

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

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2021

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
Commission File Number 001-03970

HARSCO CORPORATION

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

350 Poplar Church Road, Camp Hill, Pennsylvania

(Address of principal executive offices)

23-1483991

(I.R.S. employer identification number)

17011

(Zip Code)

Registrant's telephone number, including area code **717-763-7064**

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

<u>Title of each class</u>	<u>Trading Symbol(s)</u>	<u>Name of each exchange on which registered</u>
Common stock, par value \$1.25 per share	HSC	New York Stock Exchange

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

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

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

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See 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	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 13(a) of the Exchange Act.

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

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

The aggregate market value of the Company's voting stock held by non-affiliates of the Company as of June 30, 2021 was \$1,617,067,000

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date:

<u>Class</u>	<u>Outstanding at January 31, 2022</u>
Common stock, par value \$1.25 per share	79,225,394

DOCUMENTS INCORPORATED BY REFERENCE

Selected portions of the 2022 Proxy Statement are incorporated by reference into Part III of this Report.

HARSCO CORPORATION
FORM 10-K
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Glossary of Terms

Unless the context requires otherwise, "Harsco," the "Company," "we," "our," or "us" refers to Harsco Corporation on a consolidated basis. The Company may use other terms in this Annual Report on Form 10-K, including the Consolidated Financial Statements and Notes, which are defined below:

Term	Description
AOCI	Accumulated Other Comprehensive Income (Loss)
AXC	The former Harsco Industrial Air-X-Changers business
Board	The Board of Directors of Harsco Corporation
CARES Act	Coronavirus Aid, Relief, and Economic Security Act
CCIRs	Cross-currency interest rate swaps
CE	Harsco Clean Earth Segment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
Clean Earth	CEHI Acquisition Corporation and Subsidiaries
COVID-19	The COVID-19 coronavirus pandemic
Credit Agreement	Credit Agreement governing the Senior Secured Credit Facilities
DEA	United States Drug Enforcement Agency
DTSC	California Department of Toxic Substances Control
EBITDA	Earnings before interest, tax, depreciation and amortization
ESOL	Stericycle Environmental Solutions business
FASB	Financial Accounting Standards Board
HE	Harsco Environmental Segment
IBORs	Interbank offered rates
ICMS	Type of value-added tax in Brazil
IKG	The former Harsco Industrial IKG business
ISDA	International Swaps and Derivatives Association
LIBOR	London Interbank Offered Rates
MEPP	Multiemployer pension plan
New Term Loan	\$500 million term loan B raised in March 2021 under the Senior Secured Credit Facilities
NPPC	Net periodic pension cost (income)
OCI	Other Comprehensive Income (Loss)
PA DEP	Pennsylvania Department of Environmental Protection
PK	The former Harsco Industrial Patterson-Kelley business
RCRA	Resource Conservation and Recovery Act
Revolving Credit Facility	\$700 million multi-year revolving credit facility under the Senior Secured Credit Facilities
ROU	Right of use
SBB	Federal railway system of Switzerland
SCE	Supreme Council for Environment in Bahrain
SEC	Securities and Exchange Commission
Senior Notes	\$500 million 5.75% notes due July 31, 2027
Senior Secured Credit Facilities	Primary source of borrowings comprised of the New Term Loan and the Revolving Credit Facility
SPRA	State Revenue Authorities from the State of São Paulo, Brazil
Term Loan A	\$280 million term loan issued under the Senior Secured Credit Facilities, outstanding balance repaid on March 10, 2021
Term Loan B	Term loan issued under the Senior Secured Credit Facilities, outstanding balance repaid on March 10, 2021
TSDF	Treatment, storage, and disposal facility permits issued under the Resource Conservation and Recovery Act
U.S. GAAP	Accounting principles generally accepted in the U.S.

PART I

Item 1. Business.

OUR COMPANY - OUR VISION

Harsco Corporation is a market-leading, global provider of environmental solutions for industrial and specialty waste streams. Our two reportable business segments are Harsco Environmental and Harsco Clean Earth and we are a single-thesis environmental solutions company that is a leader in the markets we serve.

We have worked in recent years to both transform our portfolio and strengthen our financial results, and we have invested to achieve these objectives and to grow the Company. These investments include targeted organic investments, as well as mergers and acquisitions, that have accelerated our business transformation. The purchases of Clean Earth and ESOL, along with the sale of our energy-linked business in 2019 and our intention to sell our Rail business, have been significant strategic steps for our Company. As a result, 100% of our revenues from continuing operations in 2021 were generated from our two environmentally-focused segments. It also is important to note that these transactions have reduced the Company's portfolio complexity and business cyclicality.

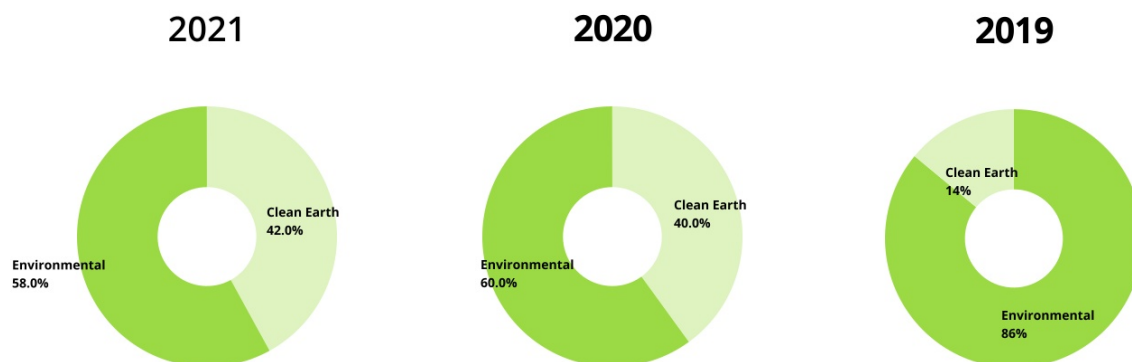
More broadly, we are committed to viewing every customer need through a sustainability lens. Our customers are increasingly expecting more customizable solutions that address environmental challenges within their industries. The Company is responding to this need by helping our customers build better businesses and, in a larger sense, a better environment. Our go-forward strategy is clear: to continue building a leading, global environmental solutions company.

SEGMENT INFORMATION

The Company's current operations consist of two reportable business segments: Harsco Environmental and Harsco Clean Earth. Until 2019, the Company also reported the Harsco Industrial Segment composed of three businesses, which were sold in 2019 and 2020. In addition, until the fourth quarter of 2021, the Company reported the Harsco Rail Segment. The Company has announced its intention to sell the Rail business. Historical results for Harsco Industrial and Harsco Rail are accounted for as discontinued operations.

The Company reports segment information using the "management approach," based on the way management organizes and reports the segments within the enterprise for making operating decisions, assessing performance and allocating capital. The Company's reporting segments are identified based upon differences in products, services, and markets served. Financial information concerning segments and international and domestic operations is included in Note 16, Information by Segment and Geographic Area, in Part II, Item 8, "Financial Statements and Supplementary Data."

Our revenues by business segment are as follows, and a further description of the products and services offered through these business segments is presented below.



HARSCO ENVIRONMENTAL

BUSINESS OVERVIEW

Our Harsco Environmental Segment can trace its heritage back to the earliest efforts in industrial recycling and environmental resource management. Where others only saw waste and expense, we saw opportunity and value nearly 100 years ago. HE was founded upon market insights, grounded in respect for the environment, efficient use of resources, and optimism for the future.

Today, HE is a premier, global provider of environmental services and material processing to the global steel and metals industries. HE partners with its global customer base to deliver production-critical on-site operational support and resource recovery services, through management of our customers' primary waste or byproduct streams. Our services support the metal manufacturing process, generating significant operational and financial efficiencies for our customers and allowing them to focus on their core steelmaking businesses.

HE serves 70 customers at approximately 150 sites in approximately 30 countries. Our diversified customer base includes the largest steel producers in the regions where we operate, serving a mix of mini-mill and integrated operations. In recent years, HE has greatly extended its reach, signing new services contracts in bellwether emerging markets like India, and further strengthening our footprint in the Americas and Europe. As a result, our global portfolio is balanced and diversified, with foreign currency risk partially mitigated by the fact that our operating costs and revenues are regularly denominated in local currencies.

In addition to providing critical services to our customers, we provide zero-waste solutions for relevant waste or byproduct streams - an important component of our value proposition. We repurpose processed material for alternative uses and / or convert this material into viable products to be sold in other markets via our ecoproducts™ offerings and capabilities. Our ecoproducts™ portfolio includes road and roofing materials, abrasives, agriculture products and aggregates. This expertise is increasingly important to our customers as environmental regulations increase and the marketplace grows more averse to landfilling waste.

CUSTOMERS AND SERVICE CONTRACTS

We offer our customers a suite of more than 30 services, and our on-site work is performed under long-term contracts. These contracts typically include fixed fees or minimum billings, which de-risk our investment during periods of economic weakness, and variable fees often linked to the amount of metal produced or waste processed at a site. Our variable fees under contracts are, importantly, not linked to steel prices. Additionally, in recent years we have strengthened our contract terms and underwriting practices in an effort to earn a sufficient and timely return on our investments, as well as achieve other objectives. These measures, along with various improvement initiatives, have boosted our site portfolio results and driven more consistent performance across our operations.

Our contract renewal rates are high, with many customer relationships that span decades. Our largest customers today include ArcelorMittal, Tata, Gerdau, Tisco, and Hebei Iron and Steel Company. We serve most of our major customers at multiple sites, often under multiple contracts. The length of our customer relationships reflects our value proposition. Customers choose the Company to (1) achieve operational and financial efficiencies; (2) concentrate their efforts on metal manufacturing and supporting end-market product demands; (3) gain access to process innovations and technologies developed by the Company; and (4) leverage our downstream product applications and know-how. HE had one customer in each of the past three years that provided more than 10% of this segment's revenues, again under many long-term contracts at multiple sites.

On December 31, 2021, the Company's services contracts had estimated future revenues of \$3.4 billion at current production levels, compared with \$3.5 billion at December 31, 2020, with the decrease primarily due to the timing of contract expirations. These contract values provide the Company with a substantial base of anticipated long-term revenues. Approximately 21% of these revenues are expected to be recognized by December 31, 2022; approximately 39% of these revenues are expected to be recognized between January 1, 2023 and December 31, 2025; approximately 20% of these revenues are expected to be recognized between January 1, 2026 and December 31, 2028; and the remaining revenues are expected to be recognized thereafter. Estimated future revenues are exclusive of anticipated contract renewals, projected volume increases and ad-hoc services as well as future revenues from roofing granules, abrasives products, roadmaking materials, additives and specialty recovery technology services.

ON-SITE SERVICES

HE provides a broad range of services, most of which address our customers' environmental challenges. In total, these services reduce both landfill waste and the carbon footprint of our customers' sites. In 2021, on-site services represented approximately 86% of HE's revenues. A summary of our most significant services is as follows:

Resource Recovery, Metal Recycling and Slag Optimization

Resource recovery, metal recycling and slag optimization is the core component of our service offerings. We capture liquid steel waste or byproduct (slag) and transport it for cooling, treatment and conditioning. We then recover valuable metal from the waste-stream, which is returned to our customer in a form suitable for recycling through the customers' manufacturing process. Finally, the residual non-metallic processed material is transformed into environmental products that create new and additional revenue streams to other customers.

Scrap Management

We manage customer scrap inventories and upgrade scrap by making it cleaner and denser. Improved scrap characteristics reduce electricity usage which, combined with the usage of recycled material, provides sustainability benefits to our customers.

Materials Handling and Logistics

We transport materials, including semi-finished and finished products, safely and efficiently for our customers. Our tracking technology also provides real-time analysis of material location, quantities and product quality.

Meltshop and Furnace Services

Meltshop and furnace services allow the molten metal production process to run smoothly and efficiently. These services include under-vessel cleaning and the removal of ladle slag (waste) and general melt shop debris.

ECOPRODUCTS™

HE creates value-added downstream products from industrial waste-streams. Our experience in manufacturing these products and successfully penetrating relevant end-markets is an important differentiator for the Company. These zero-waste solutions preserve our natural resources and reduce or eliminate landfill disposal. Ecoproducts in 2021 represented approximately 12% of HE's revenues, and our major ecoproducts include the following:

Road Surfacing and Materials

Because of its natural shape and interlocking properties, steel slag holds many advantages when used in asphalt roadway surfaces, ranging from high skid resistance to better durability. The Company's slag-based asphalt product, developed and sold as SteelPhalt™, maintains positive surface characteristics throughout the life of the road, allowing longer replacement intervals and lower maintenance costs. The Company also sells a slag aggregate that is a sustainable and cost-effective alternative to natural stone. This aggregate is often used as unbound road base material for secondary roads and sub-base material elsewhere.

Abrasives and Roofing Materials

Our Reed Minerals business is among the largest roofing granule suppliers in the U.S., partnering with the country's leading shingle manufacturers. Nearly 100 years ago, we pioneered a process of recycling coal combustion waste from power plants. Through the Company's proprietary process, we create premium quality roofing granules that are a critical raw material in asphalt roofing shingles.

Reed is also one of the largest U.S. manufacturers of abrasives, using coal as well as copper slag and crushed glass, for the surface preparation market. Our BLACK BEAUTY® and SURE/CUT™ abrasives are well-recognized within the industry and are used as blast material to remove paint, rust, and other coatings from surfaces, prior to applying a new finish.

Metallurgical Additives

The Company's custom-designed steelmaking additives facilitate fluid slag formation in the steelmaking process, thus improving customer productivity and helping achieve the steel product specifications required for today's premium applications.

Agriculture and Turf Products

We produce soil conditioners and fertilizers, principally from stainless steel slag that optimize crop yields and turf performance. CrossOver® and AgrowSil® products are our leading silicon, calcium and magnesium-based product brands, sold mainly in the Americas. These products are formulated to address nutrient deficiencies and toxicity issues in soil as well as to help plants withstand outside pressures and disease.

Cement Additives

Steel slag is naturally cementitious and commonly blended with other materials to produce environmentally-friendly, high-performing cement products. Cement made with slag aggregate can achieve permeabilities and other attributes that compare favorably to concrete made with conventional aggregates.

ALTEK GROUP

Altek is a UK-based manufacturer of market-leading products that enable aluminum producers and recyclers to manage and extract value from critical waste streams, reduce waste generation, and improve operating productivity. The cost-efficient recovery of metal and other valuable materials is increasingly important to the aluminum industry. Altek's products and technologies address this challenge, and its latest AluSalt[®] innovation offers customers a breakthrough technology that converts salt slag waste into valuable products, addressing one of the largest environmental concerns within the aluminum market.

GROWTH STRATEGY

We have identified attractive opportunities that meet our return thresholds to expand our service portfolio, and our pipeline of opportunities remains significant. Additionally, we have initiated efforts to expand our downstream products business and plan to continue investing in innovation to support our business sustainability.

A summary of our key growth initiatives is as follows:

- **Further Penetrate Existing Sites.** Given our broad services capabilities, we see potential for add-on services contracts at existing sites.
- **New Sites.** We continue to pursue new services contracts in certain markets, particularly in emerging economies where out-sourcing opportunities are significant because of increased environmental awareness or where steel consumption (production) is set to grow.
- **Investment in Downstream Products.** We see ample opportunities to expand certain products businesses, and our investment in new SteelPhalt[™] (road materials) plants in Europe is a recent example.
- **Innovation.** We are at the forefront of innovation in our industry. Our innovation programs are specifically focused on helping our customers solve their most pressing environmental challenges amid ever-increasing regulation. This initiative includes developing new customer or industry solutions, either in-house or externally, and expanding the usage of technologies that already exist within our business.

COMPETITORS

HE competes principally with a small number of privately-held businesses for services outsourced by customers on a global basis. We also compete with numerous smaller, privately-held businesses in each of our regional markets and, to some degree, customers that may decide to perform certain services themselves.

We believe that HE differentiates itself from its competition through innovative technologies that support our service offerings, and through the operating expertise developed by sharing best practices across our global portfolio. Our safety practices and performance also support our business, as do our long-standing relationships and our downstream product solutions.

HARSCO CLEAN EARTH

BUSINESS OVERVIEW

In June 2019, the Company acquired Clean Earth, one of the largest specialty waste processing companies in the U.S. CE provides processing and beneficial reuse solutions for hazardous wastes and soil and dredged materials. In April 2020, the Company acquired ESOL, an established waste transportation, processing and services provider with a comprehensive portfolio of disposal solutions for customers primarily across the industrial, retail and healthcare markets. These acquisitions accelerated Harsco's transformation into a global, market-leading, single-thesis environmental solutions platform.

Combined, CE now operates 19 RCRA Part B permitted TSDF facilities and supporting 10-day transfer facilities across the U.S., serving more than 90,000 customer locations while utilizing a fleet of over 700 vehicles. It also holds a portfolio of more than 500 critically-important permits, and the waste handled by CE is recycled or beneficially reused.

Specialty-waste permits have considerable value, and CE is positioned to take advantage of increasingly stringent regulations on the handling of this waste. These dynamics provide recurring revenues and support attractive underlying growth. CE also operates in a fragmented market where acquisition opportunities are likely to develop. As a result, we see CE as a platform for growth as we continue to expand our focus as an environmental solutions company.

INTEGRATION

By the end of 2022, the Company expects to integrate and fully realize identified synergies and profit improvement potential from the acquisition of ESOL. These improvements are anticipated through transportation and disposal efficiencies, procurement and operational savings, and commercial benefits.

CUSTOMERS

CE provides low-cost, regulatory-compliant solutions to a diverse base of customers. These customers include waste generators in numerous industries, including chemicals, power, aerospace, medical, retail and metals, as well as integrated waste companies and brokers. CE also services federal, state and local governments as well as developers linked to large infrastructure and redevelopment projects. CE had one customer in 2021 and 2020 that provided more than 10% of this segment's revenues.

LINES OF BUSINESS

Hazardous Waste

CE provides testing, tracking, processing, recycling, and disposal services for hazardous waste and it operates 19 RCRA Part B permitted TSDF facilities and several waste water processing permits that enable the Company to process a variety of complex hazardous wastes, consisting of toxic, reactive and flammable materials such as industrial wastewater, manufacturing sludge, oily-mixtures, chemicals, pesticides, asbestos pharmaceutical waste, and landfill leachate with per- and polyfluoroalkyl substances ("PFAS"). The remaining facilities handle a limited number of other wastes, including electronics, batteries and light bulbs. These operations possess unique and differentiated processing technologies, such as applications for aerosol can and medical waste recycling. In 2021, this line of business represented approximately 82% of CE's revenues.

Soil and Dredged Materials

CE processes approximately 3 million tons per year of contaminated soil at thirteen locations. These soils are contaminated with heavy metals, PCBs, pesticides, PFAS or other chemicals, and the related clean-up work is often the result of infrastructure improvements, private redevelopment, industrial site remediation and/or underground storage tank removal. CE treats and recycles this soil through various processes, after which the material is suitable for beneficial reuse as construction fill material or landfill capping. CE also operates one facility to treat dredged material, the sediment accumulated at the bottom of waterways that is removed for environmental (clean-up) or maintenance (maintain depth) purposes. After treatment, these materials are also beneficially reused as fill material. In 2021, this line of business represented approximately 18% of CE's revenues.

OPERATIONS AND PERMITS

CE provides a suite of regulation-compliant treatment solutions for hazardous and non-hazardous wastes that can be tailored to meet customer-specific requirements. The solutions include soil remediation and recycling, dredged material stabilization and beneficial reuse, hazardous and non-hazardous waste stabilization and solidification, fuel blending, management and recycling, battery and electronic waste recycling, and secure electronic data destruction.

Additionally, CE holds a portfolio of more than 500 process, treatment and operating permits, including the ones mentioned above. This permit portfolio is difficult to duplicate, making these permits valuable and critically-important assets in this heavily-regulated industry. CE's ability to secure new permits or permit modifications for new waste streams or processes in the future remains an important growth lever for the business.

BACKLOG

The dollar value of CE's backlog is excluded due to the short-cycle nature of services provided and variability in revenues due to the timing of receipt and composition of materials.

GROWTH

Favorable underlying market dynamics, driven by increased regulation and a growing list of contaminants and hazardous materials, and investment are anticipated to fuel CE's growth in the coming years. We also anticipate penetrating the market with new treatment solutions and expansion of existing technologies, including permit modifications and applications in new geographic markets. Lastly, CE is well-positioned to benefit from a positive outlook for maintenance and environmental dredging, and over time we expect acquisitions to be an important growth lever for CE. CE operates in a very fragmented, regionally-driven market, and as a result, we expect to pursue acquisition opportunities that may provide increased scale and/or new capabilities, along with synergies and attractive financial returns to the Company.

COMPETITION

Given the fragmented nature of the specialty waste industry, CE competes with numerous companies. Our larger peers include Clean Harbors, Heritage Environmental Services, and U.S. Ecology within the hazardous materials line of business, and GFL Environmental and Impact Environmental within the contaminated materials market. CE differentiates itself from competitors through service reliability and responsiveness, its diverse operating capabilities and regulatory compliant solutions, and the value it provides through providing environmentally superior solutions relative to other disposal alternatives in the regions where it operates.

ENVIRONMENTAL, SOCIAL AND GOVERNANCE ("ESG")

We are committed to building a global, market-leading environmental solutions company that preserves our environment, adheres to ethical and responsible business practices, and supports our customers as they do the same. ESG is central to our business strategy and operations - our employees are inspired to develop innovative products and services that positively impact the environment and support the Company's growth.

Our ESG focus areas include:

- **Innovative Solutions.** We help our customers solve their most pressing sustainability challenges by providing services and products that meet their environmental and business objectives. We deliver solutions for treating, recycling and repurposing materials across a wide range of customers, industries, and industrial by-products and specialty wastes, including steel, aluminum, soils, water, electronics, fuel, batteries and more.
- **Thriving Environment.** We strive to reduce or eliminate our global environmental impacts by providing the highest-quality environmental management in our operations and improving our environmental footprint through continuous improvement efforts. Our Corporate Environmental Policy outlines our environmental stewardship commitments. We also expect all third parties that do business with the Company to share our environmental standards.
- **Safe Workplaces.** Safety is of paramount importance in everything we do - our goal, each and every day, is that our people return home unharmed. We have built a best-in-class safety culture, and our cross-divisional Executive Safety Committee is responsible for implementing best practices with a goal of eliminating all incidents within our business activities.
- **Inspired People.** We invest in the career development of our employees, knowing that diversity of perspective, backgrounds and talents strengthens our business. We are also committed to building strong, sustainable communities where we live and work.
- **Excellence in Corporate Governance.** Excellence in corporate governance is fundamental to how we manage and operate the Company, from our everyday business to ESG issues. Our Code of Conduct and our Core Values lie at the center of all we do. Through these policies and guidelines, we have equipped every employee with the tools, training, and guidance to always do the right things, the right way. Oversight of our ESG practices is provided by the Governance Committee of the Company's Board.

Further details on our ESG initiatives and accomplishments can be found in our latest ESG Report. This report, published in May of 2021, is our most comprehensive sustainability report to date and can be found on the Company's website (www.harsco.com/sustainability) along with other related policies. Unless specifically stated herein, documents and information on the Company's website are not incorporated by reference into this document.

HARSCO BUSINESS SYSTEM ("HBS")

Our HBS is a shared set of processes that reflect and support our corporate strategy. These repeatable and replicable standards and practices are the hallmark of a high-performing company. There is intrinsic value in a common language, and a defined business system does away, in large part, with ambiguity about what constitutes success. The elements of our HBS are:

Environmental, Health & Safety; Continuous Improvement; Talent Development; Strategic Planning; and Acquisitions & Divestitures.

ACQUISITIONS AND DIVESTITURES

Given the Company's evolution to a single-thesis environmental solutions company, acquisitions and divestitures have been an important element of our business strategy. These actions support the Company's growth ambitions, while reducing business cyclicity and portfolio complexity.

In the fourth quarter of 2021, the Company concluded and announced that its Rail business was no longer aligned with our strategic direction, and it was the appropriate time to begin a formal evaluation of strategic alternatives with the intention to sell the business. As a result, Rail is reclassified as held for sale and reported as discontinued operations for all years presented.

In April 2020 the Company completed the acquisition of ESOL, from Stericycle, Inc., for \$429.0 million in cash, inclusive of post-closing adjustments. ESOL is an established waste transportation, processing and services provider with a comprehensive portfolio of disposal solutions for customers primarily across the industrial, retail and healthcare markets. ESOL's network includes 13 permitted TSD facilities and 48 10-day transfer facilities serving more than 90,000 customer locations utilizing a fleet of more than 700 vehicles. The acquisition of ESOL furthered our transformation into a market-leading, single-thesis environmental solutions platform. The results of ESOL are included in CE.

