not readily available and are not reported separately to the chief operating decision maker.

Sotera Health Topco, Inc.

Notes to Consolidated Financial Statements

A reconciliation of segment income to consolidated income (loss) before taxes is as follows:

(thousands of U.S. dollars) Year Ended December 31,	2019	2018
Segment income	**$379,932**	$340,637
Less adjustments:		
Interest expense, net	**157,729**	143,326
Depreciation and amortization[a]	**146,719**	146,816
Impairment of long-lived assets and intangible assets[b]	**5,792**	85,067
Gain on sale of Medical Isotopes business[c]	**—**	(95,910)
Share-based compensation[d]	**16,882**	6,943
One-time bonuses[e]	**2,040**	—
(Gain) loss on foreign currency and embedded derivatives[f]	**2,662**	14,095
Acquisition and divestiture related charges, net[g]	**(318)**	1,168
Business optimization project expenses[h]	**4,195**	8,805
Plant closure expenses[i]	**1,712**	—
Loss on extinguishment of debt[j]	**30,168**	—
Professional services relating to Willowbrook and Atlanta facilities[k]	**11,216**	4,739
Accretion of asset retirement obligation[l]	**2,051**	1,366
Consolidated income (loss) before taxes	**$ (916)**	**$ 24,222**

(a) Includes depreciation of Co-60 held at gamma irradiation sites.

(b) For 2019, represents impairment charges related to the decision to not reopen the Willowbrook, Illinois facility in September 2019. For 2018, represents impairment charges associated with the withdrawal of the GA-MURR project.

(c) Represents the gain on the divestiture of the Medical Isotopes business in July 2018.

(d) Represents non-cash share-based compensation expense. In 2019, also includes $10.0 million of one-time cash share-based compensation expense related to the Class C Performance Vesting Units, which vested in the third quarter of 2019 based on the achievement of the aggregate distributions to the A Unitholder partners and the approval of the board of Topco Parent for accelerated vesting.

(e) Represents one-time cash bonuses for members of management relating to capital markets activity in 2019.

(f) Represents the effects of (i) fluctuations in foreign currency exchange rates, primarily related to remeasurement of intercompany loans denominated in currencies other than subsidiaries' functional currencies, and (ii) non-cash mark-to-fair value of embedded derivatives relating to certain customer and supply contracts at Nordion.

(g) Represents (i) certain direct and incremental costs related to the acquisition of Toxikon Europe NV ("Nelson Europe") in 2017, Gibraltar Laboratories, Inc. ("Nelson Fairfield") in 2018 and Iotron Industries Canada, Inc. in July 2020, and certain related integration efforts as a result of those acquisitions, (ii) the earnings impact of fair value adjustments (excluding those recognized within amortization expense) resulting from the businesses acquired, and (iii) transition services income and non-cash deferred lease income associated with the terms of the divestiture of the Medical Isotopes business in 2018.

(h) Represents professional fees, contract termination and exit costs, severance and other payroll costs, and other costs associated with business optimization and cost savings projects relating to the integrations of Nordion and Nelson Labs, including the divestiture of the Medical Isotopes business, the withdrawal from the GA-MURR project, the Sotera Health rebranding, operating structure realignment and other process enhancement projects.

(i) Represents professional fees, severance and other payroll costs, and other costs associated with the closure of the Willowbrook, Illinois facility.

(j) Represents one-time expenses incurred in connection with the refinancing of our debt capital structure in December 2019, including accelerated amortization of prior debt issuance and discount costs, premiums paid in connection with early extinguishment and debt issuance and discount costs incurred for the new debt.

(k) Represents professional fees related to litigation associated with our EO sterilization facilities in Willowbrook, Illinois and Atlanta, Georgia and other related professional fees. See "*Commitments and Contingencies*" note.

(l) Represents the non-cash accretion of asset retirement obligations related to Co-60 and gamma processing facilities, which are based on estimated site remediation costs for any future decommissioning of these facilities (without regard for whether the decommissioning services would be performed by employees of Nordion, instead of by a third party) and are accreted over the life of the asset.

Geographic Information

Net revenues for geographic area are reported by the country's origin of the revenues.

(thousands of U.S. dollars)

Year Ended December 31,	2019	2018
United States	$ 473,958	$ 434,731
Canada	130,469	152,191
Europe	122,606	114,228
Other	51,294	44,999
Total	**$ 778,327**	$ 746,149

The 'Other' category above is primarily comprised of net revenues from Asian and Latin American countries that each represent 2% or less of our total net revenues.

Long-lived assets are based on physical locations and are comprised of the net book value of property, plant, and equipment.

(thousands of U.S. dollars)

As of December 31,	2019	2018
United States	$ 305,090	$ 316,566
Europe	121,771	124,581
Canada	86,163	77,417
Other	68,930	67,872
Total	**$ 581,954**	$ 586,436

The 'Other' category above is primarily comprised of long-lived assets in Asian and Latin American countries that each represent 4% or less of our total long-lived assets.

21. Subsequent Events

We have evaluated events occurring subsequent to December 31, 2019 through September 2, 2020, the date the consolidated financial statements were issued.

Sotera Health Topco, Inc.

Notes to Consolidated Financial Statements

Iotron Industries Canada, Inc. Acquisition

On July 31, 2020, we acquired Iotron Industries Canada, Inc. ("Iotron") for approximately $145.0 million Canadian dollars ("CAD") (approximately $108.1 million USD), subject to customary working capital and other adjustments. Iotron is an independent contact sterilizer with two North American locations in Vancouver, Canada, and Columbia City, Indiana. Each location uses proprietary high energy electron beam technology to process products for orthopedic, medical device, plastics, and agricultural businesses. Sales for Iotron's fiscal year-ended September 30, 2019 were $22.8 million CAD ($16.7 million USD) and will be part of the Sterigenics segment. The acquisition was financed by the issuance of $100.0 million of 1st lien notes due 2026 by SHH. This new issuance is privately placed and bears an interest rate of 3-month LIBOR, which cannot be less than 1.00%, plus a margin of 6.00%. Interest is payable on a quarterly basis with no principal due until maturity.

Sotera Health Topco, Inc. (Parent company only)

Schedule I – Condensed Financial Information of Registrant

Condensed Balance Sheets
(thousands of U.S. dollars)

	As of	
	December 31, 2019	December 31, 2018
Assets		
Current assets:		
Income taxes receivable	$ 448	$ —
Total current assets	**448**	—
Deferred income taxes	12,209	8,939
Investments in subsidiaries	—	473,599
Total assets	**$ 12,657**	$ 482,538
Liabilities and equity		
Current liabilities:		
Accrued interest	$ —	$ 5,637
Total current liabilities	**—**	5,637
Long-term debt	—	419,385
Total liabilities	**—**	425,022
Equity:		
Common stock, with $0.01 par value, 3,000 shares authorized, issued and outstanding at December 31, 2019, and December 31, 2018	—	—
Other equity	**12,657**	57,516
Total equity	**12,657**	57,516
Total liabilities and equity	**$ 12,657**	$ 482,538

See notes to condensed financial information.

Sotera Health Topco, Inc. (Parent company only)

Schedule I – Condensed Financial Information of Registrant

Condensed Statements of Operations and Comprehensive Loss
(thousands of U.S. dollars)

	Year Ended	
	December 31, 2019	December 31, 2018
Interest expense, net	**$ 34,824**	$ 36,519
Loss on extinguishment of debt	**3,718**	**—**
Loss before income taxes	**(38,542)**	(36,519)
Benefit for income taxes	**(4,589)**	(9,226)
Net loss and comprehensive loss	**$ (33,953)**	$ (27,293)

See notes to condensed financial information.

Sotera Health Topco, Inc. (Parent company only)

Schedule I – Condensed Financial Information of Registrant

Condensed Statements of Cash Flows
(thousands of U.S. dollars)

	Year Ended	
	December 31, 2019	December 31, 2018
Operating activities		
Net cash used in operating activities	**$ (37,693)**	$ (34,484)
Investing activities		
Dividends received from subsidiaries	**1,153,863**	209,874
Net cash provided by investing activities	**1,153,863**	209,874
Financing activities		
Dividends to shareholders	**(691,170)**	(175,845)
Payments on debt	**(425,000)**	—
Net cash used in financing activities	**(1,116,170)**	(175,845)
Net increase (decrease) in cash and cash equivalents, including restricted cash	**—**	(455)
Cash and cash equivalents, including restricted cash, at beginning of period	**—**	455
Cash and cash equivalents, including restricted cash, at end of period	**$ —**	**$ —**
Supplemental disclosures of cash flow information:		
Cash paid during the period for interest	**$ 38,560**	$ 34,531

See notes to condensed financial information.

Sotera Health Topco, Inc. (Parent company only)

Schedule I – Condensed Financial Information of Registrant

Notes to Condensed Financial Information

1. Basis of Presentation

Sotera Health Topco Inc. conducts substantially all of its activities through its direct wholly owned subsidiary, Sotera Health Holdings, LLC ("SHH") and its subsidiaries. In the parent company only financial statements, Sotera Health Topco, Inc.'s investment in subsidiaries is stated at cost plus equity in undistributed earnings of subsidiaries less dividends received in excess of subsidiaries' retained profits since the date of acquisition. The parent company only financial statements should be read in conjunction with Sotera Health Topco, Inc.'s consolidated financial statements.

2. Guarantees and Restrictions

As of December 31, 2019, SHH had $2,120.0 million of debt outstanding under its 1st Lien Senior Secured Credit Facilities and $770.0 million outstanding under its 2nd Lien Senior Secured Notes (the "Debt Agreements"). All obligations under the Debt Agreements are unconditionally guaranteed by Sotera Health Topco, Inc. and each existing and subsequently acquired or organized direct or indirect wholly-owned domestic restricted subsidiary of SHH with customary exceptions including, among other things, where providing such guarantees is not permitted by law, regulation or contract or would result in material adverse tax consequences. All obligations under the Debt Agreements, and the guarantees of such obligations, are secured by substantially all assets of the borrower and guarantors, subject to permitted liens and other exceptions and exclusions, as outlined in the Debt Agreements.

Both the Debt Agreements contain additional covenants that, among other things, restrict, subject to certain exceptions, the ability of Sotera Health Holdings, LLC and the ability of its restricted subsidiaries to engage in certain activities, such as incur indebtedness and liens in connection therewith, pay dividends and make certain other restricted payments, make certain investments, enter into transactions with affiliates, dispose of property or assets, and enter into unrelated lines of business. The Debt Agreements also contain certain customary affirmative covenants and events of default, including upon a change of control.

SHH is permitted to pay dividends to Sotera Health Topco, Inc. under the Debt Agreements subject to certain limits and ratios. In general, as long as there is no default, the Debt Agreements permit SHH to pay dividends to Sotera Health Topco, Inc.:

(1) without limit if SHH does not exceed a maximum leverage ratio related to senior secured debt of 6.00 to 1.00, as specified in the Debt Agreements; or

(2) if SHH does not exceed a maximum leverage ratio related to total debt of 7.50 to 1.00, as specified in the Debt Agreements, then generally in amounts up to a basket that builds based on the sum of (a) 25% of SHH's Consolidated EBITDA (as defined in the Debt Agreements) for the preceding 12-month test period, or $96.0 million if greater, plus (b) 50% of SHH's Consolidated Net Income (as defined in the Debt Agreements) from October 1, 2019 through the end of such test period (or, if greater, retained Excess Cash Flow (as defined in the Debt Agreements)), plus (c) the net proceeds of certain qualified equity offerings and equity contributions to SHH by Sotera Health Topco, Inc.; or

(3) following an initial public offering of Sotera Health Topco, Inc., in an amount equal to 6.00% annually of the cash proceeds of the initial public offering that are contributed to SHH.