In June 2019, the Company acquired Clean Earth from Compass Diversified Holdings for approximately \$628 million in cash. This acquisition expanded the Company's environmental service capabilities, while providing the Company entry into the

specialty market, which possesses attractive organic growth and recurring revenues characteristics as well as a platform for future acquisition growth.

Also, in 2019, the Company completed the sale of the AXC business for approximately \$600 million (July 2019) and the PK business (November 2019) for approximately \$60 million in cash. In January 2020, the Company sold its IKG business for \$85.0 million, including a note receivable with a face value of \$40.0 million. These divestitures accelerated the transformation of the Company's portfolio of businesses into a global leading provider of environmental solutions and services, and significantly reduce the Company's exposure to the cyclicity of the U.S. energy market.

SEASONALITY

The Company's businesses can be subject to seasonal fluctuations. Demand for services and solutions provided by HE are subject to seasonal changes related to weather conditions, inventory management through the steel-industry supply chain, and customer operating outages. The timing of these impacts varies by region, however, overall customer demand for HE across its global footprint tend to be strongest in the second quarter and third quarter of each year. CE, meanwhile, provides services that can also fluctuate seasonally with weather, construction activity, retail spending and municipal waste collection programs. As a result, demand for CE services tends to be weakest in the first and fourth quarters of each year.

Due to these factors, the Company's revenues and earnings are usually higher during the second and third quarters of each year relative to the first and fourth quarter of the year. Additionally, the Company's cash flows are also influenced by seasonality. The Company's cash flow from operations has historically been higher in the second half of the year, compared with the first half, due to working capital management, receivable collections during the fourth quarter as a result of higher revenues in preceding quarters and the timing of certain cash payments, including for incentive compensation and pension contributions.

ENVIRONMENTAL COMPLIANCE

The Company is subject to various environmental regulations within its global operations and the scope of relevant environmental regulation expanded following the Company's acquisition of Clean Earth and ESOL in 2019 and 2020, respectively. CE operates within an industry that is subject to stringent environmental regulations by federal, state and local authorities, which regulate the treatment and disposal of specialty waste. Facility and operating permits or approvals from these authorities are required to maintain operations. The nature of these permits varies by jurisdiction and are based on the activities at a particular site. These permits are generally difficult to obtain. This dynamic, along with increased regulation on the treatment and disposal of specialty waste, is beneficial to our CE business.

The most significant U.S. federal environmental regulation that impacts our business is the RCRA. RCRA created a cradle-to-grave system which governs the transportation, treatment, storage and disposal of hazardous waste. Under RCRA, each hazardous waste processing facility must maintain a RCRA permit and comply with defined operating practices. This legislation is administered by the U.S. Environmental Protection Agency ("EPA"), although its authority may be delegated to a State EPA with similar or more stringent environmental standards.

The Company is also subject to air and water quality control legislation in the U.S. and in foreign countries where the Company operates. The Clean Water Act regulates the discharge of pollutants into waterways and sewers in the U.S, and, where necessary, we obtain and must comply with permits to discharge wastewater from our facilities. Similarly, the Clean Air Act in the U.S. controls emissions of pollutants into the air and requires permits for certain emissions.

The Company regards compliance with all applicable environmental regulations as critical to its business. Historically, the Company has been able to renew and retain all required permits to maintain its operations and it has not experienced substantial difficulty complying with relevant environmental regulations. The Company also does not anticipate making any material capital expenditures to comply with, or improve, environmental performance in the future. While environmental regulations may increase or expand, we cannot predict the extent of this future environmental regulation, its related costs and the overall effect on the Company's business.

For additional information regarding environmental matters see Note 12, Commitment and Contingencies, in Part II, Item 8, "Financial Statements and Supplementary Data."

HUMAN CAPITAL RESOURCES

As of December 31, 2021, we had approximately 12,000 employees, excluding contingent workers, in more than 35 countries. The majority of these employees are represented by labor unions, through approximately 90 collective bargaining agreements.

Our business relies on our ability to attract and retain talented employees. To attract and retain talent, we strive to create a diverse, inclusive and supportive workplace while providing opportunities for our employees to grow and develop in their careers.

Corporate Values

Across cultures, time zones and organizational lines, our values are the link that connects us all. As the cornerstone to our shared Company culture, these values reflect our overarching direction and purpose as a business:

- Employee Care - We are committed to safe, appealing work environments, market-competitive benefits programs and investment in personal development. We must treat our people as we would like to be treated ourselves, and we must attract and retain the very best talent throughout our organization.
- Passion for Winning - We are passionate about winning through creating exceptional value for our employees, customers and shareholders. Excellence is not an act, but a habit.
- Satisfy the Customer - We are engaged in the relentless pursuit of customer satisfaction by listening to the customers' needs, and consistently delivering value that exceeds their expectations.
- Inclusion - We strive to create an environment where all people are actively included. Our diverse global workforce is our most valuable asset. We must foster a climate in which every employee is encouraged to engage and dedicate his or her talents and experiences.
- Integrity - We demonstrate an uncompromising commitment to ethical principles. We act ethically and in the interest of the customers we serve. We treat others with dignity and respect, and value honesty above all else.
- Respect - We respect all individuals and their contributions. Harsco will not tolerate discrimination or harassment of any kind. Our employees have a right to a safe, respectful workplace. Our management has a mandate to provide it.

Health, Safety and Wellness

We are committed to the health, safety and wellness of our employees. We are passionate about establishing a culture of ownership and accountability for which all employees are responsible for safety. We evaluate our safety processes, programs and procedures to continuously improve our safety performance. We provide our employees and their families with access to a variety of health and wellness programs globally.

In response to the COVID-19 pandemic, we developed and implemented robust principals and standards, in consultation with infectious disease and public health experts, for what we consider to be in the best interest of our employees, as well as the communities in which we operate, to ensure we not only complied with governmental regulations, but created safe work environments for our employees.

Compensation and Benefits

We provide competitive compensation and benefits programs for our employees. In addition to salaries, these programs, which vary by employee level and by the country where the employees are located, may include, among other items, bonuses, stock awards, retirement programs including pension and savings plans, health savings and flexible spending accounts, paid time off, paid parental leave, disability programs, flexible work schedules and employee assistance programs.

Diversity, Equity, Engagement and Inclusion

Diversity, equity, engagement, and inclusion (“DEE&I”) is an integral part of the Company’s values and processes that support recruitment, hiring, training, retention and advancement. In an effort to advance the Company’s commitment to DEE&I, the Company has taken the following steps in 2021:

- Established a DEE&I Council which is co-chaired by our CEO and Senior Vice President & Chief Human Resources Officer and comprised of 10 cross-functional leaders from each of our business units. The DEE&I Council is accountable for directly shaping and promoting the Company’s DEE&I strategy and subsequent key initiatives.
- Launched its first-ever Employee Resource Group - Women of Harsco - whose mission is to promote the advancement of women across the Company through personal and professional development, mentorship, and empowerment.
- Tied key management's incentive compensation to the achievement of specific DEE&I strategic goals.

Talent Development and Succession

We believe our development processes ensure continuity of leadership over the long term. Thus annually we undertake a talent review process to assess the organizational capabilities required to execute our strategy, create tailored development plans and understand the depth of our succession preparedness. Our objective is to build the readiness of various talent pools within the organization in order to select and promote key talent. In addition, we continue to invest in our employees through technical training, professional development and skills upgrade throughout the year.

CORPORATE INFORMATION

The Company was incorporated in 1956. The Company's global headquarters and executive offices are located at 350 Poplar Church Road, Camp Hill, Pennsylvania 17011, and its main telephone number is 717-763-7064.

The Company's Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to such reports filed with or furnished to the SEC under Sections 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, are available on the Company's website at investors.harsco.com as soon as reasonably practicable after such reports are electronically filed with the SEC. Additionally, the SEC maintains a website that contains reports, proxy and other information regarding issuers that electronically file with the SEC at www.sec.gov.

AVAILABLE INFORMATION

Our website address is www.harsco.com. Copies of our key Corporate governance documents, such as our Code of Business Conduct, as well as our Board's composition and structure can be viewed on our website under the "Corporate Governance" subheading of the "Our Company" page. Additionally, further information on our Corporate Sustainability initiatives also can be accessed through the "Our Company" page. The information posted on the Company's website is not incorporated into the Company's SEC filings.

Item 1A. Risk Factors.

Set forth below are risks and uncertainties that could materially and adversely affect the Company's results of operations, financial condition, liquidity and cash flows. The following discussion of risks contains forward-looking statements, and the risks set forth below are not the only risks faced by the Company. The Company's business operations could also be affected by other factors not presently known to the Company or factors that the Company currently does not consider to be material.

STRATEGIC AND OPERATIONAL RISKS

The Company may not be able to successfully integrate the ESOL and Clean Earth businesses.

On April 6, 2020 the Company completed the acquisition of ESOL. Prior to the acquisition, ESOL was operated as a division of Stericycle. The success of the acquisition, as well as the Company's ability to realize its anticipated benefits, depends in large part on the ability to successfully integrate the ESOL and Clean Earth businesses and improve the operating results of the ESOL business. The Company achieved significant integration milestones since the acquisition, however the integration remains ongoing, partially due to the difficulties integrating businesses during the ongoing pandemic. This integration is complex and time consuming, and the failure of successfully integrating may result in the Company not fully achieving the anticipated benefits of the ESOL acquisition. Potential difficulties the Company may encounter as it looks to complete the integration process include (i) the inability to successfully integrate the transportation network of the former ESOL business with the Clean Earth facilities; (ii) complexities and unanticipated issues associated with integrating the two businesses' complex systems, technologies and operating procedures; and (iii) making any necessary modifications to the internal control environment.

Although we announced our intention to conduct a process for the divestiture of our Rail division, we may be unable to complete a transaction on favorable terms or at all and our pursuit of a divestiture could adversely affect our businesses, results of operations and financial condition.

On November 2, 2021, we announced that we intend to conduct a process beginning in the first half of 2022 for the divestiture of our Rail division. Our announcement, and our conducting, of a divestiture process for our Rail division involves various risks and uncertainties, including the risk that we may be unsuccessful in identifying an acquirer for the division, unable to enter into an agreement for a transaction and any agreement that we may enter into may not be on favorable terms and/or may not be completed due to regulatory or other factors. Moreover, the announcement and conduct of the divestiture process could cause disruptions in, and create uncertainty surrounding, our Rail division, including affecting the Rail division's relationships with its existing and future customers, suppliers and employees, which could have an adverse effect on the Rail division's operations and financial condition, potentially making it more difficult to successfully complete a transaction on favorable terms. If we are unable to complete a divestiture of our Rail division or we complete a transaction on unfavorable terms, we may suffer negative publicity, our Rail and other businesses may suffer, our results of operations, financial condition or cash flows may be adversely affected and the market value of our shares may fall. In addition, the divestiture process may require commitments of significant time and resources on the part of management. As a result, the divestiture process may divert management's attention from overseeing and exploring opportunities that may be beneficial to our other businesses and operations and, as such, adversely affect our other businesses and operations and harm our results of operations, financial condition or cash flows and the market value of our shares.

The seasonality of the Company's business may cause quarterly results to fluctuate.

The majority of the Company's cash flows provided by operations has historically been generated in the second half of the year. This is a result of normally higher income during the second and third quarters of the year, as the Company's business tends to follow seasonal patterns. If the Company is unable to successfully manage the cash flow and other effects of seasonality on the business, its results of operations may suffer.

Customer concentration and related credit and commercial risks, together with the long-term nature of contracts, may adversely impact the Company's results of operations, financial condition and cash flows.

For the year ended December 31, 2021, the Company's top five customers in the Harsco Environmental Segment accounted for approximately 32% of revenues in that Segment and 18% of the Company's consolidated revenues. For the year ended December 31, 2021, the Company's top five customers in the Clean Earth Segment accounted for approximately 29% of the revenues in that Segment and 12% of the Company's consolidated revenues. The Company routinely enters into contracts with its top customers of varying length and scope. Disagreements between the parties can arise as a result of the scope, nature and varying degree of relationship between the Company and these customers and can result in disagreements between the Company and a customer that could impact multiple regions within the Company's business.

The Clean Earth Segment may enter into a long-term contract with a customer covering multiple regions in the United States. A dispute with a customer in one region in the United States could impact the Company's revenues related to that customer in

another region. The Harsco Environmental Segment may incur capital expenditures or other costs at the beginning of a long-term contract that it expects to recoup through the life of the contract. Some of these contracts provide for advance payments to assist the Company in covering these costs and expenses. A dispute with a customer during the life of a long-term contract could impact the ability of the Company to receive payments or otherwise recoup incurred costs and expenses.

Finally, both the Harsco Environmental Segment and the Harsco Clean Earth Segment have several large customers and, if a large customer were to experience financial difficulty or file for bankruptcy or receivership protection, it could adversely impact the Company's results of operations, cash flows and asset valuations.

The Company may lose customers or be required to reduce prices as a result of competition.

The industries in which the Company operates are highly competitive. Some examples are as follows:

- The Harsco Environmental Segment is sustained mainly through contract renewals and new contract signings. The Company may be unable to renew contracts at historical price levels or to obtain additional contracts at historical rates as a result of competition. If the Company is unable to renew its contracts at the historical rates or renewals are made at reduced prices, or if its customers terminate their contracts, revenue and results of operations may decline.
- Like the Harsco Environmental Segment, the Harsco Clean Earth Segment is sustained primarily through contract renewals and new contract signings. The Harsco Clean Earth Segment faces competition from companies with greater resources than the Company, with closer geographic proximity to waste sites, with captive end disposal assets, and who may provide service offerings that we do not provide. In order to compete, the Company may be required to reduce price levels below historical price levels or obtain additional contracts at rates lower than historical rates.
- The Rail business competes with companies that manufacture similar products both internationally and domestically. Certain international competitors export their products into the U.S. and sell them at lower prices, which can be the result of lower labor costs and government subsidies for exports. In addition, certain competitors may from time to time sell their products below their cost of production in an attempt to increase their market share. Such practices may limit the prices the Rail business can charge for its products and services. Unfavorable foreign exchange rates can also adversely impact the Rail business's ability to match the prices charged by international competitors. If the Rail business is unable to match the prices charged by competitors, it may lose customers.

If the Harsco Clean Earth Segment is unable to obtain or renew its operating permits or license agreements with regulatory bodies, its business would be adversely affected.

The Harsco Clean Earth Segment's facilities operate using permits and licenses issued by various regulatory bodies at various local, state and federal government levels. Failure to obtain permits and licenses necessary to operate these facilities on a timely basis or failure to renew or maintain compliance with its permits, licenses and site lease agreements on a timely basis could prevent or restrict the Company's ability to provide certain services, resulting in a material adverse effect on its business. There can be no assurance that the Company will continue to be successful in obtaining timely permit or license applications approval, maintaining compliance with its permits, licenses and lease agreements and obtaining timely license renewals.

Higher than expected claims under insurance policies, under which the Company retains a portion of the risk, could adversely impact results of operations and cash flows.

The Company retains a significant portion of the risk for property, workers' compensation, U.K. employers' liability, automobile and general and product liability losses. Reserves have been recorded that reflect the undiscounted estimated liabilities for ultimate losses, including claims incurred but not reported. Inherent in these estimates are assumptions that are based on the Company's history of claims and losses, a detailed analysis of existing claims with respect to potential value, and current legal and legislative trends. If actual claims are higher than those projected by management, an increase to the Company's insurance reserves may be required and would be recorded as a charge to income in the period the need for the change was determined.

The Harsco Clean Earth Segment's insurance policies do not cover all losses, costs, or liabilities that it may experience.

The Harsco Clean Earth Segment maintains insurance coverage, but these policies do not cover all of its potential losses, costs, or liabilities. The Company could suffer losses for uninsurable or uninsured risks or in amounts in excess of its existing insurance coverage, which would significantly affect its financial performance. For example, the Company's pollution legal liability insurance excludes costs related to fines, penalties, or assessments. The Company's insurance policies also have deductibles and self-retention limits that could expose it to significant financial expense. The Company's ability to obtain and maintain adequate insurance may be affected by conditions in the insurance market over which it has no control. The occurrence of an event that is not fully covered by insurance could have a material adverse effect on the Company's business, financial condition, and results of operations. In addition, the Harsco Clean Earth Segment's business requires that it maintain various types of insurance. If such insurance is not available or not available on economically acceptable terms, the Clean Earth Segment's and our businesses could be materially and adversely affected.

The waste management industry, in which the Harsco Clean Earth Segment is a participant, is subject to various economic, business, and regulatory risks.

The future operating results of the Harsco Clean Earth Segment may be affected by such factors as its ability to utilize its facilities and workforce profitably in the face of intense price competition, maintain or increase market share during periods of economic contraction or industry consolidation, realize benefits from cost reduction programs, invest in new technologies for treatment of various waste streams, generate incremental volumes of waste to be handled through the Harsco Clean Earth Segment's facilities from existing and acquired sales offices and service centers, obtain sufficient volumes of waste at prices which produce revenue sufficient to offset the operating costs of its facilities and minimize downtime and disruptions of operations.

Outdoor construction, which may be limited due to colder weather, and dredging, which may be limited due to environmental restrictions in certain waterways in the Northeastern United States, can be cyclical in nature. If those cyclical industries slow significantly, the business that the Harsco Clean Earth Segment receives from them would likely decrease.

If the Harsco Clean Earth Segment fails to comply with applicable environmental laws and regulations, its business could be adversely affected.

The regulatory framework governing the Harsco Clean Earth Segment's business is extensive. The Company could be held liable if its operations cause contamination of air, groundwater or soil or expose its employees or the public to contamination. The Company may be held liable for damage caused by conditions that existed before it acquired the assets, business or operations involved. Also, it may be liable if it generates, transports or arranges for the transportation, disposal or treatment of hazardous substances that cause environmental contamination at facilities operated by others, or if a predecessor generated, transported, or made such arrangements and the Company is a successor. Liability for environmental damage could have a material adverse effect on the Company's financial condition, results of operations and cash flows. The Company may also be held liable for the mishandling of waste streams resulting from the misrepresentations by a customer as to the nature of such waste streams.

Stringent regulations of federal, state and local governments have a substantial impact on the Harsco Clean Earth Segment's transportation, treatment, storage, disposal and beneficial use activities. Many complex laws, rules, orders and regulatory interpretations govern environmental protection, health, safety, noise, visual impact, odor, land use, zoning, transportation and related matters. The Company also may be subject to laws concerning the protection of certain marine and bird species, their habitats, and wetlands. It may incur substantial costs in order to conduct its operations in compliance with these environmental laws and regulations. Changes in environmental laws or regulations or changes in the enforcement or interpretation of existing laws, regulations or permitted activities may require the Company to make significant capital or other expenditures, to modify existing operating licenses or permits, or obtain additional approvals or limit operations. New environmental laws or regulations that raise compliance standards or require changes in operating practices or technology may impose significant costs and/or limit the Company's operations.

The Harsco Clean Earth Segment's revenue is primarily generated as a result of requirements imposed on its customers under federal, state and local laws and regulations to protect public health and the environment. If requirements to comply with laws and regulations governing management of contaminated soils, dredge material, and hazardous wastes were relaxed or less vigorously enforced at the federal, state and local levels, demand for the Harsco Clean Earth Segment's services could materially decrease and the Company's revenues and earnings could be reduced.

Increases in purchase prices (or decreases in selling prices) or availability of steel or other materials and commodities may affect the Company's profitability.

The profitability of the Company's products and services may be affected by changing purchase prices of raw material, including steel and other materials and commodities, supplier costs or own labor costs. If raw material costs, supplier or labor increase and the costs cannot be transferred to the Company's customers, results of operations would be adversely affected. Additionally, decreased availability of steel or other materials or services could affect the Company's ability to provide products and services in a timely manner. If the Company cannot obtain the necessary raw materials, then revenues and cash flows could be adversely affected.

Certain services performed by the Harsco Environmental Segment result in the recovery, processing and sale of recovered metals and minerals and other high-value metal byproducts to its customers. The selling price of the byproducts material is market-based and varies based upon the current fair value of its components. Therefore, the revenue amounts generated from the sale of such byproducts material vary based upon the fair value of the commodity components being sold.

The success of the Company's strategic ventures depends on the satisfactory performance by strategic venture partners of their strategic venture obligations.

The Company enters into various strategic ventures as part of its strategic growth initiatives as well as to comply with local laws. Differences in opinions or views between strategic venture partners can result in delayed decision-making or failure to agree on material issues which could adversely affect the business and operations of the venture. From time to time, in order to establish or preserve a relationship, or to better ensure venture success, the Company may accept risks or responsibilities for the strategic venture that are not necessarily proportionate with the reward it expects to receive. The success of these and other strategic ventures also depends, in large part, on the satisfactory performance by the Company's strategic venture partners of their strategic venture obligations, including their obligation to commit working capital, equity or credit support as required by the strategic venture and to support their indemnification and other contractual obligations.

If the Company's strategic venture partners fail to satisfactorily perform their strategic venture obligations as a result of financial or other difficulties, the strategic venture may be unable to adequately perform or deliver its contracted services. Under these circumstances, the Company may be required to make additional investments and provide additional services to ensure the adequate performance and delivery of the contracted services. These additional obligations could result in reduced profits or, in some cases, increased liabilities or significant losses for the Company with respect to the strategic venture. In addition, although the Company generally performs due diligence with regard to potential strategic partners or ventures, a failure by a strategic venture partner to comply with applicable laws, rules or regulations could negatively impact its business and, in the case of government contracts, could result in fines, penalties, suspension or even debarment. Unexpected strategic venture developments could have a material adverse effect on results of operations, financial condition and cash flows.

If the Company fails to maintain safe worksites, it may be subject to significant operating risks and hazards.

The Company operates at facilities that may be inherently dangerous workplaces. The Harsco Clean Earth Segment operates facilities that accept, process and/or treat materials provided by its customers. The Harsco Environmental Segment has operations at customers' steel producing sites, which often times involve extreme conditions. If serious accidents or fatalities occur or its safety record was to deteriorate, it may be ineligible to bid on certain work, and existing service arrangements could be terminated. Further, regulatory changes implemented by the Occupational Safety and Health Administration, or similar foreign agencies, could impose additional costs on the Company. Adverse experience with hazards and claims could result in liabilities caused by, among other things, injury or death to persons, which could have a negative effect on the Company's reputation with its existing or potential new customers and its prospects for future business.

The Company maintains a workforce based upon current and anticipated workload. If the Company does not receive future contract awards or if these awards are delayed, significant cost may result that could have a material adverse effect on results of operations, financial condition, liquidity and cash flows.

The Company's estimates of future performance depend on, among other matters, whether and when the Company will receive certain new contract awards, including the extent to which the Company utilizes its workforce. The rate at which the Company utilizes its workforce is impacted by a variety of factors, including:

- the ability to manage attrition;
- the ability to forecast the need for services, which allows the Company to maintain an appropriately sized workforce;
- the ability to transition employees from completed projects to new projects or between segments; and
- the need to devote resources to non-revenue generating activities such as training or business development.

While the Company's estimates are based upon good faith judgment, these estimates can be unreliable and may frequently change based on newly available information. In the case of large-scale domestic and international projects where timing is often uncertain, it is particularly difficult to predict whether and when the Company will receive a contract award. The uncertainty of contract award timing can present difficulties in matching the Company's workforce size with contract needs. If an expected contract award is delayed or not received, the Company could incur cost resulting from reductions in staff or redundancy of facilities or equipment that could have a material adverse effect on results of operations, financial condition, liquidity and cash flows.

Union disputes or other labor matters could adversely affect the Company's operations and financial results.

A significant portion of the Company's employees are represented by labor unions in a number of countries under various collective bargaining agreements with varying durations and expiration dates. There can be no assurance that any current or future issues with the Company's employees will be resolved or that the Company will not encounter future strikes, work stoppages or other types of conflicts with labor unions or the Company's employees. The Company may not be able to satisfactorily renegotiate collective bargaining agreements in the U.S. and other countries when they expire. If the Company fails to renegotiate existing collective bargaining agreements, the Company could encounter strikes or work stoppages or other types of conflicts with labor unions. In addition, existing collective bargaining agreements may not prevent a strike or work

stoppage at the Company's facilities in the future. The Company may also be subject to general country strikes or work stoppages unrelated to the Company's business or collective bargaining agreements. A work stoppage or other limitations on production at the Company's facilities for any reason could have an adverse effect on the Company's business, results of operations, financial condition and cash flows. In addition, many of the Company's customers and suppliers have unionized work forces, and may experience a lack of qualified employees. Strikes or work stoppages, as well as labor shortages, experienced by the Company's customers or suppliers could have an adverse effect on the Company's business and supply chain, results of operations and financial condition.

The Company's intellectual property portfolio may not prevent competitors from independently developing similar or duplicative products and services.

The Company's patents and other intellectual property may not prevent competitors from independently developing or selling similar or duplicative products and services, and there can be no assurance that the resources invested by the Company to protect the Company's intellectual property will be sufficient or that the Company's intellectual property portfolio will adequately deter misappropriation or improper use of the Company's technology. The Company could also face competition in some countries where the Company has not protected its intellectual property portfolio. The Company may also face attempts to gain unauthorized access to the Company's information technology systems or products for the purpose of improperly acquiring trade secrets or confidential business information. The theft or unauthorized use or publication of the Company's trade secrets and other confidential business information as a result of such an incident could adversely affect the Company's competitive position and the value of the Company's investment in research and development. The Company may be unable to secure or retain ownership or rights to use data in certain software analytics or services offerings. In addition, the Company may be the target of aggressive and opportunistic enforcement of patents by third parties, including non-practicing entities. Regardless of the merit of such claims, responding to infringement claims can be expensive and time-consuming. If the Company is found to infringe any third-party rights, the Company could be required to pay substantial damages or could be enjoined from offering some of the Company's products and services. Also, there can be no assurances that the Company will be able to obtain or renew from third parties the licenses needed in the future, and there is no assurance that such licenses can be obtained on reasonable terms.

Increased information technology security threats and more sophisticated computer crime pose a risk to the Company's and its vendors, systems, networks, products and services.

The Company relies upon information technology systems and networks in connection with a variety of business activities, some of which are managed by third parties (which we refer to collectively as our "associated third parties"). Additionally, the Company and its associated third parties collect and store data that is of a sensitive nature, which may include names and addresses, bank account information, and other types of personal information or sensitive business information. The secure operation of these information technology systems and networks, and the processing and maintenance of this data is critical to the Company's business operations and strategy.

Threats to our systems and our associated third parties' systems can derive from human error, fraud, or malice on the part of employees or third parties, or may result from accidental technological failure. Globally these types of threats have increased in number and severity and it is expected that these trends will continue. These threats pose a risk to the security of the Company's systems and networks and the confidentiality, availability and integrity of the Company's data. Should an attack on the Company's or our associated third parties' information technology systems and networks succeed, it could expose the Company and the Company's employees, customers, dealers and suppliers to misuse of information or systems, the compromising of confidential information, manipulation and destruction of data, production downtimes and operations disruptions. In 2021 an associated third party was the target of a cybersecurity attack. The attack did not result in the theft of personally identifiable information of any employees, but it resulted in logistical challenges with respect to internal reporting systems.

The occurrence of any of these events could adversely affect the Company's reputation, competitive position, business, results of operations and cash flows. While we have cybersecurity insurance related to a breach event covering certain expenses, damages and claims arising from such incidents may not be covered, or may exceed the amount of any insurance available.

In addition, various privacy and security laws govern the protection of this information and breaches in security could result in litigation, regulatory action, potential liability and the costs and operational consequences of implementing further data protection measures. For example, the European Union's ("EU") General Data Protection Regulation ("GDPR") extends the scope of the EU data protection laws to all companies processing data of EU residents, regardless of the company's location. The potential compliance costs with or imposed by new or existing regulations and policies that are applicable to us could have a material impact on our results of operations.

MACROECONOMIC AND INDUSTRY RISKS

Outbreaks of disease and health epidemics, such as COVID-19, have had, and could continue to have, a negative impact on the Company's business revenues, financial position, results of operations and/or stock price.

COVID-19, and the actions taken by governments, businesses and individuals in response to the pandemic have resulted in, and continue to result in, challenges for the Company. Travel to and from most countries has been suspended or restricted during different stages of the pandemic by air carriers and foreign governments, and extended shutdowns of certain businesses and other activities disrupting global supply chains have occurred. Additionally, we have experienced temporary site closures and other supply chain disruptions because of COVID-19.

COVID-19 continues to impact worldwide economic activity differently in various regions, and will continue to pose the risk that the Company or its employees, contractors, suppliers, customers and other business partners may be prevented from conducting certain business activities for an indefinite period of time, including shutdowns that may be requested or mandated by governmental authorities or otherwise elected by the Company or its customers as a preventive measure to limit the spread of coronavirus disease. In addition, mandated government authority measures or other measures elected by companies as preventative measures may lead to the Company's customers being unable to complete purchases or other activities.

COVID-19 may continue have an adverse effect on the Company's operations and, given the uncertainty around the extent and timing of the potential future spread or mitigation and around the imposition or relaxation of protective measures, the Company cannot reasonably estimate the impact to the Company's future results of operations, cash flows, financial condition or stock price.

Negative economic conditions may adversely impact demand for the Company's products and services, as well as the ability of the Company's customers to meet their obligations to the Company on a timely basis.

Negative economic conditions, including the tightening of credit in financial markets, can lead businesses to postpone spending, which may impact the Company's customers, causing them to cancel, decrease or delay their existing and future orders with the Company. In addition, economic conditions may impact the Company's customers by either causing them to close locations serviced by the Harsco Environmental Segment or causing their financial condition to deteriorate to a point where they are unable to meet their obligations to the Company on a timely basis. One or more of these events could adversely impact the Company's operating results and ability to collect its receivables.

Cyclical industry and economic conditions may adversely affect the Company's businesses.

The Company's businesses are subject to general economic slowdowns and cyclical conditions in each of the industries served. Examples are:

- The Harsco Environmental Segment may be adversely impacted by prolonged slowdowns in steel mill production, excess production capacity, bankruptcy or receivership of steel producers and changes in outsourcing practices;
- The resource recovery and slag optimization technologies business of the Harsco Environmental Segment can also be adversely impacted by prolonged slowdowns in customer production or a reduction in the selling prices of its materials, which are in some cases market-based and vary based upon the current fair value of the components being sold. Therefore, the revenue generated from the sale of such recycled materials varies based upon the fair value of the commodity components being sold;
- The abrasives and roofing materials business of the Harsco Environmental Segment may be adversely impacted by economic conditions that slow the rate of residential roof replacement, or by slowdowns in the industrial and infrastructure refurbishment industries;
- Prolonged slowdowns may result in a decrease in the amount of waste generated, resulting in less hazardous waste collected by the Clean Earth Segment; and
- Capital constraints and increased borrowing costs may also adversely impact the financial position and operations of the Company's customers across all business segments.

Furthermore, utilization of deferred tax assets is ultimately dependent on generating sufficient income in future periods to ensure recovery of those assets. The cyclicity of the Company's end markets and adverse economic conditions may negatively impact the future income levels that are necessary for the utilization of deferred tax assets.

Exchange rate fluctuations may adversely impact the Company's business.

Fluctuations in foreign exchange rates between the U.S. dollar and the approximately 25 other currencies in which the Company currently conducts business may adversely impact the Company's results of operations in any given fiscal period. The Company's principal foreign currency exposures are in the EU, the U.K., China and Brazil. Given the structure of the

Company's operations, an increase in the value of the U.S. dollar relative to the foreign currencies in which the Company earns its revenues generally has a negative impact on the translated amounts of the assets and liabilities, results of operations and cash flows. The Company's foreign currency exposures increase the risk of volatility in its financial position, results of operations and cash flows. If currencies in the below regions change materially in relation to the U.S. dollar, the Company's financial position, results of operations, or cash flows may be materially affected.

Compared with the corresponding full-year period in 2020, the average value of major currencies changed as follows in relation to the U.S. dollar during the full-year 2021, impacting the Company's revenues and income:

- British pound sterling strengthened by 7%;
- Euro strengthened by 3%;
- Chinese yuan strengthened by 7%; and
- Brazilian real weakened by 4%

Compared with exchange rates at December 31, 2020, the value of major currencies at December 31, 2021 changed as follows:

- British pound sterling weakened by 1%;
- Euro weakened by 7%;
- Chinese yuan strengthened by 3%; and
- Brazilian real weakened by 7%

To illustrate the effect of foreign exchange rate changes in certain key markets of the Company, in 2021 revenues would have been approximately 1% or \$21 million lower and operating income would have been less than 1% or less than \$1 million higher if the average exchange rates for 2020 were utilized. In a similar comparison for 2020 revenues would have been 2% or approximately \$24 million higher and operating income would have been approximately \$3.9 million higher if the average exchange rates for 2019 were utilized.

Currency changes also result in assets and liabilities denominated in local currencies being translated into U.S. dollars at different amounts than at the prior period end. Generally, if the U.S. dollar weakens in relation to currencies in countries in which the Company does business, the translated amounts of the related assets, liabilities, and therefore stockholders' equity, would increase. Conversely, if the U.S. dollar strengthens in relation to currencies in countries in which the Company does business, the translated amounts of the related assets, liabilities, and therefore stockholders' equity, would decrease.

Although the Company engages in foreign currency exchange forward contracts and other hedging strategies to mitigate foreign exchange transactional risks, hedging strategies may not be successful or may fail to completely offset these risks. In addition, competitive conditions in the Company's manufacturing businesses may limit the Company's ability to increase product prices in the face of adverse currency movement. Sales of products manufactured in the U.S. for the domestic and export markets may be affected by the value of the U.S. dollar relative to other currencies. Any long-term strengthening of the U.S. dollar could depress demand for these products and reduce sales. Conversely, any long-term weakening of the U.S. dollar could improve demand for these products and increase sales.

LEGAL AND REGULATORY RISKS

The Company's global presence subjects it to a variety of risks arising from doing business internationally.

The Company operates in approximately 30 countries, generating 45% of its revenues outside of the U.S. (based on location of the facility generating the revenue) for the year ended December 31, 2021. In addition, as of December 31, 2021, approximately 59% of the Company's property, plant and equipment is located outside of the U.S. The Company's global footprint exposes it to a variety of risks that may adversely affect the Company's results of operations, financial condition, liquidity and cash flows. These include, but may not be limited to, the following:

- periodic economic downturns in the countries in which the Company does business;
- complexities around changes in the still developing relationship between the U.K. and the EU arising out of the U.K.'s withdrawal from the EU;
- imposition of or increases in currency exchange controls and hard currency shortages;
- customs matters and changes in trade policy or tariff regulations;
- changes in regulatory requirements in the countries in which the Company does business;
- changes in tax regulations, higher tax rates in certain jurisdictions and potentially adverse tax consequences including restrictions on repatriating earnings, adverse tax withholding requirements and "double taxation";
- longer payment cycles and difficulty in collecting accounts receivable;

- complexities in complying with a variety of U.S. and foreign government laws, controls and regulations;
- political, economic and social instability, civil and political unrest, terrorist actions and armed hostilities in the regions or countries in which, or adjacent to which, the Company does business;
- increasingly complex laws and regulations concerning privacy and data security, including the EU's GDPR;
- inflation rates in the countries in which the Company does business;
- complying with complex labor laws in foreign jurisdictions;
- laws in various international jurisdictions that limit the right and ability of subsidiaries to pay dividends and remit earnings to affiliated companies unless specified conditions are met;
- sovereign risk related to international governments, including, but not limited to, governments stopping interest payments or repudiating their debt, nationalizing private businesses or altering foreign exchange regulations;
- uncertainties arising from local business practices, cultural considerations and international political and trade tensions; and
- public health issues or other calamities impacting regions or countries in which the Company operates, including travel to and/or imports or exports to or from such regions or countries.

If the Company is unable to successfully manage the risks associated with its global business, the Company's results of operations, financial condition, liquidity and cash flows may be negatively impacted.

Due to the international nature of the Company's business, the Company could be adversely affected by violations of certain laws.

The U.S. Foreign Corrupt Practices Act ("FCPA") and similar anti-bribery laws in non-U.S. jurisdictions generally prohibit companies and their intermediaries from making improper payments to officials for the purpose of obtaining or retaining business. The FCPA also imposes accounting standards and requirements on publicly traded U.S. corporations and their foreign affiliates, which, among other things, are intended to prevent the diversion of corporate funds to the payment of bribes and other improper payments, and to prevent the establishment of "off the books" slush funds from which improper payments can be made. The Company may be unsuccessful in its efforts to prevent reckless or criminal acts by employees or agents and may be exposed to liability due to pre-acquisition conduct of employees or agents of businesses or operations the Company may acquire. Violations of these laws, or allegations of such violations, could disrupt the Company's operations, require significant management involvement and have a material adverse effect on the Company's results of operations, financial condition and cash flows. If the Company is found to be liable for violations of these laws (either due to its own acts, out of inadvertence or due to the acts or inadvertence of others), the Company could also be subject to severe criminal or civil penalties or other sanctions; disgorgement; further changes or enhancements to its procedures, policies and controls; personnel changes and other remedial actions.

Furthermore, the Company is subject to the export controls and economic embargo rules and regulations of the U.S., including the Export Administration Regulations and trade sanctions against embargoed countries, which are administered by the Office of Foreign Asset Control within the Department of Treasury, as well as other laws and regulations administered by the Department of Commerce. These regulations limit the Company's ability to market, sell, distribute or otherwise transfer its products to prohibited countries or persons. Failure to comply with these rules and regulations may result in substantial civil and criminal penalties, including fines and disgorgement of profits, the imposition of a court-appointed monitor, the denial of export privileges and debarment from participation in U.S. Government contracts.

A negative outcome on personal injury claims against the Company may adversely impact results of operations and financial condition.

The Company has been named as one of many defendants (approximately 90 or more in most cases) in legal actions alleging personal injury from exposure to airborne asbestos over the past several decades. In their suits, the plaintiffs have named as defendants, among others, many manufacturers, distributors and installers of numerous types of equipment or products that allegedly contained asbestos. The majority of the asbestos complaints pending against the Company have been filed in New York. Almost all of the New York complaints contain a standard claim for damages of \$20 million or \$25 million against the approximately 90 defendants, regardless of the individual plaintiff's alleged medical condition and without specifically identifying any of the Company's products as the source of plaintiff's asbestos exposure. If the Company is found to be liable in any of these actions and the liability exceeds the Company's insurance coverage, results of operations, cash flows and financial condition could be adversely affected.

The Company's ongoing operations are subject to extensive laws, regulations, rules and ordinances relating to safety, health and environmental matters that impose significant costs and liabilities on the Company, and future laws and governmental standards could increase these costs and liabilities.

The Company is subject to a variety of international, federal, state and local laws and governmental regulations, rules and ordinances regulating the use of certain materials contained in its products and/or used in its manufacturing processes. Many of these laws and governmental standards provide for extensive obligations that require the Company to incur significant compliance costs and impose substantial monetary fines and/or criminal sanctions for violations.

Furthermore, such laws and standards are subject to change and may become more stringent. Although it is not possible to predict changes in laws or other governmental standards, the development, proposal or adoption of more stringent laws or governmental standards may require the Company to change its processes, for example, by reducing or eliminating use of the regulated component or material in its process. The Company may not be able to develop a new process to comply with such legal and regulatory changes without investing significant time and resources, if at all. In addition, such legal and regulatory changes may also affect buying decisions by the users of the Company's products that contain regulated materials or that involve the use of such materials in the process. If applicable laws and governmental standards become more stringent, the Company's results of operations, liquidity and financial condition could be materially adversely affected.

The Company is subject to various environmental laws, and the success of existing or future environmental claims against it could adversely impact the Company's results of operations and cash flows.

In addition to the environmental and safety considerations discussed above with respect to the Harsco Clean Earth Segment, the Company's operations generally are subject to various federal, state, local and international laws, regulations and ordinances relating to the protection of health, safety and the environment, including those governing discharges to air and water, handling and disposal practices for solid and hazardous byproducts, the remediation of contaminated sites and the maintenance of a safe workplace. These laws impose penalties, fines and other sanctions for non-compliance and liability for response costs, property damages and personal injury resulting from past and current spills, disposals or other releases of, or exposure to, hazardous materials. The Company could incur substantial costs as a result of non-compliance with or liability for remediation or other costs or damages under these laws. The Company may be subject to more stringent environmental laws in the future, and compliance with more stringent environmental requirements may require the Company to make material expenditures or subject it to liabilities that the Company currently does not anticipate.

The Company is currently involved in a number of environmental remediation investigations and cleanups and, along with other companies, has been identified as a "potentially responsible party" for certain byproduct disposal sites under the federal "Superfund" law. At several sites, the Company is currently conducting environmental remediation, and it is probable that the Company will agree to make payments toward funding certain other of these remediation activities. It also is possible that some of these matters will be decided unfavorably to the Company and that other sites requiring remediation will be identified. Each of these matters is subject to various uncertainties, and financial exposure is dependent upon the following factors:

- the continuing evolution of environmental laws and regulatory requirements;
- the availability and application of technology;
- the allocation of cost among potentially responsible parties;
- the years of remedial activity required; and
- the remediation methods selected.

The nature of the Company's products creates the possibility of significant product liability and warranty claims, which could harm its business.

The Company's customers use some of its products in potentially hazardous applications that can cause injury or loss of life and damage to property, equipment or the environment. In addition, the Company's products are integral to the production process for some end-users and any failure of the Company's products could result in a suspension of operations, including products historically sold by business units of the Company to the extent that the Company retains liability for such historical products. Accidents may occur at a location where the Company's equipment and services have been or are being used. Investigations into such accidents, even if the Company and its products are ultimately found not to be the cause of such accidents, require the Company to expend significant time, effort and resources. The Company cannot be certain that its products will be completely free from defects. The Company may be named as a defendant in product liability or other lawsuits asserting potentially large claims. In addition, the Company cannot guarantee that insurance will be available or adequate to cover any or all liabilities incurred. The Company also may not be able to maintain insurance in the future at levels it believes are necessary and at rates it considers reasonable.

FINANCIAL, TAX AND FINANCIAL MARKET RISKS

Restrictions imposed by the Company's Senior Secured Credit Facilities and other financing arrangements may limit the Company's operating and financial flexibility.

The agreements governing the Company's outstanding financing arrangements impose a number of restrictions. Under the Company's Senior Secured Credit Facilities, the Company must comply with certain financial covenants on a quarterly basis. The covenants also place limitations on dividends, acquisitions, investments in joint ventures, unrestricted subsidiaries, indebtedness and the imposition of liens on the Company's assets. In the event of a default, the Company's lenders and the counterparties to the Company's other financing arrangements could terminate their commitments to the Company and declare all amounts borrowed, together with accrued interests and fees, immediately due and payable. If this were to occur, the Company might not be able to pay these amounts, or the Company might be forced to seek an amendment to the Company's financing arrangements which could make the terms of these arrangements more onerous for the Company. In addition, this could also trigger an event of default under the cross-default provisions of the Company's other obligations. As a result, a default under one or more of the existing or future financing arrangements could have significant consequences for the Company.

The Company is exposed to counterparty risk in its derivative financial arrangements.

The Company uses derivative financial instruments, such as interest rate swaps and foreign currency exchange forward contracts, for a variety of purposes. The Company uses interest rate swaps in conjunction with certain debt issuances in order to secure either a fixed or floating interest rate. The Company uses foreign currency exchange forward contracts as part of a worldwide program to minimize foreign currency operating income and balance sheet exposure. In particular, the Company uses foreign currency exchange forward contracts to hedge commitments, such as foreign currency debt, firm purchase commitments and foreign currency cash flows for certain export sales transactions. The unsecured contracts for foreign currency exchange forward contracts outstanding at December 31, 2021 mature at various times through 2023 and are with major financial institutions. The Company may also enter into derivative contracts to hedge commodity exposures. The failure of one or more counterparties to the Company's derivative financial instruments to fulfill their obligations could adversely affect the Company's results of operations, financial condition, liquidity and cash flows.

The Company's variable rate indebtedness subjects it to interest rate risk, which could cause the Company's debt service obligations to increase significantly.

The Company's total debt at December 31, 2021 was \$1.4 billion. Of this amount, approximately 62% had variable rates of interest and approximately 38% had fixed interest rates. The weighted average interest rate of total debt was approximately 3.8%. At debt levels as of December 31, 2021, a one percentage point increase in variable interest rates would increase interest expense by \$6.8 million per year and a one percentage point decrease in variable interest rates would decrease interest expense by \$0.5 million due to the interest rate floors on certain credit agreements. Each incremental one percentage point increase in variable interest rates would increase interest expense by an additional \$8.7 million. If the Company is unable to successfully manage its exposure to variable interest rates, including through interest rate swaps that the Company has put into place, its debt service obligations may increase even though the amount borrowed remains the same and, in turn, its results of operations and financial condition may be negatively impacted.

The Company is subject to taxes in numerous jurisdictions and could be subject to additional tax liabilities, which could materially adversely affect the Company's results of operations and cash flows and impact the Company's ability to compete abroad.

The Company is subject to U.S. federal, U.S. state and international income, payroll, property, sales and use, value-added, fuel and other types of taxes in numerous jurisdictions. Changes in tax rates, enactments of new tax laws, revisions of tax regulations, and claims or litigation with taxing authorities could result in substantially higher taxes, and therefore could have a significant adverse effect on the Company's results of operations, financial condition and liquidity.

The Company's tax expense and liabilities may also be affected by other factors, such as changes in business operations, acquisitions, investments, entry into new geographies, intercompany transactions, the relative amount of foreign earnings, losses incurred in jurisdictions for which the related tax benefits may not be realized, and changes in deferred tax assets and their valuation. Significant judgment is required in evaluating and estimating the Company's tax expense and liabilities. The ultimate tax determination for many transactions and calculations is uncertain. For example, the legislation known as the U.S. Tax Cuts and Jobs Act of 2017 (the "Tax Act") requires complex computations to be performed that were not historically required, significant judgments to be made in interpretations of the provisions of the Tax Act, estimates in calculations, and the preparation and analysis of information not previously relevant or regularly produced. The U.S. Treasury Department, the IRS, and other standard-setting bodies will continue to interpret or issue guidance on how provisions of the Tax Act will be applied or administered. As future guidance is issued, the Company may need to make adjustments to amounts previously recorded, and those adjustments could materially impact the Company's consolidated financial statements in the period in which the adjustments are made.

The Company's defined benefit NPPC is directly affected by equity and bond markets. A downward trend in those markets could adversely impact the Company's results of operations, financial condition and cash flows.

In addition to the economic issues that directly affect the Company's businesses, changes in the performance of equity and bond markets, particularly in the U.K. and the U.S., impact actuarial assumptions used in determining annual NPPC, pension liabilities and the valuation of the assets in the Company's defined benefit pension plans. Financial market deterioration would most likely have a negative impact on the Company's NPPC and the pension assets and liabilities. This could result in a decrease to stockholders' equity and an increase in the Company's statutory funding requirements.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Operations of the Company and its subsidiaries are conducted at both owned and leased properties in domestic and international locations. The Company's executive offices are located at 350 Poplar Church Road, Camp Hill, Pennsylvania 17011. The following table describes the location and principal use of the Company's more significant properties.

Location	Principal Products/Services	Interest
Harsco Environmental Segment		
Taiyuan City, China	Environmental Services	Leased
Rotherham, U.K.	Environmental Services	Owned
Drakesboro, Kentucky, U.S.	Ecoproducts - Roofing Granules/Abrasives	Owned
Sarver, Pennsylvania, U.S.	Environmental Services	Owned
Chesterfield, U.K.	Aluminum Dross and Scrap Processing Systems	Owned
Harsco Clean Earth Segment		
Middlesex, New Jersey, U.S.	Contaminated Materials Processing	Leased
Hudson, New Jersey, U.S.	Hazardous Waste Processing	Owned/Leased
New Castle, Delaware, U.S.	Contaminated Materials Processing	Leased
Prince Georges, Maryland, U.S.	Contaminated Materials Processing	Owned
Marshall, Kentucky, U.S.	Hazardous Waste Processing	Owned
Wayne, Michigan, U.S.	Hazardous Waste Processing	Owned
Birmingham, Alabama, U.S.	Hazardous Waste Processing	Owned
Inglewood, California, U.S.	Hazardous Waste Processing	Owned
Rancho Cordova, California, U.S.	Hazardous Waste Processing	Owned
Indianapolis, Indiana, U.S.	Hazardous Waste Processing	Leased
Detroit, Michigan, U.S.	Hazardous Waste Processing	Owned
Kansas City, Missouri, U.S.	Hazardous Waste Processing	Owned
Fernley, Nevada, U.S.	Hazardous Waste Processing	Owned
Hatfield, Pennsylvania, U.S.	Hazardous Waste Processing	Owned
Providence, Rhode Island, U.S.	Hazardous Waste Processing	Owned
Avalon, Texas, U.S.	Hazardous Waste Processing	Owned
Houston, Texas, U.S.	Hazardous Waste Processing	Owned
Kent, Washington, U.S.	Hazardous Waste Processing	Owned
Tacoma, Washington, U.S.	Hazardous Waste Processing	Owned

The Harsco Environmental Segment principally operates on customer-owned sites and has administrative offices throughout the world, including Camp Hill, Pennsylvania, U.S. and Leatherhead, U.K. The Harsco Clean Earth Segment has an administrative office in King of Prussia, Pennsylvania. The above table includes the principal properties owned or leased by the Company. The Company also operates from a number of other smaller plants, warehouses and offices in addition to the above. The Company considers all of its properties at which operations are currently performed to be in satisfactory condition and suitable for their intended use.

Item 3. Legal Proceedings.

Information regarding legal proceedings is included in Note 12, Commitments and Contingencies, in Part II, Item 8, "Financial Statements and Supplementary Data."