Prior to 2019, Sotera Health Topco, Inc. had $425 million aggregate principal amount of Senior PIK ("paid in kind") Toggle notes outstanding at a rate of 8.125%/8.875% per year.

Sotera Health Topco, Inc. (Parent company only)

Schedule I – Condensed Financial Information of Registrant

Notes to Condensed Financial Information

Since the restricted net assets of Sotera Health Holdings, LLC and its subsidiaries exceed 25% of the consolidated net assets of Sotera Health Topco Inc., the accompanying condensed parent company financial statements have been prepared in accordance with Rule 12-04, Schedule 1 of Regulation S-X.

3. Dividends from Subsidiaries

During 2019 and 2018, Sotera Health Topco, Inc. received dividends from its subsidiaries primarily consisting of amounts received to redeem, in full, previously outstanding $425.0 million Senior PIK (“paid in kind”) Toggle Notes due 2021, pay interest on previously outstanding debt, and to issue dividends to its sole stockholder, Sotera Health Topco Parent L.P.

Sotera Health Topco, Inc.

Schedule II – Valuation and Qualifying Accounts

Schedule II – Valuation and Qualifying Accounts

Description	Balance at Beginning of Period	Charges (credits) to costs and expense	Deductions(1)	Translation Adjustments(2)	Balance at End of Period
(In thousands of dollars)					
Year Ended December 31, 2019					
Deducted from asset accounts:					
Allowance for uncollectible accounts receivable	$ 928	$ 482	$ (591)	$ (32)	$ 787
Deferred tax asset valuation allowance	16,678	6,318	—	(34)	22,962
Year Ended December 31, 2018					
Deducted from asset accounts:					
Allowance for uncollectible accounts receivable	$ 824	$ 473	$ (334)	$ (35)	$ 928
Deferred tax asset valuation allowance	23,573	(6,804)	—	(91)	16,678

(1) Uncollectible accounts written off, net of recoveries
(2) Change in foreign currency exchange rates

Sotera Health Topco, Inc.

Consolidated Balance Sheets
(thousands of U.S. dollars)

	As of	
	June 30, 2020	December 31, 2019
	(Unaudited)	
Assets		
Current assets:		
Cash and cash equivalents	**$ 86,195**	$ 62,863
Restricted cash short-term	**162**	162
Accounts receivable, net of allowance for uncollectible accounts of $708 in 2020 and $787 in 2019	**92,823**	88,644
Inventories, net	**30,348**	37,396
Prepaid expenses and other current assets	**56,645**	52,644
Income taxes receivable	**10,677**	10,645
Total current assets	**276,850**	252,354
Property, plant, and equipment, net	**564,987**	581,954
Operating lease asset	**43,092**	—
Deferred income taxes	**2,254**	2,252
Other assets	**9,813**	12,243
Other intangible assets, net	**642,366**	696,006
Goodwill	**1,019,615**	1,035,865
Total assets	**$2,558,977**	$ 2,580,674
Liabilities and equity		
Current liabilities:		
Accounts payable	**$ 39,334**	$ 42,004
Accrued liabilities	**56,934**	58,536
Deferred revenue	**4,385**	3,631
Current portion of long-term debt, including revolver	**21,200**	16,331
Current portion of finance lease obligations	**1,200**	1,288
Current portion of operating lease obligations	**8,866**	—
Current portion of asset retirement obligations	**442**	2,200
Total current liabilities	**132,361**	123,990
Long-term debt, less current portion	**2,795,214**	2,800,873
Finance lease obligations, less current portion	**29,907**	29,883
Operating lease obligations, less current portion	**36,597**	—
Noncurrent asset retirement obligations	**42,134**	42,996
Deferred lease income	**20,124**	21,375
Post-retirement obligations	**27,233**	31,266
Mandatorily redeemable noncontrolling interest	**13,625**	13,625
Noncurrent liabilities	**17,115**	20,563
Deferred income taxes	**126,717**	137,235
Total liabilities	**3,241,027**	3,221,806
Commitments and contingencies (Note 16)		
Equity:		
Common stock, with $0.01 par value, 3,000 shares authorized, issued and outstanding at June 30, 2020, and December 31, 2019	**—**	—
Additional paid-in capital	**3,118**	—
Retained deficit	**(543,134)**	(548,187)
Accumulated other comprehensive loss	**(143,688)**	(94,387)
Total equity (deficit) attributable to Sotera Health Topco, Inc.	**(683,704)**	(642,574)
Noncontrolling interests	**1,654**	1,442
Total equity (deficit)	**(682,050)**	(641,132)
Total liabilities and equity (deficit)	**$2,558,977**	$ 2,580,674

See notes to unaudited consolidated financial statements.

Sotera Health Topco, Inc

Consolidated Statements of Operations and Comprehensive Income (Loss)
(thousands of U.S. dollars, except per share amounts)

	Six Months Ended	
	June 30, 2020	June 30, 2019
	(Unaudited)	
Revenues:		
Service	**$341,849**	$328,482
Product	**59,436**	61,038
Total net revenues	**401,285**	389,520
Cost of revenues:		
Service	**163,689**	164,467
Product	**22,112**	27,087
Total cost of revenues	**185,801**	191,554
Gross profit	**215,484**	197,966
Operating expenses:		
Selling, general and administrative expenses	**79,737**	65,903
Amortization of intangible assets	**29,140**	29,504
Total operating expenses	**108,877**	95,407
Operating income	**106,607**	102,559
Interest expense, net	**111,812**	75,127
Foreign exchange (gain) loss	**(799)**	877
Other income, net	**(1,208)**	(4,908)
Income (loss) before income taxes	**(3,198)**	31,463
Provision (benefit) for income taxes	**(8,464)**	18,592
Net income	**5,266**	12,871
Less: Net income attributable to noncontrolling interests	**213**	186
Net income attributable to Sotera Health Topco, Inc.	**$ 5,053**	$ 12,685
Other comprehensive (loss) income net of tax:		
Pension and post-retirement benefits (net of taxes of $418 and ($197), respectively)	**$ 1,240**	$ (585)
Interest rate swaps (net of taxes of $724, and $0 respectively)	**(2,014)**	—
Foreign currency translation	**(48,527)**	25,104
Comprehensive income (loss)	**(44,035)**	37,390
Less: comprehensive income attributable to noncontrolling interests	**212**	71
Comprehensive income (loss) attributable to Sotera Health Topco, Inc.	**$ (44,247)**	$ 37,319
Earnings per share		
Basic and diluted	**$ 1,684**	$ 4,228
Pro forma basic and diluted (unaudited)		
Weighted average number of shares outstanding		
Basic and diluted	**3,000**	3,000
Pro forma basic and diluted (unaudited)		

See notes to unaudited consolidated financial statements.

Sotera Health Topco, Inc.

Consolidated Statements of Cash Flows
(thousands of U.S. dollars)

	Six Months Ended	
	June 30, 2020	June 30, 2019
	(Unaudited)	
Operating activities		
Net income	**$ 5,266**	$ 12,871
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation	**31,433**	33,354
Amortization of intangible assets	**39,624**	40,222
Deferred income taxes	**(8,237)**	(2,998)
Share-based non-cash compensation expense	**3,118**	3,454
Accretion of asset retirement obligations	**974**	1,005
Unrealized foreign exchange (gains) / losses	**(4,864)**	(3,139)
(Gain)/loss on embedded derivative instruments	**2,043**	(1,847)
Amortization of debt issuance costs	**5,830**	3,738
Other	**(3,704)**	(2,200)
Changes in operating assets and liabilities:		
Accounts receivable	**(4,809)**	2,282
Inventories	**5,359**	4,086
Other current assets	**(957)**	8,101
Accounts payable	**(8,951)**	(16,972)
Accrued liabilities	**(7,246)**	(18,199)
Income taxes payable/receivable	**(3,943)**	15,053
Other liabilities	**164**	(465)
Other long-term assets	**1,587**	(313)
Net cash provided by operating activities	**52,687**	78,033
Investing activities		
Purchases of property, plant and equipment	**(23,438)**	(24,868)
Net cash used in investing activities	**(23,438)**	(24,868)
Financing activities		
Proceeds from borrowings	**50,000**	—
Payments of debt issuance costs and prepayment premium	**(142)**	(558)
Distributions to shareholders	**—**	(9,055)
Payments on debt	**(55,725)**	(7,170)
Other	**(651)**	(666)
Net cash used in financing activities	**(6,518)**	(17,449)
Effect of exchange rate changes on cash and cash equivalents	**601**	4,865
Net increase in cash and cash equivalents, including restricted cash	**23,332**	40,581
Cash and cash equivalents, including restricted cash, at beginning of period	**63,025**	96,786
Cash and cash equivalents, including restricted cash, at end of period	**$ 86,357**	$137,367
Supplemental disclosures of cash flow information:		
Cash paid during the period for interest	**$112,725**	$ 71,210
Cash paid during the period for income taxes, net of tax refunds received	**3,332**	6,116
Equipment purchases included in accounts payable	**7,141**	1,853

See notes to unaudited consolidated financial statements.

Sotera Health Topco, Inc.

Consolidated Statements of Equity *(Unaudited)*
(thousands of U.S. dollars, except share amounts)

	Shares Common Stock	Amount Common Stock	Additional Paid-In Capital	Retained (Deficit) Earnings	Accumulated Other Comprehensive (Loss) Income	Noncontrolling Interests	Total Equity
Balance at January 1, 2019	**3,000**	**$ —**	**$ 164,733**	**$ (10,418)**	**$ (109,957)**	**$ 1,132**	**$ 45,490**
Cumulative-effect adjustment upon adoption of ASU 2014-09	—	—	—	2,635	—	—	**2,635**
Distributions to shareholder			(8,541)	(514)			**(9,055)**
Share-based compensation	—	—	3,454	—	—	—	**3,454**
Comprehensive income (loss):							
Pension and post-retirement plan adjustments, net of tax	—	—	—	—	(585)	—	**(585)**
Foreign currency translation	—	—	—	—	25,104	(115)	**24,989**
Net income (loss)	—	—	—	12,685	—	186	**12,871**
Balance at June 30, 2019	**3,000**	**$ —**	**$ 159,646**	**$ 4,388**	**$ (85,438)**	**$ 1,203**	**$ 79,799**
Balance at January 1, 2020	**3,000**	**$ —**	**$ —**	**$(548,187)**	**$ (94,387)**	**$ 1,442**	**$(641,132)**
Share-based compensation	—	—	3,118	—	—	—	**3,118**
Comprehensive income (loss):							
Pension and post-retirement plan adjustments, net of tax	—	—	—	—	1,240	—	**1,240**
Foreign currency translation	—	—	—	—	(48,527)	—	**(48,527)**
Interest rate swaps	—	—	—	—	(2,014)	—	**(2,014)**
Net income (loss)	—	—	—	5,053	—	212	**5,265**
Balance at June 30, 2020	**3,000**	**$ —**	**$ 3,118**	**$(543,134)**	**$ (143,688)**	**$ 1,654**	**$(682,050)**

See notes to unaudited consolidated financial statements.

Sotera Health Topco, Inc.

Notes to Consolidated Financial Statements (Unaudited)

1. Basis of Presentation

Sotera Health Topco, Inc. (also referred to herein as the "Company," "we," "our," "us" or "its"), is a fully integrated provider of mission-critical health sciences, lab services and sterilization solutions with operations primarily in the Americas, Europe and Asia.

The accompanying consolidated financial statements include the assets, liabilities, operating results, and cash flows of the Company and its wholly owned subsidiaries prepared in accordance with U.S. generally accepted accounting principles ("GAAP") for interim financial information. These unaudited interim financial statements should be read in conjunction with the Company's annual consolidated financial statements and accompanying notes for the year ended December 31, 2019.

The accompanying interim financial statements are unaudited, but reflect all adjustments, consisting of normal recurring adjustments, that, in the opinion of management, are necessary for a fair presentation of the financial statements. The preparation of financial statements in conformity with GAAP requires management to make periodic estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses and disclosure of contingent assets and liabilities. We regularly evaluate the accounting policies and estimates used. Actual results could differ from these estimates. The reported results of operations are not necessarily indicative of results of operations for any future period.

We operate and report in three segments, Sterigenics, Nordion and Nelson Labs. We describe our business segments in the *Segment Information* note. All significant intercompany balances and transactions have been eliminated in consolidation.

Noncontrolling interests represents the noncontrolling stockholders' proportionate share of the total equity in the Company's consolidated subsidiaries. As of June 30, 2020, our subsidiaries were wholly owned by us, except for noncontrolling interests of 15% and 33% in our two China subsidiaries. In addition, a 15% noncontrolling interest remains from the August 2018 acquisition of Gibraltar Laboratories, Inc. (now known as Nelson Laboratories Fairfield, Inc.). We consolidate the results of operations of these subsidiaries with our results of operations and reflect the noncontrolling interests in our two China subsidiaries on our consolidated statements of operations and comprehensive income (loss) as "Net income (loss) attributable to noncontrolling interests." Our required future purchase of 15% noncontrolling interest in Nelson Laboratories Fairfield, Inc. is considered mandatorily redeemable, and therefore no earnings are allocated to this noncontrolling interest.

2. Recent Accounting Standards Updates

Adoption of New Accounting Standards

Effective January 1, 2020, we adopted Accounting Standards Update ("ASU") No. 2016-02, *Leases* ("Topic 842") which was issued by the Financial Accounting Standards Board ("FASB") in 2016. The new standard requires substantially all leases to be reported on the balance sheet as right-of-use assets and lease obligations. It also increases disclosure of key information about leasing arrangements. We adopted the new guidance using the optional transition method, which required application of the new guidance to only leases that existed at the date of adoption. We also elected the "package of practical expedients," which permitted us to not reassess under the new standard our prior conclusions about lease identification, lease classification and initial direct costs. The adoption of the new standard resulted in the recognition of right-of-use assets and lease liabilities of $47.4 million and $48.9 million as of January 1, 2020, respectively. The standard did not have a material impact on our consolidated statements of operations and comprehensive income (loss) or on our consolidated statements of cash flows.

Accounting Standards Issued But Not Yet Adopted

Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies. As an emerging growth company, we have elected to take advantage of the extended transition period for complying with new or revised accounting standards until those standards would otherwise apply to private companies or at which time we conclude it is appropriate to avail ourselves of early adoption provisions of applicable standards. As a result, our results of operations and financial statements may not be comparable to the results of operations and financial statements of other companies who have adopted the new or revised accounting standards.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments—Credit Losses* ("ASU 2016-13"): *Measurement of Credit Losses on Financial Instruments* and subsequently issued additional guidance that modified ASU 2016-13. The standard requires an entity to change its accounting approach in determining impairment of certain financial instruments, including trade receivables, from an "incurred loss" to a "current expected credit loss" model. The standard will be effective for private companies for fiscal years beginning after December 15, 2022, including interim periods within such fiscal years. Early adoption is permitted. We are currently assessing the effect that ASU 2016-13 will have on our financial position, results of operations, and disclosures.

In December 2019, the FASB issued *ASU 2019-12—Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes*. The standard simplifies the accounting for income taxes and makes a number of changes meant to add or clarify guidance on accounting for income taxes. This update is effective for annual and interim financial statement periods beginning after December 15, 2022, with early adoption permitted in any interim period for which financial statements have not yet been filed. We are currently assessing the effect that ASU 2019-12 will have on our financial position, results of operations and disclosures.

In March 2020, the FASB issued *ASU 2020-04, Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting*. This ASU provides optional guidance for a limited period of time to ease the potential burden in accounting for (or recognizing the effects of) reference rate reform on financial reporting due to the cessation of the London Interbank Offered Rate ("LIBOR"). The amendments in this update are effective for the Company as of March 12, 2020 through December 31, 2022. The Company adopted this standard effective March 12, 2020. The adoption of this standard had no effect in the six months ended June 30, 2020, and its future impact will depend on the manner in which the Company and its lenders ultimately address the removal of LIBOR as it relates to the long-term debt agreements described the *Debt Obligations* note.

3. Revenue Recognition

The following table shows disaggregated net revenues from contracts with external customers by timing of revenue and by segment for the six months ended June 30, 2020 and 2019:

	Six months ended June 30, 2020			
	Sterigenics	Nordion	Nelson Labs	Consolidated
Point in time	$237,652	$65,766	$—	**$ 303,418**
Over time	—	—	97,867	**97,867**
Total	**$237,652**	**$65,766**	**$ 97,867**	**$ 401,285**

	Six months ended June 30, 2019			
	Sterigenics	Nordion	Nelson Labs	Consolidated
Point in time	$229,945	$67,243	$—	**$ 297,188**
Over time	—	—	92,332	**92,332**
Total	**$229,945**	**$67,243**	**$ 92,332**	**$ 389,520**

Contract Balances

As of June 30, 2020, and December 31, 2019, contract assets included in “Prepaid expenses and other current assets” on the consolidated balance sheets totaled approximately $12.5 million and $8.5 million, respectively, resulting from revenue recognized over time in excess of the amount billed to the customer.

When we receive consideration from a customer prior to transferring goods or services under the terms of a sales contract, we record deferred revenue, which represents a contract liability. Deferred revenue totaled $4.4 million and $3.6 million at June 30, 2020 and December 31, 2019, respectively. We recognize deferred revenue after we have transferred control of the goods or services to the customer and all revenue recognition criteria are met.

4. Inventories

Inventory consists primarily of the following:

(thousands of U.S. dollars)	June 30, 2020	December 31, 2019
Raw materials and supplies	**$ 23,088**	$ 29,640
Work-in-process	**1,850**	1,961
Finished goods	**5,502**	5,892
Inventories	**30,440**	37,493
Reserve for excess and obsolete inventory	**(92)**	(97)
Inventories, net	**$ 30,348**	$ 37,396

The inventories as of June 30, 2020 and December 31, 2019 are held at Nordion.

Sotera Health Topco, Inc.

Notes to Consolidated Financial Statements (Unaudited)

5. Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consist primarily of the following:

(thousands of U.S. dollars)	June 30, 2020	December 31, 2019
Prepaid taxes	**$ 22,412**	$ 18,614
Prepaid business insurance	**2,250**	3,422
Prepaid rent	**1,074**	1,088
Accrual for revenue from customers	**12,522**	8,508
Insurance and indemnification receivables	**2,751**	2,751
Current deposits	**622**	5,060
Prepaid maintenance contracts	**439**	397
Derivative instruments (see *Financial Instruments and Financial Risk* note)	**673**	242
Value added tax receivable	**805**	1,034
Prepaid software licensing	**1,699**	1,089
Stock supplies	**2,827**	2,263
Other	**8,571**	8,176
Prepaid expenses and other current assets	**$ 56,645**	$ 52,644

6. Goodwill and Other Intangible Assets

Changes to goodwill for the six months ended June 30, 2020 were as follows:

(thousands of U.S. dollars)	Sterigenics	Nordion	Nelson Labs	Total
Goodwill at December 31, 2019	$612,689	$281,890	$ 141,286	$1,035,865
Changes due to foreign currency exchange rates	**(3,453)**	**(12,838)**	**41**	**(16,250)**
Goodwill at June 30, 2020	**$609,236**	**$269,052**	**$ 141,327**	**$1,019,615**

Sotera Health Topco, Inc.

Notes to Consolidated Financial Statements (Unaudited)

Other intangible assets consist of the following as of:

(thousands of U.S. dollars)

June 30, 2020	Gross Carrying Amount	Accumulated Amortization
Finite-lived intangible assets		
Customer relationships	$ 609,723	$ 276,091
Proprietary technology	86,372	33,343
Trade name	149	89
Land-use rights	8,768	1,103
Sealed source and supply agreements	224,899	79,106
Other	338	300
Total finite-lived intangible assets	**930,249**	**390,032**
Indefinite-lived intangible assets		
Regulatory licenses and other[1]	76,430	—
Trade name / trademark	25,719	—
Total indefinite-lived intangible assets	**102,149**	**—**
Total	**$1,032,398**	**$ 390,032**

December 31, 2019	Gross Carrying Amount	Accumulated Amortization
Finite-lived intangible assets		
Customer relationships	$ 612,068	$ 248,931
Proprietary technology	87,971	30,224
Trade name	7,201	1,860
Land-use rights	8,896	1,011
Sealed source and supply agreements	235,706	74,825
Other	336	243
Total finite-lived intangible assets	952,178	357,094
Indefinite-lived intangible assets		
Regulatory licenses and other[1]	80,103	—
Trade name / trademark	20,819	—
Total indefinite-lived intangible assets	100,922	—
Total	$1,053,100	$ 357,094

[1] Includes certain transportation certifications, a class 1B nuclear license and other intangibles related to obtaining such licensure. These assets are considered indefinite-lived as the decision for renewal by the Canadian Nuclear Safety Commission is highly based on a licensee's previous assessments, reported incidents, and annual compliance and inspection results. New applications for license can take a significant amount of time and cost; whereas an existing licensee with a historical record of compliance and current operating conditions more than likely ensures renewal for another 10 year license period as Nordion has demonstrated over its 70 years of history.

Amounts include the impact of foreign currency translation. Fully amortized amounts are written off.

Amortization expense for other intangible assets was $39.6 million and $40.2 million for the six months ended June 30, 2020 and 2019, respectively. Of the amortization expense referenced above, $10.5 million and $10.7 million is included in "Cost of revenues" for the six months ended June 30, 2020 and 2019, respectively. The remainder of the amortization in each of the aforementioned periods is included in "Selling, general and administrative expenses" in the consolidated statements of operations and comprehensive income (loss).

The estimated aggregate amortization expense for finite-lived intangible assets for each of the next five years and thereafter is as follows:

(thousands of U.S. dollars)	
For the remainder of 2020	**$ 39,733**
2021	**78,929**
2022	**75,148**
2023	**75,141**
2024	**74,365**
Thereafter	**196,901**
Total	**$ 540,217**

The weighted-average remaining useful life of the finite-lived intangible assets was approximately 10 years as of June 30, 2020.

7. Accrued Liabilities

Accrued liabilities consist of the following at:

(thousands of U.S. dollars)	**June 30, 2020**	December 31, 2019
Accrued employee compensation	**$ 21,705**	$ 28,912
Legal reserves	**2,751**	2,751
Accrued interest expense	**769**	10,648
Embedded derivatives	**8,548**	3,478
Professional fees	**11,696**	4,329
Accrued utilities	**1,418**	1,135
Insurance accrual	**1,178**	1,241
Accrued taxes	**3,145**	2,363
Other	**5,724**	3,679
Accrued liabilities	**$ 56,934**	$ 58,536

Sotera Health Topco, Inc.