Item 4. Mine Safety Disclosures.

Not applicable.

Supplementary Item. Information About Our Executive Officers.

Set forth below, at February 24, 2022, are the executive officers of the Company and certain information with respect to each of them. There are no family relationships among any of the executive officers.

Name	Age	Position with the Company
Executive Officers:		
F. Nicholas Grasberger III	58	Chairman, President and Chief Executive Officer
Anshooman Aga	46	Senior Vice President and Chief Financial Officer
Samuel C. Fenice	47	Vice President and Corporate Controller
Russell C. Hochman	57	Senior Vice President and General Counsel, Chief Compliance Officer & Corporate Secretary
Wendy Livingston	48	Senior Vice President and Chief Human Resources Officer
David Stanton	56	Senior Vice President and Group President - Harsco Clean Earth

F. Nicholas Grasberger III - Chairman, President and Chief Executive Officer since October 22, 2018. President and Chief Executive Officer from August 1, 2014 to October 22, 2018. Mr. Grasberger served as Senior Vice President and Chief Financial Officer from April 2013 to November 2014, and as President and Chief Operating Officer from April 2014 to August 2014. Prior to joining Harsco in 2013, Mr. Grasberger served as the Managing Director of the multinational Precision Polymers division of Fenner Plc from March 2011 to April 2013. From April 2009 to November 2009 he served as Executive Vice President and Chief Executive Officer of Armstrong Building Products. From January 2005 to March 2009 he served as Senior Vice President and Chief Financial Officer of Armstrong World Industries, Inc. Prior to his employment with Armstrong, Mr. Grasberger served as Vice President and Chief Financial Officer of Kennametal Inc. and before that as Corporate Treasurer and Director of the corporate planning process at H.J. Heinz Company. He started his career with USX Corporation. In June 2019, Mr. Grasberger joined the Board of Directors of Louisiana-Pacific Corporation.

Anshooman Aga - Mr. Aga joined Harsco in August 2021 from Cubic Corporation where he was the Executive Vice President and Chief Financial Officer since 2017. Prior to joining Cubic, Mr. Aga was Senior Vice President and Chief Financial Officer of AECOM's multi-billion-dollar Design and Consulting Services business in the Americas. He also held a series of financial leadership positions during his 17 years at Siemens. Mr. Aga holds an MBA from the Crummer Graduate School of Business at Rollins College and a Bachelor of Science degree in Finance from Troy University.

Samuel C. Fenice - Vice President and Corporate Controller since August 16, 2016. Mr. Fenice oversees the administration of all corporate accounting policies and procedures, including internal and external corporate reporting. Mr. Fenice joined Harsco's Internal Audit team in 2002 and has since held progressively responsible roles in Finance, including two terms as Interim Corporate Controller. Mr. Fenice holds a Bachelor of Science degree in Accounting from The Pennsylvania State University and is a Certified Public Accountant.

Russell C. Hochman - Senior Vice President and General Counsel, Chief Compliance Officer and Corporate Secretary since May 2015. Served as Vice President, Interim General Counsel, Chief Compliance Officer and Corporate Secretary from March 2015 to May 2015. Served as Deputy General Counsel from July 2013 to March 2015. Prior to joining Harsco in 2013, Mr. Hochman served in senior legal roles with Pitney Bowes Inc. and leading law firms based in New York. Mr. Hochman holds a J.D. from Albany Law School of Union University and a B.A. from Cornell University.

Wendy Livingston - Senior Vice President and Chief Human Resources Officer since September 2, 2020. Prior to joining the Company, Ms. Livingston was with The Boeing Company where she served as interim Sr. Vice President, Human Resources from April 2020 until July 2020. Previously she was Vice President, Corporate Human Resources from February 2017 until April 2020 and Vice President Talent & Leadership from February 2016 until February 2017. Ms. Livingston holds a Bachelor of Science degree in Business Administration: Marketing & Management from Peru State College; a Master of Science degree in Human Resources Management from Lindenwood University; participated in the nomination-only Modern CHRO Role program at Cornell University; and was certified as a Professional in Human Resources (PHR) by the Society for Human Resource Management (SHRM).

David Stanton - Senior Vice President and Group President - Harsco Clean Earth since March 2, 2020. Prior to joining the Company in March 2020, Mr. Stanton was with Suez Utility where he served as President from September 2010 until March 2020. From January 2008 until June 2010 Mr. Stanton served as Chief Executive Officer of an early stage company focused on developing and commercializing advanced technology for the reuse of water. Earlier in his career, he held progressively

responsible roles in operations and finance at Tyco International and SouthWest Water. Mr. Stanton holds a Bachelor of Science in Electrical Engineering from Cornell University.

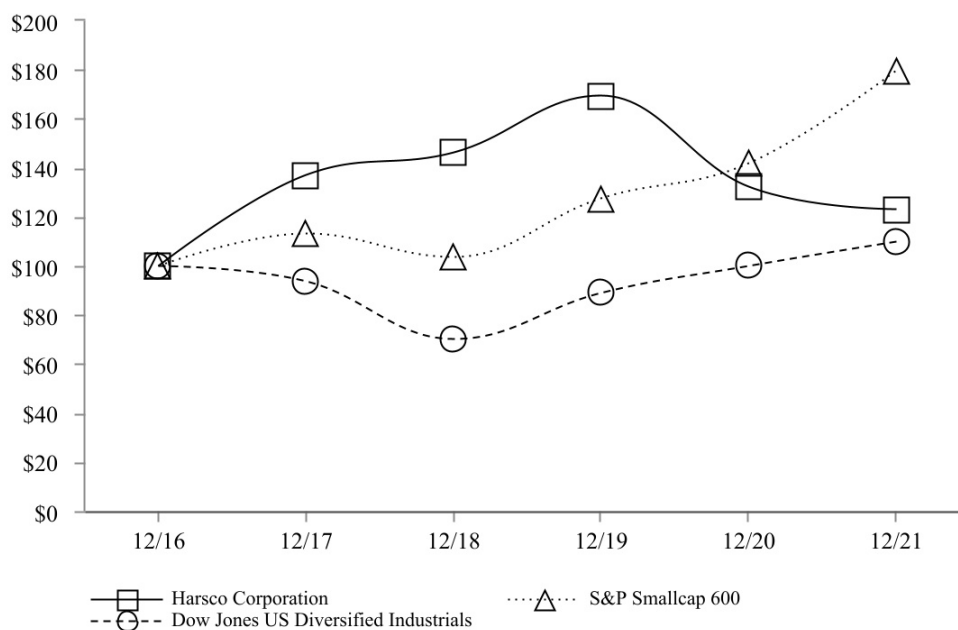
PART II

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

Harsco Corporation common stock is listed on the New York Stock Exchange under the trading symbol HSC. At December 31, 2021, there were 79,215,546 shares outstanding. In 2021, the Company's common stock traded in a range of \$13.29 to \$23.73 and closed at \$16.71 at year-end. At December 31, 2021, there were approximately 24,949 stockholders. For additional information regarding the Company's equity compensation plans see Note 14, Stock-Based Compensation, in Part II, Item 8, "Financial Statements and Supplementary Data," Part III, Item 11, "Executive Compensation," and Part III, Item 12 "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters."

Stock Performance Graph

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN* Among Harsco Corporation, the S&P Smallcap 600 Index and the Dow Jones US Diversified Industrials Index



*\$100 invested on 12/31/16 in stock or index, including reinvestment of dividends.
Fiscal year ending December 31.

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	December 2016	December 2017	December 2018	December 2019	December 2020	December 2021
Harsco Corporation	100.00	137.13	146.03	169.19	132.21	122.87
S&P Smallcap 600	100.00	113.23	103.63	127.24	141.60	179.58
Dow Jones US Diversified Industrials	100.00	93.41	69.98	88.80	99.85	109.82

Issuer Purchases of Equity Securities

On May 2, 2018, the Company announced that the Board adopted a share repurchase program authorizing the Company to repurchase up to \$75,000,000 of outstanding shares of the Company's common stock through April 24, 2021. The Company did not purchase any shares of common stock under this program during the year ended December 31, 2021.

Item 6. [Reserved].

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

The following discussion should be read in conjunction with the Consolidated Financial Statements of Harsco Corporation provided under Part II, Item 8, "Financial Statements and Supplementary Data," of this Annual Report on Form 10-K.

Amounts included in this Item 7 of this Annual Report on Form 10-K are rounded in millions and all percentages are calculated based on actual amounts. As a result, minor differences may exist due to rounding.

Forward-Looking Statements

The nature of the Company's business, together with the number of countries in which it operates, subject it to changing economic, competitive, regulatory and technological conditions, risks and uncertainties. In accordance with the "safe harbor" provisions of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, the Company provides the following cautionary remarks regarding important factors that, among others, could cause future results to differ materially from the results contemplated by forward-looking statements, including the expectations and assumptions expressed or implied herein. Forward-looking statements contained herein could include, among other things, statements about management's confidence in and strategies for performance; expectations for new and existing products, technologies and opportunities; and expectations regarding growth, sales, cash flows, and earnings. Forward-looking statements can be identified by the use of such terms as "may," "could," "expect," "anticipate," "intend," "believe," "likely," "estimate," "outlook," "plan" or other comparable terms.

Factors that could cause actual results to differ, perhaps materially, from those implied by forward-looking statements include, but are not limited to: (1) changes in the worldwide business environment in which the Company operates, including changes in general economic conditions or changes due to COVID-19 and governmental and market reactions to COVID-19; (2) changes in currency exchange rates, interest rates, commodity and fuel costs and capital costs; (3) changes in the performance of equity and bond markets that could affect, among other things, the valuation of the assets in the Company's pension plans and the accounting for pension assets, liabilities and expenses; (4) changes in governmental laws and regulations, including environmental, occupational health and safety, tax and import tariff standards and amounts; (5) market and competitive changes, including pricing pressures, market demand and acceptance for new products, services and technologies; (6) the Company's inability or failure to protect its intellectual property rights from infringement in one or more of the many countries in which the Company operates; (7) failure to effectively prevent, detect or recover from breaches in the Company's cybersecurity infrastructure; (8) unforeseen business disruptions in one or more of the many countries in which the Company operates due to political instability, civil disobedience, armed hostilities, public health issues or other calamities; (9) disruptions associated with labor disputes and increased operating costs associated with union organization; (10) the seasonal nature of the Company's business; (11) the Company's ability to successfully enter into new contracts and complete new acquisitions or strategic ventures in the time-frame contemplated, or at all; (12) the Company's ability to negotiate, complete, and integrate strategic transactions; (13) failure to conduct and complete a satisfactory process for the divestiture of the Rail division, as announced on November 2, 2021; (14) potential severe volatility in the capital or commodity markets; (15) failure to retain key management and employees; (16) the outcome of any disputes with customers, contractors and subcontractors; (17) the financial condition of the Company's customers, including the ability of customers (especially those that may be highly leveraged, have inadequate liquidity or whose business is significantly impacted by COVID-19) to maintain their credit availability; (18) implementation of environmental remediation matters; (19) risk and uncertainty associated with intangible assets and (20) other risk factors listed from time to time in the Company's SEC reports. A further discussion of these, along with other potential risk factors, can be found in Part I, Item 1A, "Risk Factors," of this Annual Report on Form 10-K. The Company cautions that these factors may not be exhaustive and that many of these factors are beyond the Company's ability to control or predict. Accordingly, forward-looking statements should not be relied upon as a prediction of actual results. The Company undertakes no duty to update forward-looking statements except as may be required by law.

Executive Overview

The Company is a market-leading, global provider of environmental solutions for industrial, retail and medical waste streams. The Company's operations consist of two reportable segments: Harsco Environmental and Harsco Clean Earth. The Company is a single-thesis environmental solutions company that is a leader in the markets that we serve. The Harsco Environmental Segment operates primarily under long-term contracts, providing critical environmental services and material processing to the global steel and metals industries, including zero waste solutions for manufacturing byproducts within the metals industry. The Harsco Clean Earth Segment provides waste management services including transportation, specialty waste processing, recycling and beneficial reuse solutions for hazardous waste and soil and dredged materials. The Company has locations in approximately 30 countries, including the U.S. The Company was incorporated in 1956.

On March 10, 2021, the Company amended its Senior Secured Credit Facilities to, among other things, extend the maturity date of the Revolving Credit Facility to March 10, 2026, and to increase certain levels set forth in the total net leverage ratio covenant. In addition, the Company issued a New Term Loan, using the proceeds to repay in full the outstanding Term Loan A and Term Loan B. The New Term Loan matures on March 10, 2028, or earlier, on the date that is 91 days prior to the maturity date of the Company's 5.75% Senior Notes due 2027 if such Senior Notes are outstanding or have not been refinanced at such time. See Note 8, Debt, in Part II, Item 8, "Financial Statements," for additional details.

In November 2021, the Company announced its intent to explore strategic alternatives for the Rail business, with the intention to sell the business. As a result, the (i) carrying value of the assets and liabilities of the Harsco Rail Segment have been classified as Assets held-for-sale and Liabilities of assets held-for-sale on the Consolidated Balance Sheets; (ii) the operating results of the Harsco Rail Segment have been reflected in the Consolidated Statement of Operations as discontinued operations for all periods presented; and (iii) all disclosures have been updated to reflect these changes.

Highlights for 2021 include (refer to the discussion of segment and consolidated results included within Results of Operations below, as well as Liquidity and Capital Resources, for additional information pertaining to the key drivers impacting these highlights):

- Revenues for the year ended December 31, 2021 increased approximately 20% compared with the year ended December 31, 2020. The primary drivers for this increase were the acquisition of ESOL, increased volumes in the Harsco Environmental Segment and Harsco Clean Earth Segment and the impact of foreign currency translation.
- Operating income from continuing operations for the year ended December 31, 2021 increased \$91.7 million compared with the year ended December 31, 2020. The primary drivers for this increase were increased volumes in the Harsco Environmental Segment and the Clean Earth Segment; the acquisition of ESOL; acquisition and integration costs primarily related to the ESOL acquisition, which were incurred during 2020 and not repeated; and the recovery of \$9.8 million of Brazil sales and use tax expense in the Harsco Environmental Segment.
- Diluted earnings per common share from continuing operations attributable to Harsco Corporation for the year ended December 31, 2021 were \$0.28, an increase compared with diluted losses per common share from continuing operations of \$(0.63) for the year ended December 31, 2020. The primary drivers of this increase are those noted above for operating income from continuing operations.
- Cash flows provided by operating activities for the year ended December 31, 2021 were \$72.2 million, an increase of \$18.4 million compared with cash flows provided by operating activities the year ended December 31, 2020. The primary drivers for this increase was higher net income partially offset by an unfavorable change in net working capital. The primary driver of the unfavorable changes in net working capital included lower customer advances and an increase in contract assets primarily for the Rail business related to the continued build of long-term contracts and the timing of sales and collections of accounts receivable primarily in the Harsco Environmental Segment, partially offset by timing of accounts payable.
- Capital expenditures for purchases of property, plant and equipment for the year ended December 31, 2021 were \$158.3 million, an increase of \$38.1 million or 31.7% compared with the year ended December 31, 2020.

The Company maintains a positive outlook across its businesses supported by favorable underlying growth characteristics in its businesses and investments by the Company to further supplement growth. Financial results have been impacted by the global COVID-19 pandemic that began in 2020. The Company took steps to protect all stakeholders and to minimize the operational and financial impacts of COVID-19. This business pressure was most significant during the second and third quarters of 2020, and while the pace of the recovery varies by end market, and various economic pressures remain, such as supply-chain challenges as well as labor availability and inflation, the Company's financial performance has improved meaningfully since mid-2020. Please refer Part I, Item 1A, "Risk Factors" for additional information related to the potential impacts of COVID-19 on the Company.

For 2022, the Company expects continued growth and increased operating income in both of our reporting segments supported by:

- HE: improved demand for environmental services supported by higher steel production and growth in ecoproducts. Over the longer-term the Company expects that the Harsco Environmental Segment's growth will be driven by economic growth that supports higher global steel consumption as well as investments and innovation that support the environmental solutions needs of customers.
- CE: results are expected to improve in 2022 as a result of organic growth within its hazardous waste processing business as well as the continuous improvement benefits and integration efforts; and despite the current challenges related to labor, transportation and material inflation; and disposal constraints. Beyond 2022, the Company expects this segment to benefit from positive underlying market trends, further growth opportunities and operational synergy opportunities as well as from the less cyclical and recurring nature of this business. These dynamics are expected to provide favorable returns on the Company's investments over time.

Results of Operations

Revenues by Segment

(Dollars in millions)	2021	2020	Change	%
Harsco Environmental	\$ 1,068.1	\$ 914.4	\$ 153.6	16.8 %
Harsco Clean Earth	780.3	619.6	160.7	25.9
Total Revenues	\$ 1,848.4	\$ 1,534.0	\$ 314.4	20.5 %

Revenues by Region

(Dollars in millions)	2021	2020	Change	%
North America	\$ 1,061.4	\$ 869.5	\$ 191.9	22.1 %
Western Europe	442.3	377.1	65.2	17.3
Latin America (a)	132.3	119.5	12.9	10.8
Asia-Pacific	110.8	87.6	23.2	26.5
Middle East and Africa	81.3	63.4	17.9	28.2
Eastern Europe	20.2	17.0	3.2	18.9
Total Revenues	\$ 1,848.4	\$ 1,534.0	\$ 314.4	20.5 %

(a) Includes Mexico.

Operating Income (Loss) and Operating Margins by Segment

(Dollars in millions)	2021	2020	Change	%
Harsco Environmental	\$ 103.4	\$ 59.0	\$ 44.4	75.2 %
Harsco Clean Earth	25.6	16.1	9.5	59.3
Corporate	(40.7)	(78.4)	37.7	48.1
Total Operating Income	\$ 88.4	\$ (3.3)	\$ 91.7	2,773.2 %

	2021	2020
Harsco Environmental	9.7 %	6.5 %
Harsco Clean Earth	3.3	2.6
Consolidated Operating Margin	4.8 %	(0.2)%

Harsco Environmental Segment:**Significant Effects on Revenues (In millions)**

Revenues—2020	\$ 914.4
Net effects of price/volume changes, primarily attributable to volume changes.	138.3
Foreign currency translation.	20.8
Net impact of new contracts and lost contracts.	(5.6)
Other.	0.2
Revenues—2021	<u>\$ 1,068.1</u>

The following factors contributed to the changes in operating income for the year ended December 31, 2021.

Factors Positively Affecting Operating Income:

- Operating income was positively affected by improved overall steel production by customers under environmental service contracts for the year ended December 31, 2021.
- Operating income was positively affected by higher contributions from ecoproducts for the year ended December 31, 2021.
- Operating income was positively affected by the recovery of Brazil sales and use tax expense of \$9.8 million for the year ended December 31, 2021.
- Operating results for the year ended December 31, 2020 were negatively impacted by \$9.4 million of employee termination costs as compared to \$2.9 million for the year ended December 31, 2021.
- Foreign currency translation did not significantly impact operating income for the year ended December 31, 2021.

Factors Negatively Impacting Operating Income:

- Impact of cost increases relating to raw materials, labor, equipment rental, freight and maintenance.

Harsco Clean Earth Segment:

The Company acquired ESOL on April 6, 2020 and the operating results are reflected in CE.

Significant Effects on Revenues (In millions)

Revenues—2020	\$ 619.6
Impact of ESOL acquisition. (b)	134.2
Net effects of price/volume changes, primarily attributable to volume changes.	25.6
Other.	0.9
Revenues—2021	<u>\$ 780.3</u>

(b) Includes net revenue of ESOL for the three months ended March 31, 2021.

The following factors contributed to the changes in operating income for the year ended December 31, 2021.

Factors Positively Affecting Operating Income:

- Favorable volume and mix for the hazardous waste business for the year ended December 31, 2021.
- The ESOL acquisition contributed \$7.0 million to operating income during the first quarter of 2021.

Factors Negatively Impacting Operating Income:

- Decrease in soil and dredged material volume due principally to the impacts of COVID-19 for the year ended December 31, 2021.
- Increase in selling, general, and administrative expenses for the year ended December 31, 2021, primarily to support the expanded business.
- Impact of increases in costs related to labor, transportation and materials.
- Constraints in incineration market capacity during part of the year.

Corporate Costs:

In addition to the factors highlighted above that positively effected or negatively impacted segment operating income, the Company's Corporate function was positively affected by acquisition related and integration costs of approximately \$48.5 million during the year ended December 31, 2020 not repeated in the current year. This was partially offset by increased insurance and compensation costs.

Consolidated Results

(In millions, except per share information and percentages)	2021	2020	2019
Total revenues	\$ 1,848.4	\$ 1,534.0	\$ 1,204.4
Cost of services and products sold	1,490.6	1,242.3	930.1
Selling, general and administrative expenses	272.2	284.4	205.2
Research and development expenses	1.0	0.5	0.9
Other (income) expenses, net	(3.7)	10.1	(8.2)
Operating income (loss) from continuing operations	88.4	(3.3)	76.4
Interest income	2.2	2.1	1.9
Interest expense	(63.2)	(58.2)	(34.0)
Unused debt commitment and amendment fees and loss on extinguishment of debt	(5.5)	(1.9)	(7.7)
Defined benefit pension income (expense)	15.6	7.1	(5.6)
Income tax benefit (expense) from continuing operations	(9.1)	8.7	(12.7)
Equity in income (loss) of unconsolidated entities, net	(0.3)	0.2	0.3
Income (loss) from continuing operations	28.1	(45.4)	18.6
Gain on sale of discontinued businesses	—	18.3	569.1
Income (loss) from discontinued businesses	(25.9)	20.4	52.9
Income tax benefit (expense) from discontinued businesses	0.5	(15.2)	(128.5)
Income (loss) from discontinued operations, net of tax	(25.4)	23.4	493.6
Net income (loss)	2.7	(22.0)	512.2
Total other comprehensive income (loss)	84.1	(55.3)	(0.1)
Total comprehensive (income) loss	86.8	(77.3)	512.2
Diluted income (loss) per common share from continuing operations attributable to Harsco Corporation common stockholders	0.28	(0.63)	0.13
Effective income tax rate from continuing operations	24.2 %	16.0 %	41.0 %

Comparative Analysis of Consolidated Results

Total Revenues

Revenues for 2021 increased \$314.4 million or 20% from 2020. Revenues for 2020 increased \$329.7 million or 27% from 2019. These increases were attributable to the following significant items:

Changes in Revenues (In millions)	2021 vs. 2020	2020 vs. 2019
Impact of ESOL and Clean Earth acquisitions.	\$ 134.2	\$ 500.9
Net effect of price/volume changes in the Harsco Environmental Segment, primarily attributable to volume changes.	138.3	(73.7)
Net effect of price/volume changes in the Harsco Clean Earth Segment, primarily attributable to volume changes.	25.6	(36.1)
Foreign currency translation.	20.8	(24.4)
Net impact of new contracts and lost contracts (including exited underperforming contracts) in the Harsco Environmental Segment.	(5.6)	(21.3)
Other.	1.1	(15.7)
Total change in revenues	\$ 314.4	\$ 329.7

Cost of Services and Products Sold

Cost of services and products sold for 2021 increased \$248.3 million or 20% from 2020. Cost of services and products sold for 2020 increased \$312.2 million or 34% from 2019. These increases were attributable to the following significant items:

Change in Cost of Services and Products Sold (In millions)	2021 vs. 2020	2020 vs. 2019
Impact of ESOL and Clean Earth acquisitions.	\$ 104.0	\$ 409.5
Change in costs due to changes in revenues (exclusive of the ESOL and Clean Earth acquisitions and effects of foreign currency translation and including fluctuations in commodity costs included in selling prices).	119.1	(81.9)
Foreign currency translation.	19.2	(18.3)
Other.	6.0	2.9
Total change in cost of services and products sold	\$ 248.3	\$ 312.2

Selling, General and Administrative Expenses

Selling, general and administrative expenses for 2021 decreased \$12.2 million or 4% from 2020. The decrease is primarily due to acquisition and integration costs incurred in 2020 related to the acquisition of ESOL that did not repeat in 2021, partially offset by the incremental impact of selling, general and administrative expenses associated with the ESOL business and higher compensation costs in 2021.

Selling, general and administrative expenses for 2020 increased \$79.3 million or 39% from 2019. This increase primarily relates to incremental acquisition related and integration costs of approximately \$24 million during 2020, primarily related to the acquisition of ESOL and the inclusion of selling, general and administrative expenses associated with the ESOL and Clean Earth acquisitions, which occurred in April 2020 and June 2019, respectively. These increases were partially offset by a provision for doubtful accounts related to a U.K. customer that entered administration during 2019 that did not repeat in 2020 and decreased travel and entertainment expenses.

Other (Income) Expenses, Net

The major components of this Consolidated Statement of operations caption are detailed below. See Note 18, Other (Income) Expenses, Net, in Part II, Item 8, "Financial Statements and Supplementary Data" for additional information.