Notes to Consolidated Financial Statements (Unaudited)

8. Debt Obligations

Long-term debt obligations consist of the following:

(thousands of U.S. dollars)	**June 30, 2020**	December 31, 2019
Term loan, due 2026	**$ 2,114,700**	$ 2,120,000
Senior notes, due 2027	**770,000**	770,000
Other long-term debt	**450**	881
Total debt	**2,885,150**	2,890,881
Less current portion	**(21,200)**	(16,331)
Less unamortized debt issuance costs and debt discounts	**(68,736)**	(73,677)
Total long-term debt, less current portion and debt issuance costs and debt discounts	**$ 2,795,214**	$ 2,800,873

Debt Facilities

1st Lien Senior Secured Credit Facilities

On December 13, 2019, SHH entered into new Senior Secured 1st Lien Credit Facilities (the "1st Lien Credit Facilities") and settled its previously outstanding term loan and senior notes.

The 1st Lien Credit Facilities consist of both a 1st Lien Term Loan ("Term Loan") and Revolving Credit Facility that provide for additional senior secured financing of $190.0 million. The Term Loan matures on December 13, 2026, and the Revolving Credit Facility matures on December 13, 2024. The 1st Lien Credit Facilities also provide SHH the right at any time and under certain conditions to request incremental term loans or incremental revolving credit commitments based on a formula defined in the 1st Lien Credit Facilities. As of June 30, 2020, total borrowings under the Term Loan were $2,114.7 million.

Beginning on June 30, 2020, the Term Loan is paid in equal quarterly installments in aggregate annual amounts equal to 1.0% of the Term Loan original principal amount, while the remaining balance matures on December 13, 2026. The Term Loan may bear interest at LIBOR or an alternate base rate ("ABR") subject to a 1.00% floor plus, an incremental margin of 4.50% in the case of LIBOR loans and 3.5% in the case of ABR loans. The interest rate on borrowings under the Term Loan at June 30, 2020 was 5.50%.

As of June 30, 2020, and December 31, 2019, capitalized debt issuance costs totaled $4.5 million and $4.7 million, respectively, and debt discounts totaled $40.8 million and $44.0 million, respectively, related to the 1st Lien Credit Facilities. Such costs are recorded as a reduction of debt on our consolidated balance sheets and amortized as a component of interest expense over the term of the debt agreement.

Borrowings under the Revolving Credit Facility bear interest at a rate per annum equal to an applicable margin, plus, at our option, either (a) an ABR or (b) a LIBOR rate. The applicable margin under the Revolving Credit Facility may be reduced by reference to a leverage-based pricing grid with step-downs of 0.25% at a specified senior secured first lien net leverage ratio. In addition to paying interest on any outstanding borrowings under the Revolving Credit Facility, SHH is required to pay a commitment fee to the lenders under the Revolving Credit Facility in respect of the unutilized commitments thereunder and customary letter of credit fees. The Revolving Credit Facility contains a maximum senior secured first lien net leverage ratio covenant of 9.00 to 1.00, tested on the last day of each fiscal quarter if, on the last day of such fiscal quarter, the sum of (i) the aggregate principal amount of the revolving loans then outstanding under the Revolving Credit Facility, plus (ii) the aggregate

amount of letter of credit ("LC") disbursements that have not been reimbursed within two business days following the end of the fiscal quarter, exceeds the greater of $76.0 million and 40.0% of the aggregate principal amount of the revolving commitments then in effect. Although this covenant did not apply as the conditions were not met, as of June 30, 2020 the first lien net leverage ratio, as defined in the Revolving Credit Facility, was approximately 5.10 to 1.00. SHH borrowed $50.0 million on the Revolving Credit Facility during the first quarter of 2020 which was repaid in the second quarter of 2020. The interest rate on the borrowings under the Revolving Credit Facility averaged approximately 5.0%.

The 1st Lien Credit Facilities contain additional covenants that, among other things, restrict, subject to certain exceptions, our ability and the ability of our restricted subsidiaries to engage in certain activities, such as incur indebtedness or permit to exist any lien on any property or asset now owned or hereafter acquired, as specified in the debt facility. The 1st Lien Credit Facilities also contain certain customary affirmative covenants and events of default, including upon a change of control. As of June 30, 2020, we were in compliance with all the 1st Lien Credit Facilities covenants.

All of SHH's obligations under the 1st Lien Credit Facilities are unconditionally guaranteed by the Company and each existing and subsequently acquired or organized direct or indirect wholly-owned domestic restricted subsidiary of the Company, with customary exceptions including, among other things, where providing such guarantees is not permitted by law, regulation or contract or would result in material adverse tax consequences. All obligations under the 1st Lien Credit Facilities, and the guarantees of such obligations, are secured by substantially all of the assets of the borrower and guarantors, subject to permitted liens and other exceptions and exclusions, as outlined in the 1st Lien Credit Facilities.

Outstanding letters of credit are collateralized by encumbrances against the Revolving Credit Facility and the collateral pledged thereunder, or by cash placed on deposit with the issuing bank. As of June 30, 2020, the Company had $62.1 million of letters of credit issued against the Revolving Credit Facility, resulting in total availability under the Revolving Credit Facility of $127.9 million.

2nd Lien Senior Secured Notes

On December 13, 2019, SHH issued $770.0 million of 2nd Lien Senior Secured Notes (the "2nd Lien Notes"), which mature on December 13, 2027. The 2nd Lien Notes bear interest at a rate equal to LIBOR subject to a 1.00% floor plus 8.00% per annum. The weighted average interest rate under the 2nd Lien Notes at June 30, 2020 was 9.00%.

SHH is entitled to redeem all or a portion of the 2nd Lien Notes, at any time and from time to time, subject to certain premiums depending on the date of redemption: any time prior to December 13, 2020, a customary make-whole premium applies and, thereafter, specified premiums that decline to zero apply (in each case as described in the indenture governing the 2nd Lien Notes). In addition, under certain circumstances, such as an initial public offering or certain changes of control, SHH has certain additional redemption rights (as described in the indenture governing the 2nd Lien Notes).

All of SHH's obligations under the 2nd Lien Notes are unconditionally guaranteed by the Company and each existing and subsequently acquired or organized direct or indirect wholly-owned domestic restricted subsidiary of the Company, with customary exceptions including, among other things, where providing such guarantees is not permitted by law, regulation or contract or would result in material adverse tax consequences. All obligations under the 2nd Lien Notes, and the guarantees of such obligations, are secured by substantially all of the assets of the borrower and guarantors, subject to permitted liens and other exceptions and exclusions, as outlined in the 2nd Lien Notes. Such collateral is substantially the same collateral that secures the 1st Lien Credit Facilities, and any security interest or lien on shared collateral securing the 1st Lien Credit Facilities has priority over any security interest or lien on shared collateral securing the 2nd Lien Notes.

At June 30, 2020, and December 31, 2019 capitalized debt issuance costs were $1.7 million and $1.8 million and debt discounts were $21.7 million and $23.2 million, respectively, related to the 2nd Lien notes, which are recorded as a reduction of debt on our consolidated balance sheets and amortized into interest expense over the term of the debt agreement.

9. Income Taxes

Income tax expense is provided on an interim basis based upon our estimate of the annual effective income tax rate. In determining the estimated annual effective income tax rate, we analyze various factors, including projections of our annual earnings and the taxing jurisdictions where the earnings will occur, the impact of state and local taxes, our ability to utilize tax credits and net operating loss carryforwards and available tax planning alternatives.

Our effective tax rate was (264.7%) and 59.1% for the six months ended June 30, 2020 and 2019, respectively. Income tax expense (benefit) for the six months ended June 30, 2020 and 2019 differs from the statutory rate primarily due to the impact of global intangible low-taxed income ("GILTI"), the foreign rate differential, and non-deductible expenses.

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") was enacted in response to the COVID-19 pandemic, and among other things, provides tax relief to businesses. Tax provisions of the CARES Act include retroactive increases in the limitation on the deductibility of interest expense from 30% to 50% for tax years beginning in 2019 or 2020, and other provisions. As a result of the increased limitation on the deductibility of interest expense, we estimate a current tax benefit of $9.1 million in the six months ending June 30, 2020 related to 2019 interest expense previously recorded as deferred. In addition, we currently estimate an additional $9.1 million current tax benefit for the 2020 tax year. The increased limitation resulted in a reversal of the $5.6 million valuation allowance booked at the end of the 2019 tax year.

On July 23, 2020, final 951A regulations were published that exempts income subject to a high rate of foreign tax from inclusion as GILTI for tax years beginning after December 31, 2017.

Our current estimate of 2020 current tax expense related to GILTI is $12.7 million and is considered as a component of our estimated annual effective tax rate calculation. For the years ended December 31, 2019 and 2018, we recognized GILTI current tax expense of $10.3 million and $4.9 million, respectively.

10. Employee Benefits

The Company sponsors various post-employment benefit plans including, in certain countries outside the U.S., defined benefit and defined contribution pension plans, retirement compensation arrangements, and plans that provide extended health care coverage to retired employees, the majority of which relate to Nordion.

Defined benefit pension plan

The interest cost and expected return on plan assets are recorded in "Other income, net" and the service cost component is included in the same financial statement line item as the applicable employee's wages in the consolidated statements of operations and comprehensive income (loss). The components of net periodic pension cost for the plans for the six months ended June 30, 2020 and 2019 were as follows:

(thousands of U.S. dollars)	Six months ended June 30,	
Pension	**2020**	**2019**
Service cost	**$ 543**	$ 571
Interest cost	**3,950**	4,239
Expected return on plan assets	**(7,083)**	(6,576)
Amortization of net actuarial (gain) loss	**388**	—
Net periodic (benefit) cost	**$(2,202)**	$(1,766)

Other benefit plans

Other benefit plans include a supplemental retirement arrangement, a retirement and termination allowance, and post-retirement benefit plans, which include contributory health and dental care benefits and contributory life insurance coverage. All non-pension post-employment benefit plans are unfunded.

The components of other post-retirement benefit plans for the six months ended June 30, 2020 and 2019 were as follows:

(thousands of U.S. dollars)	Six months ended June 30,	
Other post-retirement benefits	**2020**	**2019**
Service cost	**$ 14**	$ 15
Interest cost	**144**	157
Amortization of net actuarial (gain) loss	**26**	(11)
Net periodic (benefit) cost	**$ 184**	$ 161

We currently expect funding requirements of approximately $3.0 million in each of the next five years to fund the regulatory solvency deficit, as defined by Canadian federal regulation, which require solvency testing on defined benefit pension plans.

We may obtain a qualifying letter of credit for solvency payments, up to 15% of the market value of solvency liabilities as determined on the valuation date, instead of paying cash into the pension fund. As of June 30, 2020, and December 31, 2019, we had letters of credit outstanding totaling $40.8 million and $41.0 million, respectively, related to these liabilities. The deficit has risen due to falling real interest rates where the pension liabilities increased more than the increase in the value of pension assets. The actual funding requirements over the five-year period will be dependent on subsequent annual actuarial valuations. These amounts are estimates, which may change with actual investment performance, changes in interest rates, any pertinent changes in Canadian government regulations, and any voluntary contributions.

Sotera Health Topco, Inc.

Notes to Consolidated Financial Statements (Unaudited)

11. Other Comprehensive Income (Loss)

Changes in our accumulated other comprehensive income (loss) balances, net of tax, were as follows:

	Six Months Ending June 30, 2020			
(thousands of U.S. dollars)	Benefit Plans	Foreign Currency Translation	Interest Rate Swaps	Total
Beginning balance – January 1, 2020	**$ (27,113)**	**$ (67,453)**	**$ 179**	**$ (94,387)**
Other comprehensive income (loss) before reclassifications	**1,240**	**(48,527)**	**(4,590)**	**(51,877)**
Amounts reclassified from accumulated other comprehensive income (loss)	**—**	**—**	**2,576**	**2,576**
Net current-period other comprehensive income (loss)	**1,240**	**(48,527)**	**(2,014)**	**(49,301)**
Ending balance – June 30, 2020	**$ (25,873)**	**$ (115,980)**	**$ (1,835)**	**$ (143,688)**

	Six Months Ending June 30, 2019			
(thousands of U.S. dollars)	Benefit Plans	Foreign Currency Translation	Interest Rate Swaps	Total
Beginning balance – January 1, 2019	$ (14,987)	$ (94,970)	$ —	$ (109,957)
Other comprehensive income (loss) before reclassifications	(585)	25,104	—	24,519
Ending balance – June 30, 2019	**$ (15,572)**	**$ (69,866)**	**$ —**	**$ (85,438)**

12. Related Party Activity

In April 2020, the Company approved a loan to a member of management for approximately $0.5 million to assist with personal taxes incurred on share-based grants received. The loan is collateralized by the shares, and proceeds of distributions will be applied against the loan.

The immediate family of a member of management are 25% owners of a facility that is under lease by the Company through June 2024, with one five-year renewal option through June 2029. The rental expense related to this facility is approximately $1.0 million per year.

During 2017, the Company issued loans totaling $0.6 million to two members of management to assist with the purchase of Class A Units. The loans are interest-bearing, and repayment of each loan is required within 3 years from the date of its execution. The total value of the loans as of December 31, 2018 was $0.1 million, and they were fully paid off in 2019.

In addition, we do business with a number of other companies affiliated with Warburg Pincus and GTCR, our Sponsors. All transactions with these companies have been conducted in the ordinary course of our business and are not material to our operations.

13. Share-Based Compensation

The Company’s equity-based awards issued to employees include restricted unit awards which vest based on either time or the achievement of certain performance and market conditions. These equity-based awards represent an interest in our parent, Sotera Health Topco Parent, L.P. (“Topco Parent”), and are granted in respect of services provided to the Company and its subsidiaries.

Compensation expense resulting from time vesting based awards is recognized in our consolidated statements of operations and comprehensive income (loss), primarily within "Selling, general and administrative expenses," at grant date fair value over the requisite service period (typically five years on a straight-line basis for time vested awards). Compensation expense resulting from performance awards that vest upon satisfaction of a performance condition is recognized when the performance condition is met. The calculated compensation expense for performance awards would be adjusted based on an estimate of awards ultimately expected to vest.

Class B-1 time vesting units vest on a daily basis pro rata over a five-year period (20% per year), subject to the grantee's continued services on each vesting date. Upon the occurrence of a change of control of the Company, all then outstanding unvested Class B-1 Units held by Unitholders will become vested as of the date of consummation of such change of control, subject to the Unitholder's continued services through the consummation of the change of control.

Class B-2 Units are considered performance vesting units, and are scheduled to vest only upon satisfaction of certain performance thresholds. These units vest as of the first date on which (i) our Sponsors have received two and one-half times their invested capital in Topco Parent and (ii) the Sponsors' internal rate of return exceeds twenty percent, subject to such grantee's continued services through the such date. No compensation expense has been recorded on the Class B-2 Units at this time as the related performance conditions are not considered probable of achievement. In the event of a change in control of the Company, any outstanding Class B-2 Units that remain unvested immediately following the consummation of such a change in control of the Company shall be immediately canceled and forfeited without compensation.

The Company recognized $3.1 million and $3.5 million of share-based compensation for the six months ended June 30, 2020 and 2019, respectively.

Fair value of the Class B-1 time vesting and B-2 performance vesting units is estimated on the grant date using a lattice-based option valuation model incorporating multiple and variable assumptions over time, including assumptions such as employee forfeitures, unit price volatility and dividend assumptions.

A summary of the activity for the six months ended June 30, 2020 related to the Class B-1 and B-2 units issued to Company employees is presented below:

	B-1 Time Vesting	B-2 Performance Vesting
As of December 31, 2019	14,450,263	15,011,256
Granted	10,550,000	—
Forfeited	(84,390)	(163,712)
Vested	(8,723,352)	—
As of June 30, 2020	**16,192,521**	**14,487,544**

14. Supplemental Pro Forma Earnings Per Share (unaudited)

In connection with an initial public offering, holders of units held in Topco Parent L.P. will become holders of equity interests of Sotera Health Topco, Inc. Upon the effective date, the effect of conversion of Topco Parent L.P. outstanding units will result in an increase of [●] shares of Sotera Health Topco, Inc. preferred stock and/or common stock. As the conversion of the outstanding securities will occur subsequent to December 31, 2019 and the conversion will result in a material reduction of earnings per share (excluding effects of the offering),

unaudited supplemental pro forma earnings per share for the six months ended June 30, 2020 is presented below giving effect to the conversion.

In addition, under SEC SAB Topic 1.B.3, a dividend declared in the latest year would be deemed to be in contemplation of the offering with the intention of repayment out of offering proceeds to the extent that the dividend exceeded earnings during the previous twelve months. During the year ended December 31, 2019, the Company paid $691.2 million of dividends, which exceeded the $20.9 million of net loss attributable to Sotera Health Topco, Inc. for the year ended December 31, 2019. As the Company had a net loss for the year ended December 31, 2019, no amount of the dividend was considered paid out of recent earnings, and as such, the unaudited supplemental pro forma earnings per share and pro forma equivalent shares give effect to the issuance of the number of shares that would be required to generate net proceeds sufficient to make the dividends of $691.2 million in 2019. The number of incremental shares that would be required to be issued to pay the dividend is based on the assumed initial public offering price of $[●] per share, the midpoint of the estimated offering price range set forth on the cover of the Company's prospectus after deducting estimated underwriting discount and commissions and estimated offering expenses of $[●] per share. As a result, [●] shares to be issued in the offering (the estimated proceeds from which are greater than the amount by which the 2019 dividends exceeded earnings) have been included in the denominator for purposes of pro forma earnings per share calculations for the six months ended June 30, 2020.

The following table sets forth a computation of unaudited supplemental pro forma basic and diluted earnings per share for the six months ended June 30, 2020:

	(unaudited) June 30, 2020
Weighted average common shares outstanding—Basic and Diluted	3,000
Additional pro forma shares giving effect to the conversion of Topco Parent L.P. shares and units	
Additional pro forma shares required to be issued in the offering necessary to pay the dividend	
Supplemental pro forma weighted average common shares outstanding—Basic and Diluted	
Supplemental pro forma net earnings per share—Basic and Diluted	

15. Leases

We lease certain facilities and equipment under various non-cancelable operating leases that expire through October 2034. Most of our real property leases provide for renewal periods and rent escalations and stipulate that we pay taxes, maintenance, and certain other operating expenses applicable to the leased premises. We made an accounting policy election whereby leases with an initial term of 12 months or less are recognized as lease expense on a straight-line basis over the lease term and not recorded on the consolidated balance sheet.

We determine if an agreement contains a lease and classify our leases as operating or finance at the lease commencement date. Finance leases are those in which we will pay substantially all the underlying asset's fair value or will use the asset for all or a major part of its economic life, including circumstances in which we will ultimately own the asset. Lease assets arising from finance leases are included in "Property, plant and equipment, net" and the liabilities are included in "Finance lease obligations" on the consolidated balance sheets. For finance leases, we recognize interest expense using the effective interest method and we recognize amortization expense on the lease asset over the shorter of the lease term or the useful life of asset. Finance leases are accounted for as if the assets were owned and financed, with associated expense recognized in "Interest expense, net" and "Cost of revenues" or "Selling, general and administrative expenses" within the consolidated statements of operations and comprehensive income (loss) depending on the nature of the underlying asset.

Operating lease assets and liabilities are recognized at the commencement date of the lease based on the present value of lease payments over the lease term. Lease assets represent the right to use an underlying asset for the lease term and lease liabilities represent the obligation to make lease payments arising from the lease. As most leases do not provide an implicit interest rate, we estimate an incremental borrowing rate to determine the present value of lease payments. Our estimated incremental borrowing rate reflects a secured rate based on recent debt issuances, our estimated credit rating, and lease term.

We recognize operating lease costs on a straight-line basis over the term of the lease in "Cost of revenues" or "Selling, general and administrative expenses" on the consolidated statements of operations and comprehensive income (loss) depending on the nature of the underlying asset. Non-lease components are accounted for separately from the lease components for all asset classes.

The components of lease expense were as follows for the six months ended June 30, 2020:

(thousands of U.S. dollars)	Six Months Ended June 30, 2020
Operating lease costs *(1)*	**$ 7,315**
Finance lease costs:	
Amortization of right of use assets	995
Interest on lease liabilities	938
Total finance lease costs	**1,933**
Total lease costs	**$ 9,248**

Operating lease expense for the six months ended June 30, 2019 was $7.0 million.

Lease terms and discount rates were as follows:

	Six Months Ended June 30, 2020
Weighted average remaining lease term:	
Operating leases	6.6 years
Finance leases	16.4 years
Weighted average discount rate:	
Operating leases	6.27%
Finance leases	6.13%

Supplemental cash flow information related to leases was as follows:

(thousands of U.S. dollars)	Six Months Ended June 30, 2020
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows for operating leases	$ 5,894
Operating cash flow for finance leases	938
Finance cash flows for finance leases	711

Maturities of lease liabilities as of June 30, 2020 are as follows:

(thousands of U.S. dollars)	Operating Leases	Finance Leases	Total
Remainder of 2020	$ 5,949	$ 1,547	$ 7,496
2021	10,834	3,048	13,882
2022	9,694	2,892	12,586
2023	7,653	2,906	10,559
2024	5,157	2,956	8,113
2025 and Thereafter	16,974	36,663	53,637
Total lease payments	56,261	50,012	106,273
Less imputed interest	(10,798)	(18,905)	(29,703)
Total lease liabilities	$ 45,463	$ 31,107	$ 76,570

16. Commitments and Contingencies

From time to time, we may be subject to various lawsuits and other claims in the ordinary course of our business. In addition, from time to time, we receive communications from government or regulatory agencies concerning investigations or allegations of noncompliance with laws or regulations in jurisdictions in which we operate.

We establish reserves for specific liabilities in connection with regulatory and legal actions that we determine to be probable and reasonably estimable. No material amounts have been accrued in our consolidated financial statements with respect to any loss contingencies. In certain of the matters described below, we are not able to make a reasonable estimate of any liability because of the uncertainties related to the outcome and/or the amount or range of loss. While it is not possible to determine the ultimate disposition of each of these matters, we do not expect that the ultimate resolution of pending regulatory and legal matters in future periods, including the matters described below, will have a material effect on our financial condition or results of operations. Despite the above, the Company may incur material defense and settlement costs, diversion of management resources and other factors.

FM Global Business Interruption Claim (NRU Outage)

Nordion, due to the shutdown of AECL's NRU reactor in 2009, suffered a cessation of supply of radioisotopes and business interruption loss. Nordion, by Statement of Claim dated October 22, 2010, issued in Ontario Superior Court an action against the insurer, Factory Mutual Insurance Company (FM Global), claiming $25.0 million USD in losses resulting from the shutdown of AECL's reactor and its inability to supply radioisotopes through the specified period of approximately 15 months. FM Global objected to Nordion's claim.