(In thousands)	Other (Income) Expenses		
	2021	2020	2019
Employee termination benefits costs	\$ 4,766	\$ 10,249	\$ 4,226
Net gains	(8,902)	(3,723)	(6,303)
Contingent consideration adjustments	—	2,386	(7,681)
Impaired asset write-downs	1,005	776	632
Other costs to exit activities	663	533	1,166
Other income	(1,254)	(149)	(234)
Total other (income) expenses, net	\$ (3,722)	\$ 10,072	\$ (8,194)

Interest Expense

Interest expense in 2021 was \$63.2 million, an increase of \$5.0 million or 9% compared with 2020. This increase primarily relates to higher outstanding borrowings.

Interest expense in 2020 was \$58.2 million, an increase of \$24.2 million or 71% compared with 2019. The increase primarily relates to higher outstanding borrowings and weighted average interest rates related to the June 2019 issuance of the Senior Notes and the April 2020 issuance of the Term Loan A.

See Note 8, Debt and Credit Agreements, in Part II, Item 8, "Financial Statements and Supplementary Data" for additional information.

Unused Debt Commitment Fees, Amendment Fees and Loss on Extinguishment of Debt

During 2021, the Company recognized \$5.5 million, respectively, of fees and other costs primarily related to the amended Senior Secured Credit Facilities.

During 2020, the Company recognized \$1.9 million of fees and expenses related to the amended Senior Secured Credit Facilities.

During 2019, the Company recognized \$6.7 million of expenses for fees and other costs related to the unused bridge financing commitment that the Company arranged in the event that the Senior Notes were not issued prior to the acquisition of CE. Additionally, the Company recognized \$1.0 million of expenses related to the amendment of the Senior Secured Credit Facilities.

See Note 8, Debt and Credit Agreements, in Part II, Item 8, "Financial Statements and Supplementary Data" for additional information.

Defined Benefit Pension Income (Expense)

Defined benefit pension income in 2021 was \$15.6 million compared to defined benefit pension income of \$7.1 million in 2020. This change is primarily the result of higher plan asset values at December 31, 2020.

Defined benefit pension income in 2020 was \$7.1 million compared to defined benefit pension expense of \$5.6 million in 2019. This change is primarily the result of higher plan asset values at December 31, 2019.

Income Tax Benefit (Expense) from Continuing Operations

Income tax expense from continuing operations in 2021 was \$9.1 million, compared with income tax benefit from continuing operations of \$8.7 million in 2020. The effective income tax rate relating to continuing operations for 2021 was 24.2% versus 16.0% for 2020. The increase in income tax expense and the effective tax rate was primarily due to the increase in operating income including decreased expenses from corporate strategic spending, disallowed interest expense in 2021 and recognition of net operating loss carrybacks in 2020 not recurring in 2021, offset by a \$6.8 million Brazil tax benefit recorded in 2021 resulting from the recognition of deferred tax assets as well as the change in mix of income in various foreign countries.

Income tax benefit from continuing operations in 2020 was \$8.7 million, compared with income tax expense from continuing operations of \$12.7 million in 2019. The effective income tax rate relating to continued operations for 2020 was 16.0% versus 41.0% for 2019. The decrease in income tax expense and the effective income tax rate related to continuing operations was primarily due to increased acquisition and integration costs, decreased operation income due to impacts of COVID-19 and a \$2.7 million favorable income tax adjustment in connection with an increase in estimated usage of assumed net operating losses related to the Clean Earth acquisition.

See Note 11, Income Taxes, in Part II, Item 8, "Financial Statements and Supplementary Data" for additional information.

Gain on Sale of Discontinued Businesses

In January 2020, the Company sold IKG and recognized a gain on sale of \$18.3 million pre-tax (or approximately \$9 million after-tax).

In July 2019, the Company completed the sale of AXC for \$600 million in cash and recognized a gain on sale of \$527.9 million pre-tax (approximately \$421 million after tax). In November 2019, the Company completed the sale of PK for \$60 million cash and recognized a gain on sale of \$41.2 million pre-tax (or approximately \$33 million after-tax).

These transactions have been recorded in the Consolidated Statements of Operations as discontinued operations.

Income (Loss) from Discontinued Businesses

The operating results of the former Harsco Rail Segment and the former Harsco Industrial Segment, costs directly related to these disposals, an allocation of interest expense associated with mandatory debt repayments required as a result of the disposal of the former Harsco Industrial Segment and the write-off of deferred financing costs resulting from the mandatory repayment of debt have been reflected as discontinued operations in the Consolidated Statement of Operations for all periods presented. In addition, this caption includes costs directly attributable to retained contingent liabilities of the former Harsco Industrial Segment. The primary driver for the loss in 2021 is the recognition of forward loss provisions of \$33.4 million for certain contracts in the Harsco Rail business. See Note 3, Acquisitions and Dispositions, in Part II, Item 8, "Financial Statements and Supplementary Data" for additional information.

Total Other Comprehensive Income (Loss)

Total other comprehensive income was \$84.1 million in 2021, compared with total other comprehensive loss of \$55.3 million in 2020. The primary driver of the increase is due to higher discount rates for the U.S. and U.K. pension plans and a higher return on assets than expected for the U.S. pension plan.

Total other comprehensive loss was \$55.3 million in 2020, compared with total other comprehensive loss of \$0.1 million in 2019. The primary driver of the decrease was due to lower discount rates for the U.S. and U.K. pension plans.

Liquidity and Capital Resources

Cash Flow Summary

The Company currently expects to have sufficient financial liquidity and borrowing capacity to support the strategies. The Company currently expects operational and business needs to be met by cash provided by operations supplemented with borrowings from time to time principally under the Senior Secured Credit Facilities. The Company supplements the cash provided by operations with borrowings from time to time due to historical patterns of seasonal cash flow, the funding of various projects and the impact of COVID-19. The Company regularly assesses capital needs in the context of operational trends and strategic initiatives.

The Company's cash flows from operating, investing and financing activities, as reflected on the Consolidated Statements of Cash Flows, are summarized in the following table:

(In millions)	2021	2020	2019
Net cash provided (used) by:			
Operating activities	\$ 72.2	\$ 53.8	\$ (0.2)
Investing activities	(124.4)	(520.6)	(132.2)
Financing activities	60.2	487.0	125.7
Effect of exchange rate changes on cash	(0.5)	(0.2)	(0.8)
Net change in cash and cash equivalents	\$ 7.5	\$ 19.9	\$ (7.4)

Cash provided (used) by operating activities — Net cash provided by operating activities in 2021 was \$72.2 million, an increase of \$18.4 million from 2020. The primary driver for this increase was higher net income partially offset by an unfavorable change in net working capital. The primary drivers of the unfavorable changes in net working capital included lower customer advances and an increase in contract assets for the Rail business related to the continued build of long-term contracts and the timing of sales and collections of accounts receivable primarily in the Harsco Environmental Segment, partially offset by timing of accounts payable.

Also included in the Cash flows from operating activities section of the Consolidated Statements of Cash Flows is the caption, Other assets and liabilities. A summary of the major components of this caption for the periods presented is as follows:

(In millions)	2021	2020	2019
Net cash provided (used) by:			
Change in income taxes	\$ 4.8	\$ (1.1)	\$ 5.3
Change in prepaid expenses	(1.8)	(7.4)	(13.0)
Change in contingent consideration liabilities	—	0.3	(8.2)
Change in reserve for contract losses	13.6	(2.1)	(2.2)
Other (a)	5.0	9.2	(6.5)
Total change in Other assets and liabilities	\$ 21.6	\$ (1.1)	\$ (24.6)

(a) Other relates primarily to other accruals that are individually not significant.

Cash used by investing activities — Net cash used by investing activities in 2021 was \$124.4 million, a decrease of \$396.2 million from 2020. The decrease reflected the purchase of the ESOL business in 2020, partially offset by proceeds from the sale of the IKG business in 2020 and increased net capital expenditures in 2021.

Cash provided (used) by financing activities — Net cash provided by financing activities in 2021 was \$60.2 million, a decrease of \$426.7 million from 2020. The decrease reflected lower net cash borrowings of \$423.7 million in 2021 compared with the cash used to purchase the ESOL business in 2020.

Cash Requirements

The Company's expected future payments related to contractual obligations and commercial commitments at December 31, 2021 to consist of:

- Principal payments related to our short-term borrowings and long-term debt obligations that are included in our Consolidated Balance Sheet. See Note 8, Deb and Credit Agreements, in Part II, Item 8 "Financial Statements and Supplementary Data," for additional information on short-term borrowings and long-term debt.
- Projected interest payments on long-term debt are anticipated to be approximately \$58 million annually based upon borrowings, interest rates and foreign currency exchange rates at December 31, 2021, including interest rate swaps currently in effect. The interest rates on variable-rate debt and foreign currency exchange rates are subject to changes

beyond the Company's control and may result in actual interest expense and payments differing from the projected amounts.

- Purchase obligations representing legally binding obligations to purchase property, plant and equipment, inventory and other commitments made in the normal course of business to meet operations requirements. At December 31, 2021, the Company has \$198.3 million of outstanding purchase commitments, of which \$140.8 million will be fulfilled in the next twelve months.
- Operating lease liabilities which are included in our Consolidated Balance Sheets. See Note 9, Leases, in Part II, Item 8 "Financial Statements and Supplementary Data," for additional information.
- Expected employer contributions to defined benefit pension plans for the next year. See Note 10, Employee Benefit Plans, in Part II, Item 8 "Financial Statements and Supplementary Data," for additional information.
- Expected net cash payable of \$1.3 million representing the fair value of the foreign currency exchange contracts outstanding at December 31, 2021. The foreign currency exchange contracts are recorded on the Consolidated Balance Sheets at fair value. See Note 15, Financial Instruments, in Part II, Item 8 "Financial Statements and Supplementary Data," for additional information.
- At December 31, 2021, in addition to the above contractual obligations, the Company had \$4.9 million of potential long-term tax liabilities, including interest and penalties, related to uncertain tax positions. Because of the high degree of uncertainty regarding the future cash flows associated with these potential long-term tax liabilities, the Company is unable to estimate the years in which settlement will occur with the respective taxing authorities.

Off-Balance Sheet Arrangements

The following table summarizes the Company's contingent commercial commitments at December 31, 2021. These amounts are not included on the Consolidated Balance Sheets since there are no current circumstances known to management indicating that the Company will be required to make payments on these contingent commercial commitments.

Commercial Commitments at December 31, 2021

(In millions)	Total	Amount of Commercial Commitment Expiration Per Period				
		Less than 1 Year	1-3 Years	3-5 Years	Over 5 Years	Indefinite Expiration
Performance bonds	\$ 234.5	\$ 226.9	\$ 3.5	\$ —	\$ —	\$ 4.1
Standby letters of credit	66.1	49.8	8.2	3.2	4.9	—
Guarantees	218.8	0.2	1.1	4.2	209.5	3.8
Total commercial commitments (b)	\$ 519.4	\$ 276.9	\$ 12.8	\$ 7.4	\$ 214.4	\$ 7.9

(b) Includes total commitments of \$190.8 for the former Harsco Rail Segment.

Certain commercial commitments that are of a continuous nature do not have an expiration date and are therefore considered to be indefinite in nature. See Note 15, Financial Instruments, in Part II, Item 8, "Financial Statements and Supplementary Data," for additional information.

Sources and Uses of Cash

The Company's principal sources of liquidity are cash provided by operations and borrowings under the Senior Secured Credit Facilities, augmented by cash proceeds from asset sales. In addition, the Company has other bank credit facilities available throughout the world. The Company expects to continue to utilize all of these sources to meet future cash requirements for operations and growth initiatives.

Summary of Senior Secured Credit Facilities and Notes:

(In millions)	December 31 2021	December 31 2020
By type:		
Revolving Credit Facility	\$ 362.0	\$ 281.0
Term Loan B	—	218.2
Term Loan A	—	280.0
New Term Loan	497.5	—
5.75% Senior Notes	500.0	500.0
Total	\$ 1,359.5	\$ 1,279.2
By classification:		
Current	\$ 5.0	\$ 10.5
Long-term	1,354.5	1,268.7
Total	\$ 1,359.5	\$ 1,279.2

Senior Secured Credit Facilities*March 2021 Amendment*

In March 2021, the Company amended its Senior Secured Credit Facilities to, among other things, extend the maturity date of the Revolving Credit Facility to March 10, 2026, and to modify aspects of its total net leverage ratio covenant. As a result of this amendment, the net debt to consolidated adjusted EBITDA ratio covenant was increased to 5.75 through December 2021 and then decreases quarterly until reaching 4.50 in December 2022 and 4.00 in March 2023. In addition, the Company issued the New Term Loan, as an additional tranche, under the Senior Secured Credit Facilities, in an aggregate principal amount of \$500 million. The New Term Loan bears interest at a rate per annum of 1.25% over base rate, subject to a zero floor, or 2.25% over LIBOR, subject to a 0.50% floor. The New Term Loan is subject to quarterly amortization of principal of 0.25%, beginning September 30, 2021. The proceeds of the New Term Loan were used to repay in full the outstanding Term Loan A and Term Loan B under the Senior Secured Credit Facilities, which were due on June 28, 2024 and December 8, 2024, respectively. The New Term Loan matures on March 10, 2028, or earlier, on the date that is 91 days prior to the maturity date of the Company's 5.75% Senior Notes, due 2027, if such Senior Notes are outstanding or have not been refinanced at such time.

In October 2021, the Company amended its Senior Secured Credit Facilities to, among other things, to make certain amendments in connection with the discontinuation of LIBOR.

At December 31, 2021, the Company was in compliance with all covenants for the Senior Secured Credit Facilities. During the twelve months ended December 31, 2021, 2020 and 2019, the Company recognized \$5.5 million, \$1.9 million and \$1.0 million, respectively, of fees and expenses related to amendments to the Senior Secured Credit Facilities in the caption Unused debt commitment, amendment fees and loss on the extinguishment of debt on the Consolidated Statements of Operations. The amount for 2021 includes a write-off of \$2.7 million of previously recorded deferred financing costs. The Company capitalized fees of \$7.8 million related to the March 2021 Amendment.

In addition, on February 22, 2022, the Company amended its Senior Credit Facilities ("Amendment No. 9 to the Third Amended and Restated Credit Agreement") to reset the levels of the net debt to consolidated adjusted EBITDA ratio covenant. As a result of this amendment, the net debt to consolidated adjusted EBITDA ratio covenant was set at 5.75 for the quarter ending March 31, 2022, and then decreases quarterly by 0.25 until reaching 4.00 for the quarter ending December 31, 2023 and thereafter. In addition, upon closing on the divestiture of the former Harsco Rail Segment, the net debt to consolidated adjusted EBITDA ratio covenant will decrease by an additional 0.25, provided, however, it will not go below 4.00.

See Note 20 Subsequent Events, in Part II, Item 8, "Financial Statements and Supplementary Data," and Item 9B Other Information for discussion of the Amendment No. 9 to the Third Amended and Restated Credit Agreement.

The Credit Agreement imposes certain restrictions including, but not limited to, restrictions as to types and amounts of debt or liens that may be incurred by the Company; limitations on increases in dividend payments; limitations on repurchases of the Company's stock and limitations on certain acquisitions by the Company.

With respect to the Senior Secured Credit Facilities, the obligations of the Company are guaranteed by substantially all of the Company's current and future wholly-owned domestic subsidiaries ("Guarantors"). All obligations under the Senior Credit Facility, and the guarantees of those obligations, are secured, subject to certain exceptions, by substantially all of the Company's assets and the assets of the Guarantors.

The Credit Agreement requires certain mandatory prepayments for the New Term Loan, subject to certain exceptions, based on net cash proceeds of certain sales or distributions of assets, as well as certain casualty and condemnation events, in some cases subject to reinvestment rights and certain other exceptions; net cash proceeds of any issuance of debt, excluded permitted debt issuances; and a percentage of excess cash flow, as defined by the Credit Agreement, during a fiscal year.

Revolving Credit Facility

Borrowings under the Revolving Credit Facility, a U.S.-based program, bear interest at a rate per annum ranging from 50 to 150 basis points over the base rate or 150 to 250 basis points over adjusted LIBOR as defined in the Credit Agreement, subject to a 0% floor. Any principal amount outstanding under the Revolving Credit Facility is due and payable on its maturity on March 10, 2026.

The following table shows the amount outstanding under the Revolving Credit Facility and available credit at December 31, 2021.

(In thousands)	December 31, 2021			
	Facility Limit	Outstanding Balance	Outstanding Letters of Credit	Available Credit
Revolving Credit Facility (a U.S.-based program)	\$ 700,000	\$ 362,000	\$ 29,824	\$ 308,176

Other

In 2019, the Company recognized \$6.7 million of expenses in the caption Unused commitment, amendment fees and loss on extinguishment of debt on the Consolidated Statements of Operations, for fees and other costs related to bridge financing commitments that the Company arranged in the event that the Senior Notes were not issued prior to the acquisition of Clean Earth. The Senior Notes were issued prior to completion of the Clean Earth acquisition thus the bridge financing commitments were not utilized.

Certainty of Cash Flows

The majority of the Company's cash flows provided by operations has historically been generated in the second half of the year. The certainty of the Company's future cash flows is underpinned by the long-term nature of the Company's HE services contracts, the recurring nature of revenues within the Clean Earth Segment and overall discretionary cash flows (operating cash flows plus cash from asset sales in excess of the amounts necessary for capital expenditures to maintain current revenue levels) generated by the Company. Historically, the Company has utilized these discretionary cash flows for growth-related capital expenditures, strategic acquisitions, and debt repayment.

The types of products and services that the Company provides are not subject to rapid technological change, which increases the stability of related cash flows. Additionally, the Company believes each business in its portfolio is a leader in the industries and major markets the Company serves. Due to these factors, the Company is confident in the Company's future ability to generate positive cash flows from operations.

Debt Covenants

The Senior Secured Credit Facility contains a consolidated net debt to consolidated adjusted EBITDA ratio covenant, which is not to exceed 5.75 at December 31, 2021, and a minimum consolidated adjusted EBITDA to consolidated interest charges ratio covenant, which is not to be less than 3.0. At December 31, 2021, the Company was in compliance with these covenants as the net leverage ratio was 4.6 to 1.0 and interest coverage ratio was 4.4 to 1.0. Based on balances and covenants in effect at December 31, 2021, the Company could increase net debt by \$338.6 million and still be in compliance with these debt covenants. Alternatively, adjusted EBITDA could decrease by \$58.9 million, and the Company would remain in compliance with these covenants. The Company has estimated the negative impact of COVID-19 on its financial position, results of operations and cash flows, and believes it will continue to maintain compliance with these covenants based on its current outlook. However, the Company's estimates of compliance with these covenants could change in the future with a deterioration in economic conditions including as a result of COVID-19 and the related impacts.

Cash Management

The Company has various cash management systems throughout the world that centralize cash in various bank accounts where it is economically justifiable and legally permissible to do so. These centralized cash balances are then redeployed to other operations to reduce short-term borrowings and to finance working capital needs or capital expenditures. Due to the transitory nature of cash balances, they are normally invested in bank deposits that can be withdrawn at will or in very liquid short-term bank time deposits and government obligations. The Company's policy is to use the largest banks in the various countries in which the Company operates. The Company monitors the creditworthiness of banks and, when appropriate, will adjust banking operations to reduce or eliminate exposure to less creditworthy banks.

At December 31, 2021, the Company's consolidated cash and cash equivalents included \$80.8 million held by non-U.S. subsidiaries. At December 31, 2021, approximately 4% of the Company's consolidated cash and cash equivalents had regulatory restrictions that would preclude the transfer of funds with and among subsidiaries. Non-U.S. subsidiaries also held \$24.4 million of cash and cash equivalents in consolidated strategic ventures. The strategic venture agreements may require strategic venture partner approval to transfer funds with and among subsidiaries. While the Company's remaining non-U.S. cash and cash equivalents can be transferred with and among subsidiaries, the majority of these non-U.S. cash balances will be used to support the ongoing working capital needs and continued growth of the Company's non-U.S. operations.

Application of Critical Accounting Policies and Critical Accounting Estimates

The Company's discussion and analysis of its financial condition and results of operations are based upon the consolidated financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these consolidated financial statements requires the Company to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses. On an ongoing basis, the Company evaluates its critical accounting estimates, including those related to defined benefit pension benefits, notes and accounts receivable, fair value estimates for business combinations and goodwill, long-lived asset impairment, inventories, revenue recognition - cost-to-cost method, insurance reserves and income taxes. The impact of changes in these estimates, as necessary, is reflected in the respective segment's results of operations in the period of the change. The Company bases estimates on historical experience and various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different outcomes, assumptions or conditions.

The Company believes the following critical accounting policies are affected by the Company's more significant judgments and estimates used in the preparation of the consolidated financial statements. Management has discussed the development and selection of the critical accounting estimates described below with the Audit Committee of the Board and they have reviewed the Company's disclosures relating to these estimates in this Management's Discussion and Analysis of Financial Condition. These items should be read in conjunction with Note 1, Summary of Significant Accounting Policies, in Part II, Item 8, "Financial Statements and Supplementary Data."

Defined Benefit Pension Benefits

The Company has defined benefit pension plans in several countries. The largest of these plans are in the U.K. and the U.S. The Company's funding policy for these plans is to contribute amounts sufficient to meet the minimum funding pursuant to U.K. and U.S. statutory requirements, plus any additional amounts that the Company may determine to be appropriate.

Changes in the discount rate assumption and the actual performance of plan assets compared with the expected long-term rate of return on plan assets are the primary drivers in the change in funded status of the Company's defined benefit pension plans. These factors are components of actuarial loss (gain) and impact the amount recognized in OCI, as such actuarial changes are not reflected directly on the Consolidated Statements of Operations but amortized over time in accordance with U.S. GAAP.

Critical Estimate—Defined Benefit Pension Benefits

Accounting for defined benefit pension plans requires the use of actuarial assumptions. The principal assumptions used include the discount rate and the expected long-term rate of return on plan assets. Each assumption is reviewed annually and represents management's best estimate at that time. The assumptions are selected to represent the average expected experience over time and may differ, in any one year, from actual experience due to changes in capital markets and the overall economy. These differences will impact the amount of unfunded benefit obligation and the NPPC recognized.

The discount rates used in calculating the Company's projected benefit obligations at the December 31, 2021 measurement date for the U.K. and U.S. defined benefit pension plans were 1.8% and 2.7%, respectively, and the global weighted-average discount rate was 2.1%. The discount rates selected represent level-equivalent rates using the yield curve spot rates on a year-by-year expected cash flow basis, using yield curves of high-quality corporate bonds. Annual NPPC is determined using the

discount rates at the beginning of the year. The discount rates for 2021 NPPC were 1.4% for the U.K. plan, 2.4% for the U.S. plans and 1.6% for the global weighted-average of plans.

The expected long-term rate of return on plan assets is determined by evaluating the asset return expectations with the Company's advisors as well as actual, long-term, historical results of asset returns for the pension plans. Generally, the NPPC increases as the expected long-term rate of return on assets decreases. For 2021 and 2020, the global weighted-average expected long-term rate of return on asset assumption was 5.1% and 5.6%, respectively. This rate was determined based on a model of expected asset returns for an actively managed portfolio.

Changes in NPPC may occur in the future due to changes in actuarial assumptions and due to changes in returns on plan assets resulting from financial market conditions. Holding all other assumptions constant, using December 31, 2021 plan data, a one-quarter percent increase or decrease in the discount rate and the expected long-term rate of return on plan assets would increase or decrease annual 2022 pre-tax defined benefit NPPC (expense) as follows:

	U.S. Plans	U.K. Plan
Discount rate		
One-quarter percent increase	Increase of \$0.1 million	Decrease of \$0.0 million
One-quarter percent decrease	Decrease of \$0.1 million	Increase of \$0.0 million
Expected long-term rate of return on plan assets		
One-quarter percent increase	Decrease of \$0.5 million	Decrease of \$2.3 million
One-quarter percent decrease	Increase of \$0.5 million	Increase of \$2.3 million

Increases or decreases to net pension obligations may be required should circumstances that affect these estimates change. Additionally, certain events could result in the pension obligation changing at a time other than the annual measurement date. This would occur when a benefit plan is amended or when plan curtailments or settlements occur.

See Note 10, Employee Benefit Plans, in Part II, Item 8, "Financial Statements and Supplementary Data," for additional information.

Accounts Receivable

Accounts receivable are stated at net realizable value, which represents the face value of the receivable less an allowance for expected credit losses. The allowance for expected credit losses is maintained for expected lifetime losses resulting from the inability or unwillingness of customers to make required payments.

The Company's expected credit loss allowance methodology for accounts receivable is developed using historical collection experience, current and future economic and market conditions and a review of the current status of customers' trade accounts receivables. When required, the Company adjusts the loss-rate methodology to account for current conditions and reasonable and supportable expectations of future economic and market conditions. The Company generally assesses future economic conditions for a period which corresponds with the contractual life of its accounts receivable. Additionally, specific allowance amounts are established to record the appropriate provision for customers that have a higher probability of default.

Prior to the adoption of the expected credit loss allowance methodology on January 1, 2020, the Company established an allowance for doubtful accounts based upon a specific-identification method, as well as historical collection experience, as appropriate. At December 31, 2021 and 2020, trade accounts receivable of \$377.9 million and \$355.3 million, respectively, were net of reserves of \$7.3 million and \$7.5 million, respectively.

Critical Estimate—Notes and Accounts Receivable

A considerable amount of judgment is required to assess the realizability of receivables, including the current creditworthiness of each customer, related aging of past due balances and the facts and circumstances surrounding any non-payment. The Company's provisions for expected credit losses and doubtful accounts during 2021, 2020 and 2019 were \$0.6 million, \$2.0 million and \$7.1 million, respectively.

On at least a quarterly basis, customer accounts are analyzed for collectability. Reserves are established based upon the expected credit loss allowance methodology noted above. Reserves are based on the facts available to the Company and are re-evaluated and adjusted as additional information becomes available. Specific issues are discussed with corporate management and any significant changes in reserve amounts or the write-off of balances must be approved by specifically designated corporate personnel. All approved items are monitored to ensure they are recorded in the proper period. Additionally, any significant changes in reserve balances are reviewed to ensure the proper corporate approval has occurred.

If the financial condition of the Company's customers were to deteriorate, resulting in their inability to make payments, additional allowances may be required. Conversely, an improvement in a customer's ability to make payments could result in a decrease of the allowance for doubtful accounts. Changes in the allowance for doubtful accounts related to both of these situations would be recorded through Operating income from continuing operations in the period the change was determined.

See Note 4, Accounts Receivable and Note Receivable, in Part II, Item 8, "Financial Statements and Supplementary Data," for additional information.

Fair Value Estimates for Business Combinations and Goodwill

The Company accounts for business combinations using the acquisition method of accounting, which requires that once control is obtained, all assets acquired and liabilities assumed, including amounts attributable to noncontrolling interests, be recorded at their respective fair values at the date of acquisition. During 2020, the Company acquired 100% of ESOL, an established waste transportation, processing and services provider with a comprehensive portfolio of disposal solutions for customers primarily across the industrial, retail and healthcare markets. During 2019, the Company acquired 100% of the outstanding stock of Clean Earth, one of the largest U.S. providers of specialty waste processing and beneficial reuse solutions for hazardous wastes, and soil and dredged materials. See Note 3, Acquisitions and Dispositions, in Part II, Item 8, "Financial Statements and Supplementary Data," for additional information.

The Company's goodwill balances were \$883.1 million and \$889.0 million at December 31, 2021 and 2020, respectively. The Company performs its annual goodwill impairment test as of October 1.

Critical Estimate—Business Combinations and Goodwill

The acquisition method of accounting requires the excess of purchase price over the fair values of identifiable assets and liabilities to be recorded as goodwill. The determination of fair value of assets acquired and liabilities assumed requires numerous estimates and assumptions with respect to the timing and amounts of cash flow projections, revenue growth rates, customer attrition rates, discount rates and useful lives. Such estimates are based upon assumptions believed to be reasonable and, when appropriate, include assistance from independent third-party valuation firms. During the measurement period, which is up to one year from the acquisition date, the Company may record adjustments to the assets acquired and liabilities assumed, with corresponding offsets to goodwill. See Note 3, Acquisitions and Dispositions, in Part II, Item 8, "Financial Statements and Supplementary Data," for additional information regarding the purchase price allocation related to acquisitions.

In accordance with U.S. GAAP, goodwill is not amortized and is tested for impairment at least annually or more frequently if indicators of impairment exist or if a decision is made to dispose of a business. Goodwill is allocated among and evaluated for impairment at the reporting unit level, which is defined as an operating segment or one level below an operating segment for which discrete financial information is available. A significant amount of judgment is involved in determining if an indicator of impairment has occurred. Such indicators may include declining cash flows or operating losses at the reporting unit level, a significant adverse change in legal factors or in the business climate, an adverse action or assessment by a regulator, unanticipated competition, a loss of key personnel or a more likely than not expectation that a reporting unit or a significant portion of a reporting unit will be sold or otherwise disposed of, among others.

In applying the goodwill impairment test, the Company has the option to perform a qualitative test or a quantitative test. Under the qualitative test, the Company assesses qualitative factors to determine whether it is more likely than not that the fair value of the reporting units is less than its carrying value. Qualitative factors may include, but are not limited to, economic conditions, industry and market considerations, cost factors, overall financial performance of the reporting unit, and other entity and reporting unit specific events. If after assessing these qualitative factors, the Company determines it is "more-likely-than-not" that the fair value of the reporting unit is less than the carrying value, the Company would perform a quantitative test.

The quantitative approach of testing for goodwill impairment involves comparing the current fair value of each reporting unit to the net book value, including goodwill. The Company uses a discounted cash flow model ("DCF model") to estimate the current fair value of reporting units, as management believes forecasted operating cash flows are the best indicator of current fair value. A number of significant assumptions and estimates are involved in the preparation of DCF models including future revenues and operating margin growth, the weighted-average cost of capital ("WACC"), tax rates, capital spending, pension funding, the impact of business initiatives and working capital projections. These assumptions and estimates may vary significantly among reporting units. DCF models are based on approved long-range plans for the early years and historical relationships and projections for later years. WACC rates are derived from internal and external factors including, but not limited to, the average market price of the Company's stock, shares outstanding, book value of the Company's debt, the long-term risk-free interest rate, and both market and size-specific risk premiums. Due to the many variables noted above and the relative size of the Company's goodwill, differences in assumptions may have a material impact on the results of the Company's annual goodwill impairment testing. If the net book value of a reporting unit were to exceed the current fair value, then an impairment charge would be recognized as the difference between the fair value and the net book value.

The performance of the Company's 2021 annual impairment tests did not result in any impairment of the Company's goodwill.

See Note 1, Summary of Significant Accounting Policies and Note 7, Goodwill and Other Intangible Assets, in Part II, Item 8, "Financial Statements and Supplementary Data," for additional information.

Long-lived Asset Impairment (Other than Goodwill)

Long-lived assets (or asset groups) are reviewed for impairment when events and circumstances indicate that the book value of an asset (or asset group) may be impaired. The amounts charged against pre-tax income from continuing operations related to impaired long-lived assets (or asset groups) included in Other (income) expenses, net on the Consolidated Statements of Operations were \$1.0 million, \$0.8 million and \$0.6 million in 2021, 2020 and 2019, respectively.

Critical Estimate—Asset Impairment

The determination of a long-lived asset (or asset group) impairment involves significant judgments based upon short-term and long-term projections of future asset (or asset group) performance. If the undiscounted cash flows associated with an asset (or asset group) do not exceed the asset's book value, impairment loss estimates would be based upon the difference between the book value and fair value of the asset (or asset group). The fair value is generally based upon the Company's estimate of the amount that the assets (or asset group) could be bought or sold for in a transaction between willing parties. If quoted market prices for the asset (or asset group) or similar assets are unavailable, the fair value estimate is generally calculated using a DCF model. Should circumstances change that affect these estimates, additional impairment charges may be required and would be recorded through income in the period the change was determined.

The Company has not materially changed its methodology for calculating long-lived asset impairments for the years presented. U.S. GAAP requires consideration of all valuation techniques for which market participant inputs can be obtained without undue cost and effort. The use of a DCF model continues to be an appropriate method for determining fair value; however, methodologies such as quoted market prices must also be evaluated.

Because of the lower-than-expected results for the Altek Group of the Harsco Environmental Segment for 2021 due to the timing of customer orders, the Company tested Altek's asset group's recoverability in the fourth quarter of 2021. The asset group primarily consists of intangible assets which had a carrying value of \$39.9 million at the measurement date. Recoverability of the carrying value of the asset groups was based upon estimated future cash flows while taking into consideration various assumptions and estimates, including future use of the assets, remaining useful life of the assets, and eventual disposition of the assets. Undiscounted estimated cash flows of the Altek asset group exceeded the carrying value, therefore, no impairment was recorded. If actual results prove inconsistent with the Company's assumptions and judgments, it could result in impairment of the Altek intangible assets in future periods.

See Note 18, Other (Income) Expenses, Net in Part II, Item 8, "Financial Statements and Supplementary Data," for additional information.

Inventories

Inventory balances are adjusted for estimated obsolete or unmarketable inventory equal to the difference between the cost of inventory and its net realizable value or estimated market value, as applicable. At December 31, 2021 and 2020, inventories of \$70.5 million and \$61.0 million, respectively, are net of reserves of \$5.1 million and \$4.7 million, respectively.

Critical Estimate—Inventories

In assessing the realization of inventory balances, the Company is required to make judgments as to future demand and compare these with current or committed inventory levels. If actual market conditions are determined to be less favorable than those projected by management, additional inventory write-downs may be required and would be recorded through Operating income from continuing operations in the period the determination is made. Additionally, the Company records reserves to adjust a substantial portion of its U.S. inventory balances to the LIFO method of inventory valuation. In adjusting these reserves throughout the year, the Company estimates its year-end inventory costs and quantities. At December 31 of each year, the reserves are adjusted to reflect actual year-end inventory costs and quantities. During periods of inflation, LIFO expense usually increases and during periods of deflation it decreases. These year-end adjustments resulted in pre-tax expense of \$0.5 million in 2021, pre-tax income of \$0.2 million in 2020 and pre-tax income of \$0.4 million in 2019.

The Company has not materially changed its methodology for calculating inventory reserves for the years presented. See Note 5, Inventories, in Part II, Item 8, "Financial Statements and Supplementary Data," for additional information.

Revenue Recognition - Cost-to-Cost Method

For certain contracts with customers, which meet specific criteria established in U.S. GAAP, the Company recognizes revenue on an over time basis utilizing an input method based on costs incurred ("cost-to-cost method") to measure progress, which

requires the Company to make estimates regarding the revenues and costs associated with design, manufacturing and delivery of products.

Critical Estimate-Revenue Recognition - Cost-to-Cost Method

The Company uses the cost-to-cost method to measure progress because it is the measure that best depicts the transfer of control to the customer, which occurs as the Company incurs costs under the contracts. Under the cost-to-cost method, the extent of progress towards completion is based on the ratio of costs incurred to total estimated costs at completion which includes both actual costs already incurred and the estimated costs to complete. Accounting for contracts with customers using the cost-to-cost method requires significant judgment relative to assessing risks, estimating contract revenues (including estimates of variable consideration, if applicable, as well as estimating any liquidating damages or penalties related to performance); estimating contract costs (including estimating engineering costs to design the machine and the material, labor and overhead manufacturing costs to build the machine); making assumptions for schedule and technical items; properly executing the engineering and design phases consistent with customer expectations; the availability and costs of labor and material resources; productivity; and evaluating whether a significant financing component is present. Due to the number of years it may take to complete certain contracts and the scope and nature of the work required to be performed on those contracts, primarily in the former Harsco Rail Segment's business, estimating total revenues and costs at completion is inherently complicated and subject to many variables. Accordingly, estimates are subject to change as experience is gained and as more information is obtained, even though the scope of the work under the contract may not have changed. When adjustments in estimated total contract sales or estimated total costs are required, any changes from prior estimates are recognized in current period earnings for the inception-to-date effect of such changes. When estimates of total costs to be incurred on a contract using the cost-to-cost method exceed estimates of total sales to be earned, a provision for the entire loss on the contract is recorded in current period earnings when the loss is determined. Railway track maintenance equipment revenue of approximately \$102 million was recognized using the cost-to-cost method in 2021, the net profit or loss of which is included, in Income (loss) from discontinued businesses in the Consolidated Statement of Operations.

The Company's former Harsco Rail Segment is currently manufacturing highly-engineered equipment under large long-term fixed-price contracts with the SBB, the infrastructure manager for most of the railway in the U.K. ("Network Rail"), and the national railway company in Germany ("Deutsche Bahn"). Post-engineering, the Company has made significant progress in the development of the prototype/initial units for certain portions of these contracts during the fourth quarter of 2021, which has provided clarity in terms of material requirements and associated cost impacts. As a result, in the fourth quarter of 2021, the Company recognized estimate forward loss provisions related to these contracts of \$33.4 million. The principal driver of the provisions was recent expected cost inflation for all contracts, including for vendors in Europe who perform the manufacturing and assembly of certain equipment under these contracts. In addition, the estimate for liquidated damages for delivery delays for the Network Rail contract was increased based on the current status of negotiations with the customer during the quarter, as well as delayed prototype build and the resulting delayed delivery schedule. The estimated forward loss provision represents the Company's best estimate based on currently available information. It is possible that the Company's overall estimate of costs to complete these contracts may increase, which would result in an additional estimated forward loss provision at such time.

The first contract with SBB is complete, and the second contract with SBB is 78% complete as of December 31, 2021. The contracts with Network Rail and Deutsche Bahn are 42% and 18% complete, respectively, as of December 31, 2021.

Insurance Reserves

The Company retains a significant portion of the risk for U.S. workers' compensation, U.K. employers' liability, automobile, general and product liability losses. At December 31, 2021 and 2020, the Company recorded liabilities of \$28.3 million and \$27.3 million, respectively, related to both asserted and unasserted insurance claims. At December 31, 2021 and 2020, \$4.1 million and \$5.2 million, respectively, was included in insurance liabilities related to claims covered by insurance carriers for which a corresponding receivable has been recorded.

Critical Estimate—Insurance Reserves

Insurance reserves have been recorded based upon actuarial calculations that reflect the undiscounted estimated liabilities for ultimate losses, including claims incurred but not reported. Inherent in these estimates are assumptions that are based on the Company's history of claims and losses, a detailed analysis of existing claims with respect to potential value and current legal and legislative trends. If actual claims differ from those projected by management, increases or decreases to insurance reserves may be required and would be recorded through Operating income from continuing operations in the period the change was determined. During 2021, 2020 and 2019, the Company recorded insurance reserve adjustments that decreased pre-tax insurance expense from continuing operations for self-insured programs by \$0.2 million, \$1.3 million and \$0.8 million, respectively. The Company has programs in place to improve claims experience, such as disciplined claim and insurance litigation management and a focused approach to workplace safety.

The Company has not materially changed its methodology for calculating insurance reserves for the years presented. There are currently no known trends, demands, commitments, events or uncertainties that are reasonably likely to occur that would materially affect the methodology or assumptions described above. See Note 1, Summary of Significant Accounting Policies, in Part II, Item 8, "Financial Statements and Supplementary Data," for additional information.

Income Taxes

The Company's income tax expense, deferred tax assets and liabilities and reserves for uncertain tax positions reflect management's best estimate of taxes to be paid. The Company is subject to various international, federal, state and local income taxes in jurisdictions where the Company operates. In determining income tax expense, the Company makes its best estimate of the annual effective income tax rate at the end of each quarter and applies that rate to year-to-date income (loss) before income taxes to arrive at the year-to-date income tax provision (exclusive of loss jurisdictions for which no tax benefit is realizable with any discrete tax items recorded separately). At December 31, 2021, 2020 and 2019, the Company's annual effective income tax rate on income from continuing operations was 24.2%, 16.0% and 41.0%, respectively.

Critical Estimate—Income Taxes

Annual effective income tax rates are estimated by giving recognition to currently enacted tax rates, tax holidays, tax credits, capital losses and tax deductions as well as certain exempt income and non-deductible expenses for all jurisdictions where the Company operates. Quarterly income tax provisions incorporate any change in the year-to-date provision from the previous quarterly periods.

The Company records deferred tax assets to the extent the Company believes these assets will more likely than not be realized. In making such determinations, the Company considers all available evidence, including future reversals of existing deferred tax liabilities, projected future taxable income, feasible and prudent tax planning strategies and recent financial operating results. If the Company determines that it will not be able to realize deferred income tax assets in the future, a valuation allowance is recorded. If sufficient positive evidence arises in the future indicating that all or a portion of the deferred tax assets meet the more likely than not standard for realization, the valuation allowance would be reduced accordingly in the period that such a conclusion is reached.

Valuation allowances of \$92.4 million and \$108.6 million at December 31, 2021 and 2020, respectively, related principally to deferred tax assets for pension liabilities, NOLs, foreign tax credit carryforwards and foreign currency translation that are uncertain as to realizability. In 2021, the Company recorded a valuation allowance reduction of \$19.3 million related to current year pension adjustment recorded through AOCI, a valuation allowance reduction of \$6.8 million in Brazil where the Company determined that it is more likely than not that these assets will be realized, and a valuation allowance reduction of \$3.5 million from the effects of foreign currency translation adjustments, partially offset by a \$14.4 million valuation allowance increase related to the UK tax rate change, and a \$4.8 million valuation allowance related to disallowed interest expense.

An income tax benefit from an uncertain tax position may be recognized when it is more likely than not that the position will be sustained upon examination, including resolutions of any related appeals or litigation processes, based on its technical merits. The unrecognized tax benefits at December 31, 2021 and 2020 were \$3.1 and \$2.9 million, respectively, excluding accrued interest and penalties. The unrecognized income tax benefit may decrease as a result of the lapse of statute of limitations or as a result of final settlement and resolution of outstanding tax matters in various state and international jurisdictions.

The Company has not materially changed the methodology for calculating income tax expense, deferred tax assets and liabilities and reserves for uncertain tax positions for the years presented or for quarterly periods. See Note 11, Income Taxes, in Part II, Item 8, "Financial Statements and Supplementary Data," for additional information.

Recently Adopted and Recently Issued Accounting Standards

Information on recently adopted and recently issued accounting standards is included in Note 2, Recently Adopted and Recently Issued Accounting Standards, in Part II, Item 8, "Financial Statements and Supplementary Data."

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

See the Risk Factors captioned "Exchange rate fluctuations may adversely impact the Company's business," "The Company is exposed to counterparty risk in its derivative financial arrangements" and "The Company's variable rate indebtedness subjects it to interest rate risk, which could cause the Company's debt service obligations to increase significantly" in Part I, Item 1A, "Risk Factors," for quantitative and qualitative disclosures about market risk.

Item 8. Financial Statements and Supplementary Data.

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Management's Report on Internal Control Over Financial Reporting

Management of Harsco Corporation, together with its consolidated subsidiaries (the "Company"), is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Securities Exchange Act of 1934 Rule 13a-15(f) or 15d-15(f). The Company's internal control over financial reporting is a process designed under the supervision of the Company's principal executive and principal financial officers to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the Company's consolidated financial statements for external reporting purposes in accordance with accounting principles generally accepted in the United States of America.

The Company's internal control over financial reporting includes policies and procedures that:

- Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect transactions and dispositions of assets of the Company;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of consolidated financial statements in accordance with accounting principles generally accepted in the United States of America, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and the directors of the Company; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the Company's consolidated financial statements.

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

Management has assessed the effectiveness of its internal control over financial reporting as of December 31, 2021 based on the framework established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, management has determined that the Company's internal control over financial reporting was effective as of December 31, 2021.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2021 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report appearing in Part II, Item 8 of this Annual Report on Form 10-K.

/s/ F. NICHOLAS GRASBERGER III

F. Nicholas Grasberger III
Chairman, President and Chief Executive Officer
February 24, 2022

/s/ ANSHOOMAN AGA

Anshooman Aga
Senior Vice President and Chief Financial Officer
February 24, 2022

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of Harsco Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Harsco Corporation and its subsidiaries (the “Company”) as of December 31, 2021 and 2020, and the related consolidated statements of operations, of comprehensive income (loss), of changes in equity and of cash flows for each of the three years in the period ended December 31, 2021, including the related notes and financial statement schedule listed in the index appearing under Item 15(a)(2) (collectively referred to as the “consolidated financial statements”). We also have audited the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

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

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

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

Definition and Limitations of Internal Control over Financial Reporting

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

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

Critical Audit Matters

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

Goodwill Impairment Assessments – Environmental and Clean Earth Reporting Units

As described in Notes 1 and 7 to the consolidated financial statements, the Company's consolidated goodwill balance was \$883.1 million as of December 31, 2021, and the goodwill associated with the Environmental and Clean Earth reporting units was \$399.2 million and \$483.9 million, respectively. The Company performs the annual goodwill impairment test as of October 1, or more frequently if indicators of impairment exist, or if a decision is made to dispose of a business. If after assessing qualitative factors the Company determines it is "more-likely-than-not" that the fair value of a reporting unit is less than the carrying value, the Company compares the current fair value of the reporting unit to the carrying value, including goodwill. The Company uses a discounted cash flow model to estimate the current fair value of reporting units. A number of significant assumptions and estimates are involved in the preparation of the discounted cash flow model, including future revenues, operating margin growth, the weighted-average cost of capital, tax rates, capital spending, pension funding, the impact of business initiatives and working capital projections.

The principal considerations for our determination that performing procedures relating to the goodwill impairment assessments of the Environmental and Clean Earth reporting units is a critical audit matter are the significant judgment by management when developing the fair value measurements of the reporting units; this in turn led to a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's assumptions related to future revenues, operating margin growth, and the weighted-average costs of capital. In addition, the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's goodwill impairment assessments, including controls over the valuation of the Company's Environmental and Clean Earth reporting units. These procedures also included, among others (i) testing management's process for developing the fair value estimates, (ii) evaluating the appropriateness of the discounted cash flow models, (iii) testing the completeness and accuracy of underlying data used in the models, and (iv) evaluating the assumptions used by management related to future revenues, operating margin growth and the weighted-average costs of capital. Evaluating management's assumptions related to future revenues and operating margin growth involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of the reporting units, (ii) the consistency with external market and industry data, and (iii) whether these assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in the evaluation of the Company's discounted cash flow models and the weighted-average costs of capital assumptions.

Revenue Recognition using the Cost-to-Cost Method - Harsco Rail

As described in Notes 1 and 3 to the consolidated financial statements, Harsco Rail's total product revenues was \$266.2 million, which included approximately \$102 million related to revenue recognized over time using the cost-to-cost method. The Company uses the cost-to-cost method to measure progress because management believes it is the measure that best depicts the transfer of control to the customer, which occurs as costs are incurred under the contracts. Accounting for contracts with customers using the cost-to-cost method requires significant judgment relative to assessing risks, estimating contract revenues (including estimates of variable consideration, if applicable as well as estimating any liquidating damages or penalties related to performance), estimating contract costs (including engineering costs to design the machine and material, labor, and overhead manufacturing costs to build the machine); making assumptions for schedule and technical items, properly executing the engineering and design phases consistent with customer expectations, the availability and costs of labor and material resources; productivity; and evaluating whether a significant financing component is present.

The principal considerations for our determination that performing procedures relating to revenue recognition using the cost-to-cost method for Harsco Rail is a critical audit matter are the significant judgment by management when developing the estimated variable consideration and the costs to complete contracts; this in turn led to a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating management's assumptions related to liquidating damages, the engineering costs to design the machine and the material, labor, and overhead manufacturing costs to build the machine.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the revenue recognition process, including controls over the determination of estimated contract revenues and costs. The procedures also included, among others, evaluating and testing management's process for developing the estimated variable consideration and costs at completion for certain open contracts, which included evaluating the reasonableness of assumptions used by management related to liquidating damages, the engineering costs to design the machine and the material, labor, and overhead manufacturing costs to build the machine. Evaluating the reasonableness of the assumptions involved assessing management's ability to reasonably estimate variable consideration and costs to complete contracts by testing management's process for evaluating the Company's ability to properly develop the estimated variable consideration, including assessing the likelihood and amount of relief that will be negotiated with the customer, and costs to complete a contract, including comparing the actual cost of completed contracts to the estimated cost at completion for similar contracts, using actual costs to date to assess the reasonableness of the estimate of the remaining costs to complete the contract, and physically observing the progress of open contracts.

/s/ PricewaterhouseCoopers LLP

Philadelphia, Pennsylvania

February 24, 2022

We have served as the Company's auditor since at least 1933. We have not been able to determine the specific year we began serving as auditor of the Company.