Trial commenced in March 2019 and was completed in September 2019. On March 30, 2020, Nordion received a favorable judgment in the amount of $25.0 million USD, plus pre-judgment interest, for a total judgment value of $39.8 million USD, or $56.4 million CAD based on then prevailing exchange rates should Nordion opt for conversion to Canadian funds. In addition, costs and disbursements have been assessed and awarded by the trial court in favor of Nordion in the approximate amount of $1.1 million CAD ($0.8 million USD) and $161,863 CAD ($0.1 million USD), respectively. On April 27, 2020, FM Global filed notice to appeal the judgment before the Court of Appeal of Ontario. Pending a favorable judgment in the appellate court, any final proceeds would be subject to a contingent fee owed to legal counsel and applicable taxes. As the judgment is considered a

contingent gain, any favorable outcome will be recognized in a future period when all appeals are exhausted. It is anticipated that the appeal process could take a year or more to complete.

Willowbrook, Illinois – Government Litigation

On October 30, 2018, the Illinois Attorney General and the State's Attorney of DuPage County, Illinois, sued Sterigenics U.S., LLC (the "IAG Action") alleging that authorized EO air emissions from a commercial sterilization facility Sterigenics formerly operated in Willowbrook, Illinois "cause, threaten, or allow air pollution" in violation of the Illinois Environmental Protection Act. The IAG Action did not assert that Sterigenics violated its permit from the Illinois Environmental Protection Agency ("IEPA") authorizing Sterigenics' release of regulated levels of EO at the Willowbrook facility.

On February 15, 2019, the acting IEPA director, John Kim, issued a "Seal Order" effectively precluding Sterigenics' operations at the Willowbrook facility based on many of the same allegations asserted in the IAG Action. Sterigenics disputed those allegations and opposed the IEPA's Seal Order. The Seal Order was resolved by a Consent Order entered on September 6, 2019. The Consent Order provided that Sterigenics did not admit the allegations of the IAG Action, provided for the removal of the Seal Order and allowed the Willowbrook facility to reopen upon implementation of supplemental emissions control measures consistent with a new law that became effective in Illinois in June 2019 and an IEPA permit that was approved in September 2019. Following entry of the Consent Order, the Seal Order was withdrawn.

On September 30, 2019, Sterigenics announced the closure of the Willowbrook facility due to the inability to reach an agreement to renew the facility's lease and the unstable legislative and regulatory landscape in Illinois. Sterigenics is in the process of decommissioning the facility and completing the work required by the terms of its lease to return the property to the landlord.

Ethylene Oxide Tort Litigation - Illinois

Since September 2018, tort lawsuits on behalf of nearly 800 plaintiffs (which are described further in the following paragraphs) have been filed in Illinois state court against Sotera Health LLC, Sterigenics U.S., LLC and other parties related to Sterigenics' Willowbrook, Illinois operations. Specifically, those plaintiffs allege that they suffered personal injuries including cancer and other diseases, or wrongful death, resulting from purported emissions and releases of EO from the Willowbrook facility. Plaintiffs seek damages in an amount to be determined by the trier of fact. Plaintiffs have voluntarily dismissed without prejudice a number of cases since September 2018, including certain individual cases alleging personal injuries and two class actions seeking property damages.

Sterigenics successfully sought consolidation of certain of these cases for pretrial purposes, which cases have now been consolidated before Judge Lawler in the Cook County Circuit Court, Illinois (the "Consolidated Case"). At present, 71 individual personal injury claims remain pending in the Consolidated Case. All plaintiffs in the Consolidated Case filed a single Master Complaint on October 24, 2019 by which Sotera Health LLC was added as a co-defendant, followed by a First Amended Master Complaint on January 31, 2020. On April 28, 2020, the defendants filed motions to dismiss the claims in the First Amended Master Complaint. On August 17, 2020, the Court entered an order largely denying the motions to dismiss, and the same day plaintiffs filed a Second Amended Master Complaint. Fact discovery is taking place in the Consolidated Case. A May 3, 2021 trial date has been set for Kamuda v. Sterigenics, the first-filed of the individual cases now included in the Consolidated Case, which is the first scheduled trial in these proceedings. Four additional cases now included in the Consolidated Case are currently scheduled for trials starting in June, August, September and November 2021.

We anticipate that additional trials will be scheduled after 2021 in roughly the order in which the individual cases were filed.

On or about August 21, 2020, approximately 750 plaintiffs filed similar personal injury lawsuits against Sotera Health LLC, Sterigenics U.S., LLC and other parties in the Cook County Circuit Court, Illinois (but not in the existing Consolidated Case). We expect that most or all of these newly filed cases will be consolidated for pre-trial purposes with the Consolidated Case. There is currently no date set for the defendants to answer or otherwise respond to these newly filed cases.

On August 19, 2020, a lawsuit against Sotera Health LLC, Sterigenics U.S., LLC and other parties was filed by seven plaintiffs in the DuPage County Circuit Court, Illinois. The plaintiffs allege that they suffered personal injuries including but not limited to cancer resulting from purported emissions and releases of EO from the Willowbrook facility. Plaintiffs seek damages in an amount to be determined by the trier of fact. It is possible that this case will also be transferred to and consolidated with the above described Consolidated Case pending in Cook County, Illinois.

Additional personal injury and property damage lawsuits may be filed in the future against Sotera Health LLC and Sterigenics U.S., LLC relating to Sterigenics' Willowbrook facility or other EO processing facilities. Sotera Health LLC and Sterigenics U.S., LLC intend to defend themselves vigorously in all such EO tort litigation.

The Company carries insurance to cover alleged environmental liabilities with limits of $10.0 million per occurrence and $20.0 million in the aggregate. The per occurrence limit related to the Willowbrook EO tort litigations was fully utilized by June 30, 2020. We have not provided for a contingency reserve in connection with these claims. While we intend to vigorously defend the Willowbrook proceedings, there can be no assurance that we will be successful. We are unable to predict the incidence or outcome of such litigation or to reasonably estimate the possible range of any losses that could be incurred. An adverse outcome in one or more of these proceedings could have a material adverse effect on our business, financial condition and results of operations.

Ethylene Oxide Tort Litigation – Georgia

On May 19, 2020 a lawsuit against Sotera Health LLC, Sterigenics U.S., LLC and other parties was filed in the State Court of Cobb County, Georgia by 53 employees of a contract sterilization customer of Sterigenics. Plaintiffs claim personal injuries resulting from alleged exposure to residual ethylene oxide while working at the customer's distribution center in Lithia Springs, Georgia and seek damages in an amount to be determined by the trier of fact. Motions to dismiss were filed by all defendants in August 2020. All defendants are being defended and indemnified by Sterigenics' contract sterilization customer (plaintiff's employee).

In May 2020, the Cobb County, Georgia Board of Tax Assessors reduced certain residential property value assessments around the Sterigenics Atlanta facility by 10% citing an "Epd-identified environmental issue," without providing the requisite factual support for the reduction. On August 14, 2020, Sterigenics U.S., LLC filed a lawsuit against members of the Cobb County Board of Tax Assessors in the U.S. District Court for the Northern District of Georgia, seeking a declaration that the reduction in property value assessments is unlawful and is causing Sterigenics reputational and imminent economic harm. Defendants' responses to the complaint are due in September 2020, at which time the Court will also receive submissions by the parties on issues of standing and jurisdiction.

On August 17, 2020 a lawsuit against Sotera Health LLC, Sterigenics U.S., LLC and other parties was filed by two plaintiffs in the State Court of Cobb County, Georgia. Plaintiffs allege that they suffered personal injuries

and loss of consortium resulting from purported emissions and releases of EO from Sterigenics' Atlanta facility. Plaintiffs seek damages in an amount to be determined by the trier of fact.

The Company carries insurance to cover alleged environmental liabilities with limits of $10.0 million per occurrence and $20.0 million in the aggregate, which is the same policy referred to under Ethylene Oxide Tort Litigation - Illinois above. We have not provided for a contingency reserve in connection with these claims.

Additional personal injury and property damage lawsuits may be filed in the future against Sotera Health LLC and Sterigenics U.S., LLC relating to Sterigenics' Atlanta facility or other EO processing facilities. Sotera Health LLC and Sterigenics U.S., LLC intend to defend themselves vigorously in all such EO tort litigation. While we intend to vigorously defend these proceedings, there can be no assurance that we will be successful. We are unable to predict the incidence or outcome of such litigation or to reasonably estimate the possible range of any losses that could be incurred. An adverse outcome in one or more of these proceedings could have a material adverse effect on our business, financial condition and results of operations.

Suspension of Georgia Facility Operations & Related Litigation

On August 7, 2019, Sterigenics U.S., LLC entered into a voluntary Consent Order with the Georgia Environmental Protection Division ("EPD") under which Sterigenics agreed to install emissions reduction enhancements at its Atlanta facility to further reduce the facility's EO emissions below already permitted levels. Sterigenics voluntarily suspended operations at the facility in early September 2019 to expedite completion of the enhancements. Installation of these enhancements is complete, and Sterigenics successfully tested the enhanced emissions controls in cooperation with EPD during the second quarter of 2020 while the facility was in operation.

In October 2019, while Sterigenics had voluntarily suspended the facility's operations, Cobb County, Georgia officials asserted that the facility had an incorrect "certificate of occupancy" and could not resume operations without obtaining a new certificate of occupancy after a third-party code compliance review they required.

After the Cobb County officials would not allow Sterigenics to resume operations, on March 30, 2020, Sterigenics U.S., LLC filed a lawsuit in the United States District Court for the Northern District of Georgia against Cobb County, Georgia and Cobb County officials Nicholas Dawe and Kevin Gobble. In the lawsuit, Sterigenics sought immediate injunctive relief and permanent declaratory relief to resume normal operations of the Atlanta facility in the interest of public health and on the basis that the positions asserted by Cobb County were unfounded. On April 1, 2020 the Court entered a Temporary Restraining Order prohibiting Cobb County officials from precluding or interfering with the facility's normal operations. On April 8, 2020, the Court entered a Consent Order extending the Temporary Restraining Order and allowing the facility to continue normal operations until entry of a final judgment in the case. On June 24, 2020 Sterigenics filed an amended complaint, and on July 22, 2020 defendants filed a motion to dismiss the claims. Sterigenics has responded in opposition to the motion, and the motion will be fully briefed by September 16, 2020. A ruling on the motion to dismiss is expected by November 2020. No trial date has been set. Sterigenics' EO processing facilities have consistently operated in compliance with air emission permits issued by state authorities and applicable USEPA air emission regulations. The USEPA is expected to propose updated air emission regulations for EO processing facilities in the coming months, and Sterigenics intends to make appropriate investments in its facilities to ensure compliance with new regulatory requirements.

17. Financial Instruments and Financial Risk

Derivative Instruments

We do not use derivatives for trading or speculative purposes and are not a party to leveraged derivatives.

We have embedded derivatives in certain of our customer and supply contracts as a result of the currency of the contract being different from the functional currency of the parties involved. Changes in the fair value of the embedded derivatives are recognized in “Other income, net” in the consolidated statements of operations and comprehensive income (loss).