HARSCO CORPORATION
CONSOLIDATED BALANCE SHEETS

(In thousands, except share amounts)	December 31 2021	December 31 2020
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 82,908	\$ 76,454
Restricted cash	4,220	3,215
Trade accounts receivable, net	377,881	355,313
Other receivables	33,059	31,208
Inventories	70,493	61,001
Prepaid expenses	31,065	30,645
Current portion of assets held-for-sale	265,413	247,477
Other current assets	9,934	10,510
Total current assets	874,973	815,823
Property, plant and equipment, net	653,913	630,354
Right-of-use assets, net	101,576	92,495
Goodwill	883,109	889,048
Intangible assets, net	402,801	435,116
Deferred income tax assets	17,883	10,368
Assets held-for-sale	71,234	69,906
Other assets	48,419	50,177
Total assets	\$ 3,053,908	\$ 2,993,287
LIABILITIES		
Current liabilities:		
Short-term borrowings	\$ 7,748	\$ 7,450
Current maturities of long-term debt	10,226	13,576
Accounts payable	186,126	164,102
Accrued compensation	48,165	44,382
Income taxes payable	6,378	3,403
Current portion of operating lease liabilities	25,590	23,117
Current portion of liabilities of assets held-for-sale	161,999	127,927
Other current liabilities	155,159	153,998
Total current liabilities	601,391	537,955
Long-term debt	1,359,446	1,271,189
Retirement plan liabilities	93,693	231,335
Operating lease liabilities	74,571	67,126
Liabilities of assets held-for-sale	8,492	52,851
Environmental liabilities	28,435	29,424
Deferred tax liabilities	33,826	36,192
Other liabilities	48,284	53,816
Total liabilities	2,248,138	2,279,888
COMMITMENTS AND CONTINGENCIES		
HARSCO CORPORATION STOCKHOLDERS' EQUITY		
Common stock, par value \$1.25 (issued 115,906,393 and 115,430,042 shares at December 31, 2021 and 2020, respectively)	144,883	144,288
Additional paid-in capital	215,528	204,078
Accumulated other comprehensive loss	(560,139)	(645,741)
Retained earnings	1,794,510	1,797,759
Treasury stock, at cost (36,690,847 and 36,505,672 shares at December 31, 2021 and 2020, respectively)	(846,622)	(843,230)
Total Harsco Corporation stockholders' equity	748,160	657,154
Noncontrolling interests	57,610	56,245
Total equity	805,770	713,399
Total liabilities and equity	\$ 3,053,908	\$ 2,993,287

See accompanying notes to consolidated financial statements.

HARSCO CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS

(In thousands, except per share amounts)	Years ended December 31		
	2021	2020	2019
Revenues from continuing operations:			
Service revenues	\$ 1,700,896	\$ 1,400,648	\$ 1,058,373
Product revenues	147,503	133,385	145,996
Total revenues	1,848,399	1,534,033	1,204,369
Costs and expenses from continuing operations:			
Cost of services sold	1,369,073	1,140,303	822,043
Cost of products sold	121,483	101,988	108,054
Selling, general and administrative expenses	272,233	284,442	205,177
Research and development expenses	956	534	886
Other (income) expenses, net	(3,722)	10,072	(8,194)
Total costs and expenses	1,760,023	1,537,339	1,127,966
Operating income (loss) from continuing operations	88,376	(3,306)	76,403
Interest income	2,231	2,129	1,946
Interest expense	(63,235)	(58,196)	(34,024)
Unused debt commitment fees, amendment fees and loss on extinguishment of debt	(5,506)	(1,920)	(7,704)
Defined benefit pension income (expense)	15,640	7,073	(5,556)
Income (loss) from continuing operations before income taxes and equity income	37,506	(54,220)	31,065
Income tax benefit (expense) from continuing operations	(9,089)	8,673	(12,728)
Equity in income (loss) of unconsolidated entities, net	(302)	186	273
Income (loss) from continuing operations	28,115	(45,361)	18,610
Discontinued operations:			
Gain on sale of discontinued businesses	—	18,281	569,135
Income (loss) from discontinued businesses	(25,863)	20,350	52,937
Income tax benefit (expense) from discontinued businesses	477	(15,245)	(128,464)
Income (loss) from discontinued operations, net of tax	(25,386)	23,386	493,608
Net income (loss)	2,729	(21,975)	512,218
Less: Net income attributable to noncontrolling interests	(5,978)	(4,366)	(8,299)
Net income (loss) attributable to Harsco Corporation	\$ (3,249)	\$ (26,341)	\$ 503,919
Amounts attributable to Harsco Corporation common stockholders:			
Income (loss) from continuing operations, net of tax	\$ 22,137	\$ (49,727)	\$ 10,311
Income (loss) from discontinued operations, net of tax	(25,386)	23,386	493,608
Net income (loss) attributable to Harsco Corporation common stockholders	\$ (3,249)	\$ (26,341)	\$ 503,919
Weighted average shares of common stock outstanding	79,234	78,939	79,632
Basic earnings (loss) per share attributable to Harsco Corporation common stockholders:			
Continuing operations	\$ 0.28	\$ (0.63)	\$ 0.13
Discontinued operations	(0.32)	0.30	6.20
Basic earnings (loss) per share attributable to Harsco Corporation common stockholders	\$ (0.04)	\$ (0.33)	\$ 6.33
Diluted weighted average shares of common stock outstanding	80,289	78,939	81,375
Diluted earnings (loss) per share attributable to Harsco Corporation common stockholders:			
Continuing operations	\$ 0.28	\$ (0.63)	\$ 0.13
Discontinued operations	(0.32)	0.30	6.07
Diluted earnings (loss) per share attributable to Harsco Corporation common stockholders	\$ (0.04)	\$ (0.33)	\$ 6.19 (a)

(a) Does not total due to rounding.

See accompanying notes to consolidated financial statements.

HARSCO CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

(In thousands)	Years ended December 31		
	2021	2020	2019
Net income (loss)	\$ 2,729	\$ (21,975)	\$ 512,218
Other comprehensive income (loss):			
Foreign currency translation adjustments, net of deferred income taxes of \$(23), \$1,284 and \$2,507 in 2021, 2020 and 2019, respectively	(10,994)	20,760	15,498
Net gain (loss) on cash flow hedging instruments, net of deferred income taxes of \$(797), \$79 and \$1,438 in 2021, 2020 and 2019, respectively	2,816	(2,123)	(5,106)
Pension liability adjustments, net of deferred income taxes of \$(5,409), \$384 and \$(3,244) in 2021, 2020 and 2019, respectively	92,252	(73,938)	(10,478)
Unrealized gain (loss) on marketable securities, net of deferred income taxes of \$(12), \$2 and \$(11) in 2021, 2020 and 2019, respectively	31	(6)	28
Total other comprehensive income (loss)	84,105	(55,307)	(58)
Total comprehensive income (loss)	86,834	(77,282)	512,160
Less: Comprehensive income attributable to noncontrolling interests	(4,480)	(7,178)	(7,327)
Comprehensive income (loss) attributable to Harsco Corporation	\$ 82,354	\$ (84,460)	\$ 504,833

See accompanying notes to consolidated financial statements.

HARSCO CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)	Years ended December 31		
	2021	2020	2019
Cash flows from operating activities:			
Net income (loss)	\$ 2,729	\$ (21,975)	\$ 512,218
Adjustments to reconcile net income (loss) to net cash provided (used) by operating activities:			
Depreciation	131,449	125,765	119,803
Amortization	35,224	33,937	18,592
Loss on early extinguishment of debt	2,668	—	5,314
Deferred income tax expense (benefit)	(16,930)	1,115	6,815
Equity (income) loss of unconsolidated entities, net	302	(186)	(273)
Dividends from unconsolidated entities	269	216	125
Gain on sale from discontinued businesses	—	(18,281)	(569,135)
Other, net	2,062	310	1,764
Changes in assets and liabilities, net of acquisitions and dispositions of businesses:			
Accounts receivable	(19,781)	34,221	(3,464)
Income tax refunds receivable from acquisition, reimbursable to seller	2,870	(11,032)	—
Insurance receivable	—	—	195,000
Inventories	(7,783)	(12,281)	(42,484)
Contract assets	(43,510)	(28,376)	(21,795)
Right-of-use-assets	28,300	25,400	15,164
Accounts payable	14,118	(14,452)	13,407
Accrued interest payable	(411)	(2,422)	14,723
Accrued compensation	6,469	2,921	(15,759)
Advances on contracts and other customer advances	(14,311)	10,492	(4,172)
Operating lease liabilities	(27,307)	(24,785)	(14,740)
Insurance liability	—	—	(195,000)
Income taxes payable - gain on sale of discontinued businesses	—	(12,373)	12,373
Retirement plan liabilities, net	(45,786)	(33,257)	(24,022)
Other assets and liabilities	21,556	(1,139)	(24,617)
Net cash provided (used) by operating activities	72,197	53,818	(163)
Cash flows from investing activities:			
Purchases of property, plant and equipment	(158,326)	(120,224)	(184,973)
Proceeds from sale of businesses	—	37,219	658,414
Purchase of businesses, net of cash acquired*	—	(432,855)	(623,495)
Proceeds from sales of assets	16,724	6,204	17,022
Expenditures for intangible assets	(358)	(317)	(1,311)
Proceeds from notes receivable	6,400	—	—
Purchase of equity method investment	—	—	(2,364)
Payments for interest rate swap terminations	—	—	(2,758)
Net proceeds (payments) from settlement of foreign currency forward exchange contracts	10,940	(10,519)	7,273
Other investing activities, net	171	(152)	—
Net cash used by investing activities	(124,449)	(520,644)	(132,192)
Cash flows from financing activities:			
Short-term borrowings, net	935	1,612	(5,398)
Current maturities and long-term debt:			
Additions	540,663	638,717	848,314
Reductions	(464,848)	(139,887)	(661,620)
Dividends paid to noncontrolling interests	(3,103)	(2,978)	(4,712)
Sale (purchase) of noncontrolling interests	—	(561)	4,026
Stock-based compensation - Employee taxes paid	(3,392)	(4,303)	(11,234)
Common stock acquired for treasury	—	—	(31,838)
Payment of contingent consideration	(1,588)	(2,342)	—
Deferred financing costs	(7,828)	(1,928)	(11,272)
Other financing activities, net	(601)	(1,372)	(532)
Net cash provided by financing activities	60,238	486,958	125,734

HARSCO CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS (Continued)

(In thousands)	Years ended December 31		
	2021	2020	2019
Effect of exchange rate changes on cash, including restricted cash	(527)	(195)	(793)
Net increase (decrease) in cash and cash equivalents, including restricted cash	7,459	19,937	(7,414)
Cash and cash equivalents, including restricted cash, at beginning of period	79,669	59,732	67,146
Cash and cash equivalents, including restricted cash, at end of period	\$ 87,128	\$ 79,669	\$ 59,732
Supplementary cash flow information:			
Change in accrual for purchases of property, plant and equipment included in accounts payable	\$ 4,253	\$ 3,559	\$ 5,164
*Purchase of businesses, net of cash acquired			
Working capital	\$ 532	\$ (33,387)	\$ (26,663)
Property, plant and equipment	823	(102,258)	(77,295)
Goodwill	(1,232)	(153,562)	(330,230)
Long-term debt acquired	—	—	605
Other noncurrent assets and liabilities, net	(123)	(143,648)	(189,912)
Net cash used to acquire businesses	\$ —	\$ (432,855)	\$ (623,495)

See accompanying notes to consolidated financial statements.

HARSCO CORPORATION
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(In thousands, except share and per share amounts)	Common Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Noncontrolling Interests	Total
	Issued	Treasury					
Balances, January 1, 2019	\$ 141,842	\$ (795,821)	\$ 190,597	\$ 1,298,752	\$ (567,107)	\$ 45,113	\$ 313,376
Adoption of new accounting standard				21,429	(21,429)		—
Net income				503,919		8,299	512,218
Cash dividends declared:							
Noncontrolling interests						(4,693)	(4,693)
Total other comprehensive income (loss), net of deferred income taxes of \$690					914	(972)	(58)
Sale of investment in consolidated subsidiary						4,026	4,026
Strategic Venture Exit						(3,694)	(3,694)
Stock appreciation rights exercised, net 11,246 shares	20	(117)	(20)				(117)
Vesting of restricted stock units and other stock grants, net 196,102 shares	402	(2,882)	(402)				(2,882)
Vesting of performance share units, net 529,213 shares	1,136	(8,235)	(1,149)				(8,248)
Treasury shares repurchased, 1,766,826 shares		(31,838)					(31,838)
Amortization of unearned stock-based compensation, net of forfeitures			11,569				11,569
Balances, December 31, 2019	143,400	(838,893)	200,595	1,824,100	(587,622)	48,079	789,659
Net income (loss)				(26,341)		4,366	(21,975)
Cash dividends declared:							
Noncontrolling interests						(2,978)	(2,978)
Total other comprehensive income (loss), net of deferred income taxes of \$1,749					(58,119)	2,812	(55,307)
Purchase of noncontrolling interest			(4,527)			3,966	(561)
Stock appreciation rights exercised, net 6,236 shares	11	(24)	(11)				(24)
Vesting of restricted stock units and other stock grants, net 138,225 shares	288	(1,108)	(288)				(1,108)
Vesting of performance share units, net 265,151 shares	589	(3,205)	(589)				(3,205)
Amortization of unearned stock-based compensation, net of forfeitures			8,898				8,898
Balances, December 31, 2020	144,288	(843,230)	204,078	1,797,759	(645,741)	56,245	713,399
Net income (loss)				(3,249)		5,978	2,729
Cash dividends declared:							
Noncontrolling interests						(3,116)	(3,116)
Total other comprehensive income (loss), net of deferred income taxes of \$(6,241)					85,602	(1,497)	84,105
Stock appreciation rights exercised, net 28,789 shares	58	(376)	(58)				(376)
Vesting of restricted stock units and other stock grants, net 193,260 shares	382	(1,983)	(382)				(1,983)
Vesting of performance share units, 69,127 net shares	155	(1,033)	(155)				(1,033)
Amortization of unearned stock-based compensation, net of forfeitures			12,045				12,045
Balances, December 31, 2021	\$ 144,883	\$ (846,622)	\$ 215,528	\$ 1,794,510	\$ (560,139)	\$ 57,610	\$ 805,770

See accompanying notes to consolidated financial statements.

HARSCO CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Summary of Significant Accounting Policies

Consolidation

The consolidated financial statements include all accounts of Harsco Corporation (the "Company"), all entities in which the Company has a controlling voting interest and variable interest entities required to be consolidated in accordance with U.S. GAAP. Intercompany accounts and transactions have been eliminated among consolidated entities. The Company's management has evaluated all activity of the Company and concluded that subsequent events are properly reflected in the Company's consolidated financial statements and notes as required by U.S. GAAP.

Reclassifications

Certain reclassifications have been made to prior year amounts to conform with current year classifications.

Cash and Cash Equivalents

Cash and cash equivalents include cash on hand, demand deposits and short-term investments that are highly liquid in nature and have an original maturity of three months or less.

Restricted Cash

The Company had restricted cash of \$4.2 million and \$3.2 million at December 31, 2021 and 2020, respectively, and the restrictions are primarily related to collateral provided for certain guarantees of the Company's performance.

Accounts Receivable

Accounts receivable are stated at net realizable value which represents the face value of the receivable less an allowance for expected credit losses. The allowance for expected credit losses is maintained for expected lifetime losses resulting from the inability or unwillingness of customers to make required payments.

The Company's expected credit loss allowance methodology for accounts receivable is developed using historical collection experience, current and future economic and market conditions and a review of the current status of customers' trade accounts receivables. When required, the Company adjusts the loss-rate methodology to account for current conditions and reasonable and supportable expectations of future economic and market conditions. The Company generally assesses future economic conditions for a period which corresponds with the contractual life of its accounts receivable. Additionally, specific allowance amounts are established to record the appropriate provision for customers that have a higher probability of default.

Inventories

Inventories are accounted for using the average cost, first-in, first-out ("FIFO"), or last-in, first-out ("LIFO") method. Inventory accounted for under the average cost and FIFO methods are stated at the lower of cost or net realizable value. Inventory accounted for under the LIFO method is stated at the lower of cost or market. See Note 5, Inventories, for additional information.

Depreciation

Property, plant and equipment is recorded at cost and depreciated over the estimated useful lives of the assets using, principally, the straight-line method. When property, plant and equipment is retired from service, the cost of the retirement is charged to the allowance for depreciation to the extent of the accumulated depreciation and the balance is charged to income. Long-lived assets to be disposed of by sale are not depreciated while they are classified as held-for-sale.

Leases

The Company leases certain property and equipment under noncancelable lease agreements. The Company determines if a contract or arrangement contains a lease at inception. All leases are evaluated and classified as either an operating or finance lease. A lease is classified as a finance lease if any of the following criteria are met: (i) ownership of the underlying asset transfers to the Company by the end of the lease term; (ii) the lease contains an option to purchase the underlying asset that the Company is reasonably expected to exercise; (iii) the lease term is for a major part of the remaining economic life of the underlying asset; (iv) the present value of the sum of lease payments and any residual value guaranteed by the Company equals or exceeds substantially all of the fair value of the underlying asset; or (v) the underlying asset is of a specialized nature that it is expected to have no alternative use to the lessor at the end of the lease term. A lease that does not meet any of the criteria to be classified as a finance lease is classified as an operating lease.

Operating leases are included as Right-of-use assets, net, Current portion of operating lease liabilities, and Operating lease liabilities on the Consolidated Balance Sheets. ROU assets and operating lease liabilities are recognized based on the present value of the future lease payments over the lease term at the commencement date. As most of the Company's leases do not provide an implicit rate for use in determining the present value of future payments, the Company uses an incremental borrowing rate. This incremental borrowing rate reflects the creditworthiness of the Company for a lending period commensurate to the term of the lease and the standard lending practices related to such loans in the respective jurisdiction where the underlying assets are located. ROU assets also include any lease payments made and exclude any lease incentives and initial direct costs incurred. Lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term, including rent abatement periods and rent holidays. Certain of the Company's leases are subject to annual changes in an index or are subject to adjustments for which the amounts are not readily determinable at lease inception. While lease liabilities are not remeasured as a result of changes to these costs, changes are treated as variable lease payments and recognized in the period in which the obligation for those payments was incurred.

Finance leases are included as Property, plant and equipment, net; Current maturities of long-term debt and Long-term debt on the Consolidated Balance Sheets. Finance lease costs are split between depreciation expense related to the asset and interest expense on the lease liability, using the effective rate charged by the lessor.

The Company has lease agreements with both lease and non-lease components, which the Company has elected to account for as a single lease component. Additionally, the Company has elected not to record short-term leases, those with expected terms of twelve months or less, on the Consolidated Balance Sheets. Certain lease agreements include fixed escalations, while others include rental payments adjusted periodically for inflation. See Note 8, Debt and Credit Agreements, and Note 9, Leases, for additional information on leases.

Business Combinations and Goodwill

The Company accounts for business combinations using the acquisition method of accounting, which requires that once control is obtained, all assets acquired and liabilities assumed, including amounts attributable to noncontrolling interests, be recorded at their respective fair values at the date of acquisition. The excess of purchase price over the fair values of identifiable assets and liabilities is recorded as goodwill. The determination of fair value of assets acquired and liabilities assumed requires numerous estimates and assumptions with respect to the timing and amounts of cash flow projections, revenue growth rates, customer attrition rates, discount rates and useful lives. Such estimates are based upon assumptions believed to be reasonable, and, when appropriate, include assistance from independent third-party valuation firms. During the measurement period, which is up to one year from the acquisition date, the Company may record adjustments to the assets acquired and liabilities assumed, with corresponding offsets to goodwill.

In accordance with U.S. GAAP, goodwill is not amortized and is tested for impairment at least annually or more frequently if indicators of impairment exist or if a decision is made to dispose of a business. Goodwill is allocated among and evaluated for impairment at the reporting unit level, which is defined as an operating segment or one level below an operating segment for which discrete financial information is available. A significant amount of judgment is involved in determining if an indicator of impairment has occurred. Such indicators may include declining cash flows or operating losses at the reporting unit level, a significant adverse change in legal factors or in the business climate, an adverse action or assessment by a regulator, unanticipated competition, a loss of key personnel or a more likely than not expectation that a reporting unit or a significant portion of a reporting unit will be sold or otherwise disposed of, among others.

In applying the goodwill impairment test, the Company has the option to perform a qualitative test or a quantitative test. Under the qualitative test, the Company assesses qualitative factors to determine whether it is more likely than not that the fair value of the reporting units is less than its carrying value. Qualitative factors may include, but are not limited to, economic conditions, industry and market considerations, cost factors, overall financial performance of the reporting unit and other entity and reporting unit specific events. If after assessing these qualitative factors, the Company determines it is "more-likely-than-not" that the fair value of the reporting unit is less than the carrying value, the Company would perform a quantitative test.

The quantitative approach of testing for goodwill impairment involves comparing the current fair value of each reporting unit to the carrying value, including goodwill. The Company uses a discounted cash flow model ("DCF model") to estimate the current fair value of reporting units, as management believes forecasted operating cash flows are the best indicator of current fair value. A number of significant assumptions and estimates are involved in the preparation of DCF models including future revenues and operating margin growth, the weighted-average cost of capital ("WACC"), tax rates, capital spending, pension funding, the impact of business initiatives and working capital projections. These assumptions and estimates may vary significantly among reporting units. DCF models are based on approved long-range plans for the early years and historical relationships and projections for later years. WACC rates are derived from internal and external factors including, but not

limited to, the average market price of the Company's stock, shares outstanding, book value of the Company's debt, the long-term risk-free interest rate, and both market and size-specific risk premiums. Due to the many variables noted above and the relative size of the Company's goodwill, differences in assumptions may have a material impact on the results of the Company's annual goodwill impairment testing. If the net book value of a reporting unit were to exceed the Company's determination of the current fair value, then an impairment charge would be recognized as the difference between the fair value and the carrying value. See Note 7, Goodwill and Other Intangible Assets, for additional information.

Long-Lived Assets Impairments (Other than Goodwill)

Long-lived assets or asset groups are reviewed for impairment when events and circumstances indicate that the carrying amount of an asset or asset group may not be recoverable. Long-lived assets or asset groups are reviewed for impairment when events and circumstances indicate the book value of an asset or asset group may be impaired. The Company's policy is to determine if an impairment loss exists when it is determined that the carrying amount of the asset or asset group exceeds the sum of the expected undiscounted future cash flows resulting from use of the asset or asset group and its eventual disposition. Impairment losses are measured as the amount by which the carrying amount of the asset or asset group exceeds its fair value, normally as determined in either open market transactions or through the use of a DCF model. Long-lived assets or asset groups to be disposed of are reported at the lower of the carrying amount or fair value less cost to sell. See Note 18, Other (Income) Expenses, Net for additional information.

Deferred Financing Costs

The Company has incurred debt issuance costs which are recognized as a reduction of Long-term debt on the Consolidated Balance Sheets. Debt issuance costs are amortized and recognized as interest expense over the contractual term of the related indebtedness or shorter period if appropriate based upon contractual terms. Whenever indebtedness is modified from its original terms, an evaluation is made whether an accounting modification or extinguishment has occurred in order to determine the accounting treatment for debt issuance costs related to the debt modification.

Revenue Recognition

The Company recognizes revenues to depict the transfer of promised services and products to customers in an amount that reflects the consideration the Company expects to receive in exchange for those services or products. Service revenues include the Harsco Clean Earth Segment and the service components of the Harsco Environmental Segment. Product revenues include portions of the Harsco Environmental Segment.

Harsco Environmental - This Segment provides on-site services, under long-term contracts, for material logistics; product quality improvement and resource recovery from iron, steel and metals manufacturing; manufactures and sells industrial abrasives and roofing granule products; and manufactures aluminum dross and scrap processing systems.

- Service revenues are recognized over time as the customer simultaneously receives the benefits provided by the Company's performance. The Company utilizes an output method based on work performed (liquid steel tons processed, weight of material handled, etc.) to measure progress, which is deemed to best depict the transfer of value to the customer and revenue earned by the Company. Transaction prices are based on contractual terms, which may include both fixed and variable portions. The fixed portion is recognized as earned (normally monthly) over the contractual period. The variable portion is recognized as services are performed and differs based on the volume of services performed. Given the long-term nature of these arrangements, most contracts permit periodic adjustment of either the variable or both the fixed and variable portions based on the changes in macroeconomic indicators, including changes in commodity prices. Transaction prices, when the standalone selling price is not directly observable, are allocated to performance obligations utilizing an expected cost plus a margin approach. Amounts are typically billed and payable on a monthly basis as services are performed.
- Product revenues are recognized at the point when control transfers to the customer. Control generally transfers at the point of shipment for domestic orders and in accordance with the international commercial terms included in contracts for export sales. Transaction prices are based on contractual terms, which are generally fixed and when the standalone selling price is not directly observable, allocated to performance obligations utilizing an adjusted market assessment approach. Amounts are billed and payable upon completion of each transaction.
- Product revenues in the aluminum dross and scrap process systems business are generally recognized over time as control is transferred to the customer. Control transfers over time because aluminum dross and scrap systems are customized, have no alternate use and the Company has an enforceable right to payment. The Company utilizes an input method based on costs incurred ("cost-to-cost method") to measure progress, which is deemed to best depict the transfer of value to the customer and revenue earned by the Company. Transaction prices are based on contractual terms, which are generally fixed, and when the standalone selling price is not directly observable, allocated to performance obligations utilizing an adjusted market assessment approach. The Company may receive periodic

payments associated with key milestones with any remaining consideration billed and payable upon completion of the transaction.

Harsco Clean Earth - This Segment provides specialty waste processing and beneficial reuse solutions for hazardous wastes, and soil and dredged materials.