In June 2020, SHH entered into two interest rate cap agreements with notional amounts of $1,000.0 million and $500.0 million, respectively, for a total option premium of $0.3 million. These terminate on August 31, 2021 and February 28, 2022, respectively. The interest rate caps limit our cash flow exposure related to the LIBOR base rate under a portion of our variable rate borrowings to 1.0%. In October 2017, SHH entered into two interest rate cap agreements with a total notional amount of $400.0 million for a total option premium of $0.6 million; these agreements terminate on September 30, 2020. The interest rate caps were not designated as hedges and are recorded at fair value on the consolidated balance sheets, with any changes in the value being recorded in the consolidated statement of operations and comprehensive income (loss).

During the third quarter of 2019, SHH entered into two interest rate swap agreements to hedge our exposure to interest rate movements and to manage interest expense related to our outstanding variable-rate debt. These swaps were designated as hedges against the changes in cash flows attributable to changes in LIBOR, the benchmark interest rate being hedged, and any changes in the fair value of the swap are recorded in other comprehensive income (loss). We received interest at one-month LIBOR and paid a fixed interest rate under the terms of the swap agreement. The swap agreements terminated on August 31, 2020. The notional amount of the interest rate swap agreements totaled $1,000.0 million.

The following table provides the fair values of our derivative instruments:

(thousands of U.S. dollars)	June 30, 2020	December 31, 2019
Assets		
Interest rate caps	$ 86	$ 1
Interest rate swaps	—	242
Embedded derivatives[(a)]	587	—
Liabilities		
Embedded derivatives[(a)]	$ 6,062	$ 3,478
Interest rate swaps	2,486	—

(a) As of June 30, 2020, and December 31, 2019, total notional amounts for certain of the Company’s supply and customer contracts for embedded derivatives were approximately $93.6 million and $96.0 million, respectively.

The interest rate caps are included in “Other assets” whereas interest rate swap assets and embedded derivative assets are included in “Prepaid expenses and other current assets” on our consolidated balance sheets. Embedded derivative liabilities and interest rate swap liabilities are included in “Accrued liabilities” on the consolidated balance sheets.

The following tables summarize the activities of our derivative instruments for the periods presented, and the line item where the activity is included in the consolidated statements of operations and comprehensive income (loss):

(thousands of U.S. dollars)	Six months ended June 30, 2020	2019
Unrealized loss / (gain) on interest rate caps recorded in Interest expense, net	**$ 172**	$ 324
Unrealized loss / (gain) on embedded derivatives recorded in Other expense (income), net	**2,043**	(1,847)

In addition, during the six months ended June 30, 2020, we recognized $2.0 million of losses, net of tax, in accumulated other comprehensive income (loss) related to the change in fair value of the interest rate swaps. The amounts included in accumulated other comprehensive income (loss) will be reclassified to interest expense should the hedge no longer be considered effective. No amount of ineffectiveness was included in net income (loss) for the six months ended June 30, 2020. We classify cash flows from derivative instruments and hedging activities as cash flows from operating activities in the consolidated statements of cash flows.

Credit Risk

Certain of our financial assets, including cash and cash equivalents, are exposed to credit risk.

We are also exposed, in our normal course of business, to credit risk from our customers. As of June 30, 2020, and December 31, 2019, accounts receivable was net of an allowance for uncollectible accounts of $0.7 million and $0.8 million, respectively.

Credit risk on financial instruments arises from the potential for counterparties to default on their contractual obligations to the Company. We are exposed to credit risk in the event of non-performance, but do not anticipate non-performance by any of the counterparties to our financial instruments. We limit our credit risk by dealing with counterparties that are considered to be of high credit quality. In the event of non-performance by counterparties, the carrying value of our financial instruments represents the maximum amount of loss that would be incurred.

Fair Value Hierarchy

The fair value of our financial instruments 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 valuation techniques we would use to determine such fair values are described as follows: Level 1—fair values determined by inputs utilizing quoted prices in active markets for identical assets or liabilities; Level 2—fair values based on observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, or other inputs that are observable; Level 3—fair values determined by unobservable inputs reflecting our own assumptions, consistent with reasonably available assumptions made by other market participants.

The following table discloses our financial assets and liabilities measured at fair value on a recurring basis:

As of June 30, 2020 *(thousands of U.S. dollars)*	**Level 1**	**Level 2**	**Level 3**	**Total**
Interest rate caps	**$ —**	**$ 86**	**$ —**	**$ 86**
Interest rate swaps	**—**	**(2,486)**	**—**	**(2,486)**
Embedded derivative assets		**587**		**587**
Embedded derivative liabilities	**—**	**(6,062)**	**—**	**(6,062)**

As of December 31, 2019 *(thousands of U.S. dollars)*	**Level 1**	**Level 2**	**Level 3**	**Total**
Interest rate caps	$ —	$ 1	$ —	$ 1
Interest rate swaps	—	242	—	242
Embedded derivative liabilities	—	(3,478)	—	(3,478)

The fair value of our 1st Lien Term Loan due 2026 and the 2nd Lien Secured Notes due 2027 was $2,072.4 million and $649.9 million, respectively as of June 30, 2020. The fair value of our 1st Lien Term Loan due 2026 and the 2nd Lien Secured Notes due 2027 was $2,130.6 million and $770.0 million, respectively as of December 31, 2019. The fair values were calculated using external pricing information, which is considered a Level 2 input as described above.

18. Segment Information

We identify our operating segments based on the way we manage, evaluate and internally report our business activities for purposes of allocating resources and assessing performance. We have three reportable segments: Sterigenics, Nordion and Nelson Labs. We have determined our reportable segments based upon an assessment of organizational structure, service types, and internally prepared financial statements. Our chief operating decision maker evaluates performance and allocate resources based on net revenues and segment income after the elimination of intercompany activities. The accounting policies of our reportable segments are the same as those described in the *Significant Accounting Policies* note.

Sterigenics

The Sterigenics segment provides outsourced terminal sterilization and irradiation services for the medical device, pharmaceutical, food safety and advanced applications markets.

Nordion

Nordion is a global provider of Co-60 and gamma irradiators, which are key components to the gamma sterilization process.

Nelson Labs

Nelson Labs provides outsourced microbiological and analytical chemistry testing and advisory services for the medical device and biopharmaceutical industries.

Sotera Health Topco, Inc.

Notes to Consolidated Financial Statements (Unaudited)

For six months ended June 30, 2020, two customers reported within the Nordion segment individually represented 10% or more of the segment's total net revenues. These customers represented 18.9% and 14.5% of the segment's external net revenues for the six months ended June 30, 2020.

(thousands of U.S. dollars)	Six Months Ended June 30, 2020			
	Sterigenics	Nordion	Nelson Labs	Consolidated
Net revenues[1]	$237,652	$65,766	$ 97,867	$ 401,285
Segment income[2]	126,121	40,431	39,760	206,312
Capital expenditures	20,965	982	1,491	23,438

(thousands of U.S. dollars)	Six Months Ended June 30, 2019			
	Sterigenics	Nordion	Nelson Labs	Consolidated
Net revenues[1]	$229,945	$67,243	$ 92,332	$ 389,520
Segment income[2]	117,490	37,132	35,417	190,039
Capital expenditures	21,618	1,498	1,752	24,868

1 Revenues are reported net of intersegment sales. Our Nordion segment recognized $19.9 million and $29.9 million in revenues from sales to our Sterigenics segment for the six months ended June 30, 2020 and 2019, respectively, that is not reflected in net revenues in the table above. Intersegment sales for Sterigenics and Nelson Labs are immaterial for both periods.

2 Segment income is only provided on a net basis to the chief operating decision maker and is reported net of intersegment profits

Corporate operating expenses for executive management, accounting, information technology, legal, human resources, treasury, corporate development, tax, purchasing, and marketing are allocated to the segments based on total net revenue.

Total assets and depreciation and amortization expense by segment are not readily available and are not reported separately to the chief operating decision maker.

A reconciliation of segment income to consolidated income (loss) before taxes is as follows.:

(thousands of U.S. dollars)	Six Months Ended June 30, 2020	2019
Segment income	**$ 206,312**	$ 190,039
Less adjustments:		
Interest expense, net	**111,812**	75,127
Depreciation and amortization[(a)]	**71,057**	73,576
Share-based compensation[(b)]	**3,118**	3,454
(Gain) loss on foreign currency and embedded derivatives[(c)]	**1,244**	(967)
Acquisition and divestiture related charges, net[(d)]	**2,289**	(558)
Business optimization project expenses[(e)]	**1,799**	1,165
Plant closure expenses[(f)]	**1,222**	—
Professional services relating to Willowbrook and Atlanta facilities[(g)]	**13,640**	5,805
Accretion of asset retirement obligation[(h)]	**982**	974
COVID-19 expenses[(i)]	**2,347**	—
Consolidated income (loss) before taxes	**$ (3,198)**	$ 31,463

(a) Includes depreciation of Co-60 held at gamma irradiation sites.
(b) Represents non-cash share-based compensation expense.
(c) Represents the effects of (i) fluctuations in foreign currency exchange rates, primarily related to remeasurement of intercompany loans denominated in currencies other than subsidiaries' functional currencies, and (ii) non-cash mark-to-fair value of embedded derivatives relating to certain customer and supply contracts at Nordion.
(d) Represents (i) certain direct and incremental costs related to the acquisition of Gibraltar Laboratories, Inc. ("Nelson Fairfield") in 2018 and Iotron Industries Canada, Inc. in July 2020, and certain related integration efforts as a result of those acquisitions, (ii) the earnings impact of fair value adjustments (excluding those recognized within amortization expense) resulting from the businesses acquired, and (iii) transition services income and non-cash deferred lease income associated with the terms of the divestiture of the Medical Isotopes business in 2018.
(e) Represents professional fees, contract termination and exit costs, severance and other payroll costs, and other costs associated with business optimization and cost savings projects relating to the integrations of Nordion and Nelson Labs, including the divestiture of the Medical Isotopes business, the withdrawal from the GA-MURR project, the Sotera Health rebranding, operating structure realignment and other process enhancement projects.
(f) Represents professional fees, severance and other payroll costs, and other costs associated with the closure of the Willowbrook, Illinois facility.
(g) Represents professional fees related to litigation associated with our EO sterilization facilities in Willowbrook, Illinois and Atlanta, Georgia and other related professional fees. See *"Commitments and Contingencies"* note.
(h) Represents the non-cash accretion of asset retirement obligations related to Co-60 and gamma processing facilities, which are based on estimated site remediation costs for any future decommissioning of these facilities (without regard for whether the decommissioning services would be performed by employees of Nordion, instead of by a third party) and are accreted over the life of the asset.
(i) Represents non-recurring costs associated with COVID-19, including donations to related charitable causes and special bonuses for front-line personnel working on-site during lockdown periods.

19. Subsequent Events

We have evaluated events occurring subsequent to June 30, 2020 through September 2, 2020, which is the date the consolidated financial statements were available to be issued.

Iotron Industries Canada, Inc. Acquisition

On July 31, 2020, we acquired Iotron Industries Canada, Inc. ("Iotron") for approximately $145.0 million Canadian dollars ("CAD") (approximately $108.1 million USD), subject to customary working capital and other adjustments. Iotron is an independent contact sterilizer with two North American locations in Vancouver, Canada, and Columbia City, Indiana. Each location uses proprietary high energy electron beam technology to process products for orthopedic, medical device, plastics, and agricultural businesses. Sales for Iotron's fiscal year-ended September 30, 2019 were $22.8 million CAD ($16.7 million USD) and will be part of the Sterigenics segment. The acquisition was financed by the issuance of $100.0 million of 1st lien notes due 2026 by SHH. This new issuance is privately placed and bears an interest rate of 3-month LIBOR, which cannot be less than 1.00%, plus a margin of 6.00%. Interest is payable on a quarterly basis with no principal due until maturity.

Shares

Common Stock

Prospectus

, 2020

Through and including , 20 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to each dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to unsold allotments or subscriptions.

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

Estimated expenses payable in connection with the sale of the common stock in this offering are as follows:

SEC registration fee	$ *
FINRA filing fee	*
Stock exchange listing fee	*
Printing and engraving expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees and expenses	*
Blue Sky fees and expenses	*
Miscellaneous	*
Total	$

* To be completed by amendment.

We will bear all of the expenses shown above.

Item 14. Indemnification of Directors and Officers.

Section 145 of the DGCL provides that a corporation may indemnify directors and officers as well as other employees and individuals against expenses, including attorneys' fees, judgments, fines and amounts paid in settlement in connection with specified actions, suits and proceedings whether civil, criminal, administrative or investigative, other than a derivative action by or in the right of the corporation, if they acted in good faith and in a manner they reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe their conduct was unlawful. A similar standard is applicable in the case of derivative actions, except that indemnification extends only to expenses, including attorneys' fees, incurred in connection with the defense or settlement of such action and the statute requires court approval before there can be any indemnification where the person seeking indemnification has been found liable to the corporation. The statute provides that it is not exclusive of other indemnification that may be granted by a corporation's certificate of incorporation, bylaws, disinterested director vote, stockholder vote, agreement or otherwise.

Our amended and restated certificate of incorporation and amended and restated bylaws will provide for indemnification of directors and officers to the fullest extent permitted by law, including payment of expenses in advance of resolution of any such matter. Our amended and restated certificate of incorporation will eliminate the potential personal monetary liability of our directors to us or our stockholders for breaches of their duties as directors except as otherwise required under the DGCL. Any amendment to, or repeal of, these provisions will not eliminate or reduce the effect of these provisions in respect of any act, omission or claim that occurred or arose prior to that amendment or repeal. If the DGCL is amended to provide for further limitations on the personal liability of directors of corporations, then the personal liability of our directors will be further limited to the greatest extent permitted by the DGCL.

We have entered into or will enter into separate indemnification agreements with our directors and officers that may be broader than the specific indemnification provisions contained in the DGCL. Each indemnification agreement provides, among other things, for indemnification to the fullest extent permitted by law and our amended and restated certificate of incorporation and amended and restated bylaws against any and all expenses,

judgments, fines and amounts paid in settlement of any claim. The indemnification agreements provide for the advancement or payment of all expenses to the indemnitee and for reimbursement to us if it is found that such indemnitee is not entitled to such indemnification under applicable law and our amended and restated certificate of incorporation and amended and restated bylaws. We believe that these agreements are necessary to attract and retain qualified individuals to serve as directors and officers.

The limitation of liability and indemnification provisions expected to be included in our amended and restated certificate of incorporation, amended and restated bylaws and the indemnification agreements that we have entered into or will enter into with our directors and officers may discourage stockholders from bringing a lawsuit against our directors and officers for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against our directors and officers, even though an action, if successful, might benefit us and other stockholders. Further, a stockholder's investment may be adversely affected to the extent that we pay the costs of settlement and damage awards against directors and executive officers as required by these indemnification provisions.

We maintain standard policies of insurance under which, subject to the limitations of the policies, coverage is provided (i) to our directors and officers against loss rising from claims made by reason of breach of duty or other wrongful acts as a director or officer, including claims relating to public securities matters, and (ii) to us with respect to payments which we may make to such officers and directors pursuant to our indemnification obligations or otherwise as a matter of law.

Certain of our non-employee directors may, through their relationships with their employers, be insured and/or indemnified against certain liabilities incurred in their capacity as members of our board of directors.

The underwriting agreement, filed as Exhibit 1.1 to this registration statement, will provide for indemnification, under certain circumstances, by the underwriters of us and our officers and directors for certain liabilities arising under the Securities Act or otherwise.

Item 15. Recent Sales of Unregistered Securities.

In the three years preceding the filing of this registration statement, we have issued the following securities that were not registered under the Securities Act:

PIK Toggle Notes

On November 24, 2017, Sotera Health Topco, Inc. issued an aggregate principal amount of $75.0 million of 8.125%/8.875% Senior PIK Toggle Notes due 2021 (the "PIK Toggle Notes"), which was used to pay a cash distribution to Topco Parent, which, in turn, used such proceeds for distributions, equity repurchases and other payments to its equity holders. The initial purchasers for the PIK Toggle Notes were Jefferies LLC and Goldman Sachs & Co. LLC.

The PIK Toggle Notes were offered and sold to qualified institutional buyers pursuant to Rule 144A under the Securities Act or to non-U.S. investors outside the United States in compliance with Regulation S of the Securities Act.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits: The list of exhibits is set forth in beginning on page II-4 of this Registration Statement and is incorporated herein by reference.

(b) Financial Statement Schedules: No financial statement schedules are provided because the information called for is not applicable or is shown in the financial statements or notes thereto.

Item 17. Undertakings.

* (f) The undersigned registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement, certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

* (h) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers, and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer, or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer, or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

* (i) The undersigned registrant hereby undertakes that:

- For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by us pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.
- For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

* Paragraph references correspond to those of Regulation S-K, Item 512.

EXHIBIT INDEX

Exhibit No	Description of Exhibits
1.1*	Form of Underwriting Agreement
3.1*	Form of Certificate of Incorporation of the Registrant
3.2*	Form of Bylaws of the Registrant
4.1*	Specimen Stock Certificate of the Registrant's Common Stock, par value $0.01 per share
4.2*	Form of Amended and Restated Registration Rights Agreement
4.3*	Indenture, dated as of December 13, 2019, among Sotera Health Holdings, LLC, the Registrant, the intermediate parents and subsidiary note parties thereto and Wilmington Trust, National Association, as second lien notes collateral agent, calculation agent and trustee
4.4*	Second Lien Collateral Agreement, dated as of December 13, 2019, among the Registrant, Sotera Health Holdings, LLC, the other grantors party thereto and Wilmington Trust, National Association, as second lien notes collateral agent
4.5*	Patent Security Agreement, dated as of December 13, 2019, between Sterigenics U.S., LLC and Wilmington Trust, National Association, as second lien notes collateral agent
4.6*	Trademark Security Agreement, dated as of December 13, 2019, between Sterigenics U.S., LLC and Wilmington Trust, National Association, as second lien notes collateral agent
4.7*	Trademark Security Agreement, dated as of December 13, 2019, between Nelson Laboratories, LLC and Wilmington Trust, National Association, as second lien notes collateral agent
4.8*	Trademark Security Agreement, dated as of December 13, 2019, between Sotera Health LLC and Wilmington Trust, National Association, as second lien notes collateral agent
4.9*	Copyright Security Agreement, dated as of December 13, 2019, between Nelson Laboratories, LLC and Wilmington Trust, National Association, as second lien notes collateral agent
4.10*	Indenture, dated as of July 31, 2020, among Sotera Health Holdings, LLC, the Registrant, the intermediate parents and subsidiary note parties thereto and Wilmington Trust, National Association, as first lien notes collateral agent, calculation agent and trustee
4.11*	First Lien Collateral Agreement, dated as of July 31, 2020, among the Registrant, Sotera Health Holdings, LLC, the other grantors party thereto and Wilmington Trust, National Association, as first lien notes collateral agent
4.12*	Patent Security Agreement, dated as of July 31, 2020, between Sterigenics U.S., LLC and Wilmington Trust, National Association, as first lien notes collateral agent
4.13*	Trademark Security Agreement, dated as of July 31, 2020, between Sotera Health LLC and Wilmington Trust, National Association, as first lien notes collateral agent
4.14*	Copyright Security Agreement, dated as of July 31, 2020, between Nelson Laboratories, LLC and Wilmington Trust, National Association, as first lien notes collateral agent
5.1*	Opinion of Cleary Gottlieb Steen & Hamilton LLP
10.1*+	Michael B. Petras, Jr. Employment Agreement
10.2*+	Scott J. Leffler Employment Agreement
10.3*+	Matthew J. Klaben Employment Agreement
10.4*+	Annual Incentive Plan

Exhibit No	Description of Exhibits
10.5*+	Sotera Health Supplemental Retirement Benefit Plan, effective as of January 1, 2018
10.6*+	New Equity Plan
10.7*+	Form of Award Agreement Under New Equity Plan
10.8*+	Form of Restricted Stock Agreement and Acknowledgement
10.9*	Form of Indemnification Agreement entered into between the Registrant and each director and executive officer
10.10*	Credit Agreement, dated as of December 31, 2019, among the Registrant, Sotera Health Holdings, LLC, the lenders and issuing banks party thereto and Jefferies Finance LLC, as first lien administrative agent and first lien collateral agent
10.11*	Guarantee Agreement, dated as of December 31, 2019, among the Registrant, Sotera Health Holdings, LLC, the other guarantors party thereto and Jefferies Finance LLC, as first lien collateral agent
10.12*	Collateral Agreement, dated as of December 13, 2019, among the Registrant, Sotera Health Holdings, LLC, the other guarantors party thereto and Jefferies Finance LLC, as first lien collateral agent
10.13*	Patent Security Agreement, dated as of December 13, 2019, between Sterigenics U.S., LLC and Jefferies Finance LLC, as collateral agent
10.14*	Trademark Security Agreement, dated as of December 13, 2019, between Sterigenics U.S., LLC and Jefferies Finance LLC, as collateral agent
10.15*	Trademark Security Agreement, dated as of December 13, 2019, between Nelson Laboratories, LLC and Jefferies Finance LLC, as collateral agent
10.16*	Trademark Security Agreement, dated as of December 13, 2019, between Sotera Health LLC and Jefferies Finance LLC, as collateral agent
10.17*	Form of Stockholders' Agreement
21.1*	List of Significant Subsidiaries
23.1*	Consent of Cleary Gottlieb Steen & Hamilton LLP (included in Exhibit 5.1)
23.2*	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm
24.1*	Powers of Attorney (included on signature page)

\+ Denotes management contract or compensatory plan or arrangement.
* To be filed by amendment.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Broadview Heights, State of Ohio on , 2020.

SOTERA HEALTH TOPCO, INC.

By: _____
Name: Michael B. Petras, Jr.
Title: Chairman and Chief Executive Officer

The undersigned directors and officers of Sotera Health Topco, Inc. hereby constitute and appoint Michael B. Petras, Jr., Scott J. Leffler and Matthew J. Klaben, and each of them, any of whom may act without joinder of the other, the individual's true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for the person and in his or her name, place and stead, and in any and all capacities, to sign this Registration Statement and any and all amendments, including post-effective amendments to the Registration Statement, including a prospectus or an amended prospectus therein and any Registration Statement for the same offering that is to be effective upon filing pursuant to Rule 462 under the Securities Act of 1933, as amended, and to file the same, with all exhibits thereto, and all other documents in connection therewith to be filed with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact as agents or any of them, or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed below by the following persons in the capacities and on the dates indicated.

Name	Title	Date
Michael B. Petras, Jr.	Chairman and Chief Executive Officer (Principal Executive Officer)	, 2020
Scott J. Leffler	Chief Financial Officer and Treasurer (Principal Financial and Accounting Officer)	, 2020
		, 2020
		, 2020
		, 2020