- Revenues are recognized over time as the customer simultaneously receives the benefits provided by the Company's performance. The Company utilizes an output method based on the amount of materials received for processing to measure progress, which is deemed to best depict the transfer of value to the customer and revenue earned by the Company. Transaction prices are based on contractual terms which are principally variable based on volume and recognized as services are performed. Transaction prices, when the standalone selling price is not directly observable, are allocated to performance obligations utilizing an expected cost plus a margin approach. Amounts are typically billed and payable on a monthly basis.

Harsco Rail - This business sells railway track maintenance equipment, after-market parts, Protran/safety equipment and provides railway track maintenance services.

- For standard railway track maintenance equipment sales, revenue is recognized at the point when control transfers to the customer. Control generally transfers at the point of shipment for domestic orders and in accordance with the international commercial terms included in contracts for export sales. In certain railway track maintenance equipment sales, revenue is recognized over time because such equipment is highly customized, has no alternate use and the Company has an enforceable right to payment. The former Harsco Rail Segment uses the cost-to-cost method to measure progress because it is the measure that best depicts the transfer of control to the customer, which occurs as the former Harsco Rail Segment incurs costs under the contracts. Under the cost-to-cost method, the extent of progress towards completion is based on the ratio of costs incurred to total estimated costs at completion which includes both actual costs already incurred and the estimated costs to complete. Accounting for contracts with customers using the cost-to-cost method requires significant judgment relative to assessing risks, estimating contract revenues (including estimates of variable consideration, if applicable, as well as estimating any liquidating damages or penalties related to performance), estimating contract costs (including estimating engineering costs to design the machine and the material, labor and overhead manufacturing costs to build the machine); making assumptions for schedule and technical items; properly executing the engineering and design phases consistent with customer expectations; the availability and costs of labor and material resources; productivity; and evaluating whether a significant financing component is present. Due to the number of years it may take to complete certain contracts and the scope and nature of the work required to be performed on those contracts, estimating total revenues and costs at completion is inherently complicated and subject to many variables. Transaction prices are based on contracted terms, which are generally fixed, and when the standalone selling price is not directly observable, allocated to performance obligations utilizing either the adjusted market assessment or expected cost plus a margin approach. For certain transactions, the Company receives periodic payments associated with key milestones. In limited instances, those payments are intended to provide financing with such transactions being treated as including a significant financing component. Any remaining consideration is billed and payable upon completion of the transaction. Railway track maintenance equipment revenue of approximately \$102 million was recognized using the cost-to-cost method in 2021, the net profit or loss of which is included in Income (loss) from discontinued businesses in the Consolidated Statements of Operations.
- For after-market parts sales and Protran/safety equipment, revenue is recognized at the point when control transfers to the customer. Control generally transfers to the customer at the point of shipment for domestic orders and in accordance with the international commercial terms included in contracts for export sales. Transaction prices are based on contracted terms, which are generally fixed, and when the standalone selling price is not directly observable, allocated to performance obligations utilizing an adjusted market assessment approach. Amounts are billed and payable upon completion of each contract.
- For railway track maintenance services, revenue is recognized over time as the customer simultaneously receives the benefits provided by the Company's performance. The Company utilizes an appropriate output method based on work performed (feet, miles, shifts worked, etc.) to measure progress, which is deemed to best depict the transfer of value to the customer and revenue earned by the Company. Transaction prices are based on contracted terms, which are generally variable. The variable portion is recognized as services are performed and differs based on the value of services. Given the long-term nature of these arrangements, most contracts permit periodic adjustment based on the changes in macroeconomic indicators. Transaction prices, when the standalone selling price is not directly observable, are allocated to performance obligations utilizing an expected cost plus a margin approach. Amounts are typically billed and payable on a monthly basis as services are performed.

The Company has elected to utilize the following practical expedients on an ongoing basis:

- The Company has not adjusted the promised amount of consideration for the effects of a significant financing component if the Company expects, at contract inception, that the period between when the Company transfers the promised good or services to the customer and when the customer pays for that good or service would be one year or less; and
- The Company has elected to exclude disclosures related to unsatisfied performance obligations where the related contract has a duration of one year or less; or where the consideration is entirely variable. Accordingly, the Company's disclosure related to unsatisfied performance obligations is limited to the fixed portion of fees related to metals services in the Harsco Environmental Segment.

Taxes assessed by governmental authorities that are both imposed on and concurrent with a specific revenue-producing transaction, that are collected by the Company from a customer, are excluded from revenue. Additionally, in certain contracts, the Company facilitates shipping and handling activities after control has transferred to the customer. The Company has elected to record all shipping and handling activities as costs to fulfill a contract. In situations where the shipping and handling costs have not been incurred at the time revenue is recognized, the respective shipping and handling costs are accrued.

Income Taxes

The Company accounts for income taxes under the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of the events that have been included in the consolidated financial statements. Under this method, deferred tax assets and liabilities are determined based on the differences between the consolidated financial statements and tax bases of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date.

The Company records deferred tax assets to the extent that the Company believes that these assets will more likely than not be realized. In making such determinations, the Company considers all available positive and negative evidence, including future reversals of existing deferred tax liabilities, projected future taxable income, tax planning strategies and recent financial results. If the Company determines that it will not be able to realize deferred income tax assets in the future, a valuation allowance is recorded. If sufficient positive evidence arises in the future indicating that all or a portion of the deferred tax assets meet the more likely than not standard for realization, the valuation allowance would be reduced accordingly in the period that such a conclusion is reached.

The Company prepares and files tax returns based on interpretation of tax laws and regulations and records its provision for income taxes based on these interpretations. Uncertainties may exist in estimating the Company's tax provisions and in filing tax returns in the many jurisdictions in which the Company operates, and as a result these interpretations may give rise to an uncertain tax position. The tax benefit from an uncertain tax position is recognized when it is more likely than not that the position will be sustained upon examination, including resolutions of any related appeals or litigation processes, based on its technical merits. Each subsequent period the Company determines if existing or new uncertain tax positions meet a more likely than not recognition threshold and adjusts accordingly.

The Company recognizes interest and penalties related to unrecognized tax benefits within Income tax expense in the accompanying Consolidated Statements of Operations. Liabilities for uncertain tax positions are included in Other liabilities on the Consolidated Balance Sheets.

The significant assumptions and estimates described in the preceding paragraphs are important contributors to the effective tax rate each year.

See Note 11, Income Taxes, for additional information.

Accrued Insurance and Loss Reserves

The Company retains a significant portion of the risk for certain U.S. workers' compensation, U.K. employers' liability, automobile, general and product liability losses. During 2021, 2020 and 2019, the Company recorded insurance expense from continuing operations related to these lines of coverage of \$25.6 million, \$21.1 million and \$12.5 million, respectively. Reserves have been recorded that reflect the undiscounted estimated liabilities including claims incurred but not reported. When a recognized liability is covered by third-party insurance, the Company records an insurance claim receivable to reflect the covered liability. Changes in the estimates of the reserves are included in net income(loss) in the period determined. During 2021, 2020 and 2019, the Company recorded insurance reserve adjustments that decreased pre-tax insurance expense

from continuing operations for self-insured programs by \$0.2 million, \$1.3 million and \$0.8 million, respectively. At December 31, 2021 and 2020, the Company has recorded liabilities of \$28.3 million and \$27.3 million, respectively, related to both asserted as well as unasserted insurance claims. Included in the balances at December 31, 2021 and 2020 were \$4.1 million and \$5.2 million, respectively, of recognized liabilities covered by insurance carriers. Amounts estimated to be paid within one year have been included in Other current liabilities, with the remainder included in Other liabilities, on the Consolidated Balance Sheets.

Foreign Currency Translation

The financial statements of the Company's subsidiaries outside the U.S., except for those subsidiaries located in highly inflationary economies and those entities for which the U.S. dollar is the currency of the primary economic environment in which the entity operates, are measured using the local currency as the functional currency. Assets and liabilities of these subsidiaries are translated at the exchange rates at the balance sheet date. Resulting translation adjustments are recorded in the cumulative translation adjustment account, a separate component of AOCI on the Consolidated Balance Sheets. Income and expense items are translated at average monthly exchange rates. Gains and losses from foreign currency transactions are included in Operating income from continuing operations. For subsidiaries operating in highly inflationary economies, and those entities for which the U.S. dollar is the currency of the primary economic environment in which the entity operates, gains and losses on foreign currency transactions and balance sheet translation adjustments are included in Operating income from continuing operations.

Financial Instruments and Hedging

The Company has operations throughout the world that are exposed to fluctuations in related foreign currencies in the normal course of business. The Company seeks to reduce exposure to foreign currency fluctuations through the use of forward exchange contracts. The Company does not hold or issue financial instruments for trading purposes and it is the Company's policy to prohibit the use of derivatives for speculative purposes. The Company has a Foreign Currency Risk Management Committee that meets periodically to monitor foreign currency risks.

The Company executes foreign currency exchange forward contracts to hedge transactions for firm purchase commitments, to hedge variable cash flows of forecasted transactions and for export sales denominated in foreign currencies. These contracts are generally for 90 days or less; however, where appropriate, longer-term contracts may be utilized. For those contracts that are designated as qualified cash flow hedges, gains or losses are recorded in AOCI on the Consolidated Balance Sheets.

The Company uses interest rate swaps in conjunction with certain debt issuances in order to secure a fixed interest rate. The interest rate swaps are recorded on the Consolidated Balance Sheets at fair value, with changes in value attributed to the effect of the swaps' interest spread and changes in the credit worthiness of the counter-parties recorded in AOCI.

Amounts recorded in AOCI on the Consolidated Balance Sheets are reclassified into income in the same period or periods during which the hedged forecasted transaction affects income. The cash flows from these contracts are classified consistent with the cash flows from the transaction being hedged (e.g., the cash flows related to contracts to hedge the purchase of fixed assets are included in cash flows from investing activities, etc.). The Company also enters into certain forward exchange contracts that are not designated as hedges. Gains and losses on these contracts are recognized in operations based on changes in fair market value. For fair value hedges of a firm commitment, the gain or loss on the derivative and the offsetting gain or loss on the hedged firm commitment are recognized currently in operations.

See Note 15, Financial Instruments, for additional information.

Earnings Per Share

Basic earnings per share are calculated using the weighted-average shares of common stock outstanding, while diluted earnings per share reflect the dilutive effects of stock-based compensation. Dilutive securities are not included in the computation of loss per share when the Company reports a net loss from continuing operations as the impact would be anti-dilutive. All share and per share amounts are restated for any stock splits and stock dividends that occur prior to the issuance of the financial statements. See Note 13, Capital Stock, for additional information.

Use of Estimates in the Preparation of Financial Statements

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses. Actual results could differ from those estimates.

Impact of COVID-19

Beginning in early 2020, overall global economic conditions were significantly impacted by COVID-19. The Company operated, since the onset of the pandemic, as a provider of certain essential services in the U.S. and other countries and overall business conditions have strengthened since the second quarter of 2020. The ultimate duration and impact of COVID-19 on the Company and its customers' operations is presently unclear, though the Company continues to operate as a provider of certain essential services in the U.S and other countries.

The Company did not record any long-lived asset impairments, indefinite-lived asset impairments, goodwill impairments, significant inventory write-downs or incremental accounts receivable reserves for current expected credit losses during the year ended December 31, 2021 related to COVID-19. However, such charges are possible in future periods, which could have an adverse effect on the Company's future results of operations, cash flows, or financial condition.

2. Recently Adopted and Recently Issued Accounting Standards

The following accounting standards have been adopted in 2021:

On January 1, 2021 the Company adopted changes issued by the FASB which are intended to reduce complexity and simplify the accounting for income taxes in accordance with U.S. GAAP by removing certain exceptions related to investments, intraperiod allocations and interim calculations and clarifying existing guidance to improve consistent application. These changes did not have a material impact on the Company's consolidated financial statements.

The following accounting standards have been issued and become effective for the Company at a future date:

In March 2020, the FASB issued changes that provide companies with optional guidance to ease the potential accounting burden associated with transitioning from reference rates that are expected to be discontinued. In response to the concerns about risks of IBORs and, particularly, the risk of cessation of LIBOR, regulators in several jurisdictions around the world have undertaken reference rate reform initiatives to identify alternative reference rates that are more observable or transaction-based and less susceptible to manipulation. The changes provide optional expedients and exceptions for applying U.S. GAAP to contracts, hedging relationships, and other transactions affected by reference rate reform if certain criteria are met. In January 2021, the FASB issued additional clarification changes. The changes can be adopted no later than December 31, 2022 with early adoption permitted. Management does not believe these changes will have a material impact on the Company's consolidated financial statements.

In August 2020, the FASB issued changes which simplified the accounting for certain financial instruments with characteristics of liabilities and equity, including convertible instruments and contracts on an entity's own equity. The changes become effective January 1, 2022. Management has concluded that this standard will not have an impact on the Company's consolidated financial statements.

In November 2021, the FASB issued changes that improve the transparency of government assistance received by entities. The changes require disclosure of the nature of transactions, including significant terms and conditions, accounting policies used, and financial statement line items affected by the transactions. The changes become effective January 1, 2022. Other than required expanded disclosures, the adoption of these changes will not have a material impact on the Company's consolidated financial statements.

3. Acquisitions and Dispositions

Harsco Rail Segment

In November 2021, the Company announced its intention to sell the Rail business. The former Harsco Rail Segment has historically been a separate reportable segment with primary operations in the United States, Europe and Asia Pacific.

The former Harsco Rail Segment's balance sheet positions as of December 31, 2021 and 2020 are presented as Assets held-for-sale and Liabilities of assets held-for-sale in the Consolidated Balance Sheets and are summarized as follows:

(in thousands)	December 31 2021	December 31 2020
Trade accounts receivable, net	\$ 33,689	\$ 52,077
Other receivables	4,740	3,045
Inventories	103,560	112,013
Current portion of contract assets	94,597	52,240
Other current assets	25,442	27,703
Property, plant and equipment, net	39,524	37,855
Right-of-use assets, net	3,108	4,354
Goodwill	13,026	13,026
Intangible assets, net	3,081	3,449
Deferred income tax assets	6,064	4,906
Other assets	6,432	6,316
Total Rail assets included in Assets held-for-sale	\$ 333,263	\$ 316,984
Accounts payable	\$ 46,076	\$ 53,937
Accrued compensation	2,171	1,503
Current portion of operating lease liabilities	1,619	1,745
Current portion of advances on contracts	62,401	37,462
Other current liabilities	49,732	33,280
Advances on contracts	—	44,731
Operating lease liabilities	1,775	2,734
Deferred tax liabilities	5,736	4,461
Other liabilities	982	925
Total Rail liabilities included in Liabilities of assets held-for-sale	\$ 170,492	\$ 180,778

The results of the former Harsco Rail Segment are presented as discontinued operations and, as such, have been excluded from both continuing operations and segment results for the years ended December 31, 2021, 2020, and 2019. Certain key selected financial information included in Income (loss) from discontinued operations, net of tax for the former Harsco Rail Segment is as follows:

(In thousands)	Years ended December 31		
	2021	2020	2019
Amounts directly attributable to the former Harsco Rail Segment:			
Service revenues	\$ 32,425	\$ 31,642	\$ 30,254
Product revenues	266,221	298,189	269,119
Cost of services sold	17,272	23,480	21,883
Cost of products sold	251,897	235,040	192,310
Income (loss) from discontinued businesses	(19,967)	23,096	25,406
Additional amounts allocated to the former Harsco Rail Segment:			
Selling, general and administrative expenses (a)	\$ 178	\$ —	\$ —

(a) The Company has allocated directly attributable transaction costs to discontinued operations.

The Company has retained corporate overhead expenses previously allocated to the former Harsco Rail Segment of \$4.2 million for each of the years ended December 31, 2021, 2020, and 2019 as part of Selling, general and administrative expenses on the Consolidated Statements of Operations.

The Company's former Harsco Rail segment is currently manufacturing highly-engineered equipment under large long-term fixed-price contracts with the SBB, the infrastructure manager for most of the railway in the U.K. ("Network Rail"), and the national railway company in Germany ("Deutsche Bahn"). Post-engineering, the Company has made significant progress in the development of the prototype/initial units for certain portions of these contracts during the fourth quarter of 2021, which has provided clarity in terms of material requirements and associated cost impacts. As a result, in the fourth quarter of 2021, the Company recognized estimated forward loss provisions related to these contracts of \$33.4 million. The principal driver of the provisions was recent expected cost inflation for all contracts, including for vendors in Europe who perform the manufacturing and assembly of certain equipment under these contracts. In addition, the estimate for liquidated damages for delivery delays for the Network Rail contract was increased based on the current status of negotiations with the customer during the quarter, as well as delayed prototype build and the resulting delayed delivery schedule. The estimated forward loss provision represents the Company's best estimate based on currently available information. It is possible that the Company's overall estimate of costs to complete these contracts may increase, which would result in an additional estimated forward loss provision at such time.

The first contract with SBB is complete, and the second contract is 78% complete as of December 31, 2021. The contracts with Network Rail and Deutsche Bahn are 42% and 18% complete, respectively, as of December 31, 2021.

The following is selected financial information included on the Consolidated Statements of Cash Flows attributable to the former Harsco Rail Segment:

(In thousands)	Years Ended December 31		
	2021	2020	2019
Non-cash operating items			
Depreciation and amortization	\$ 4,329	\$ 5,450	\$ 4,876
Cash flows from investing activities			
Purchases of property, plant and equipment	1,406	7,962	15,274

ESOL

On April 6, 2020 the Company completed the acquisition of 100% of ESOL, an established waste transportation, processing and services provider with a comprehensive portfolio of disposal solutions for customers primarily across the industrial, retail and healthcare markets, from Stericycle, Inc. for \$429.0 million cash, inclusive of post-closing adjustments. In addition, as part of the acquisition, the Company entered into a non-compete agreement with Stericycle, Inc. Concurrent to the ESOL acquisition, the Company entered into an agreement with Stericycle, Inc. related to certain Stericycle, Inc. customers who receive services from both ESOL and other Stericycle, Inc. businesses under a single contractual arrangement. The revenue pertaining to services rendered to these customers are invoiced centrally through Stericycle, Inc. billing systems and ESOL's portion of the revenue, less a management fee, is then distributed to the Company.

The fair value recorded for the assets acquired and liabilities assumed for ESOL is as follows:

(In millions)	April 6 2020	Measurement Period Adjustments	Final Valuation
Cash and cash equivalents	\$ 0.4	\$ —	\$ 0.4
Trade accounts receivable	124.1	(1.5)	122.6
Inventory	5.0	—	5.0
Other current assets	0.7	(0.7)	—
Property, plant and equipment	105.3	(3.9)	101.4
Right-of-use assets, net	56.0	—	56.0
Goodwill	152.0	1.3	153.3
Intangible assets	161.0	—	161.0
Other assets	0.2	—	0.2
Accounts payable	(48.6)	(1.5)	(50.1)
Accrued expenses	(17.5)	(1.8)	(19.3)
Current portion of operating lease liabilities	(16.6)	—	(16.6)
Other current liabilities	(6.4)	(0.2)	(6.6)
Environmental liabilities	(24.4)	—	(24.4)
Deferred income taxes	(15.5)	(1.5)	(17.0)
Operating lease liabilities	(39.4)	—	(39.4)
Total identifiable net assets of ESOL	436.3	(9.8)	426.5
Non-compete agreement	2.5	—	2.5
Total identifiable net assets of ESOL, including non-compete agreement	\$ 438.8	\$ (9.8)	\$ 429.0

The goodwill is primarily attributed to expected operational efficiencies and synergies from the expanded geographical scale of hazardous waste processing facilities resulting from combining the ESOL business with the existing Clean Earth business of the Company, as well as the value associated with the assembled workforce of ESOL. The Company expects \$36.8 million of goodwill to be deductible for income tax purposes through 2030.

The following table details the valuation of identifiable intangible assets and amortization periods for ESOL and the non-compete agreement:

(Dollars in millions)	Weighted-Average Amortization Period	April 6 2020	Measurement Period Adjustments	Final Valuation
Permits and rights	22 years	\$ 138.0	\$ —	\$ 138.0
Customer relationships	10 years	23.0	—	23.0
Total identifiable intangible assets of ESOL		161.0	—	161.0
Non-compete agreement	4 years	2.5	—	2.5
Total identifiable intangible assets acquired		\$ 163.5	\$ —	\$ 163.5

The Company valued the identifiable intangible assets using methodologies under the income approach including the multi-period excess earnings method, the distributor method, and the with-and-without method.

The years ended December 31, 2020 and 2019 included ESOL direct acquisition and integration costs of \$49.0 million and \$7.3 million, respectively, which are included in Selling, general and administrative expenses, within the Corporate function, in the Consolidated Statements of Operations. In addition to the acquisition and integration costs reflected in the Consolidated Statements of Operations, debt issuance costs associated with the issuance of debt to fund the acquisition are reflected, net of amortization subsequent to the acquisition date, as Long-term debt on the Consolidated Balance Sheets.

Clean Earth

On June 28, 2019, the Company acquired 100% of the outstanding stock of Clean Earth, one of the largest U.S. providers of specialty waste processing and beneficial reuse solutions for hazardous wastes, soil and dredged materials, for an enterprise valuation of approximately \$625 million on a cash free, debt free basis, subject to normal working capital adjustments. The Company transferred approximately \$628 million of cash consideration and agreed to reimburse the sellers for any usage of assumed net operating losses in a post-closing period for up to five years. At December 31, 2021 and 2020, the present value of the expected reimbursement is approximately \$8 million and \$11 million, respectively. See Footnote 18, Other (Income) Expenses, Net, for additional details.

The fair value recorded for the assets acquired and liabilities assumed for Clean Earth is as follows:

(In millions)	June 28 2019	Measurement Period Adjustments	Final Valuation
Cash and cash equivalents	\$ 42.8	\$ (39.2)	\$ 3.6
Trade accounts receivable, net	63.7	(1.2)	62.5
Other receivables	0.8	1.3	2.1
Other current assets	8.7	(1.4)	7.3
Property, plant and equipment	75.6	1.4	77.0
Right-of-use assets, net	14.4	11.4	25.8
Goodwill	313.8	16.8	330.6
Intangible assets	261.1	(18.9)	242.2
Other assets	4.0	(2.8)	1.2
Accounts payable	(23.0)	(0.1)	(23.1)
Acquisition consideration payable	(39.2)	39.2	—
Other current liabilities	(18.0)	(1.7)	(19.7)
Net deferred taxes liabilities	(51.2)	5.5	(45.7)
Operating lease liabilities	(11.1)	(8.4)	(19.5)
Other liabilities	(6.5)	(2.1)	(8.6)
Total identifiable net assets of Clean Earth	\$ 635.9	\$ (0.2)	\$ 635.7

The goodwill is attributable to strategic benefits, including enhanced operational and financial scale, as well as product and market diversification that the Company expects to realize. The Company expects \$16.3 million of goodwill to be deductible for income tax purposes through 2033.

The following table details the valuation of identifiable intangible assets and amortization periods for Clean Earth:

(Dollars in millions)	Weighted-Average Amortization Period	June 28 2019	Measurement Period Adjustments	Final Valuation
Permits	18 years	\$ 176.1	\$ (6.0)	\$ 170.1
Customer relationships and backlog	8 years	33.4	(12.9)	20.5
Air rights	Usage based (b)	25.6	—	25.6
Trade names	12 years	26.0	—	26.0
Total identifiable intangible assets of Clean Earth		\$ 261.1	\$ (18.9)	\$ 242.2

(b) The Company estimates that based on current usage that the expected useful life would be 27 years.

The Company valued the identifiable intangible assets using an income-based approach that utilized either the multi-period excess earnings method or the relief from royalty method.

The year ended December 31, 2019 included Clean Earth direct acquisition costs of \$15.2 million, which are included in Selling, general and administrative expenses, within the Corporate function, in the Consolidated Statements of Operations. In addition to the acquisition costs reflected in the Consolidated Statements of Operations, debt issuance costs associated with the issuance of debt to fund the acquisition are reflected, net of amortization subsequent to the acquisition date, as Long-term debt on the Consolidated Balance Sheets.

Harsco Industrial Segment

In May 2019, the Company announced its intent to divest the businesses that comprised the Harsco Industrial Segment; AXC, IKG and PK. These disposals represented a strategic shift and accelerated the transformation of the Company's portfolio of businesses into a leading provider of environmental solutions and services. In July 2019, the Company sold AXC for \$600 million in cash and recognized a gain on sale of \$527.9 million pre-tax (or approximately \$421 million after-tax). In November 2019, the Company sold PK for approximately \$60 million in cash and recognized a gain on sale of \$41.2 million pre-tax (or approximately \$33 million after-tax). In January 2020, the Company sold IKG for \$85.0 million, including a note receivable with a face value of \$40.0 million and recognized an \$18.4 million pre-tax gain on sale (or approximately \$9 million after-tax). In 2019 the gains on the sales of AXC and PK and in 2020 the gain on the sale of IKG have been recorded in the Consolidated Statements of Operations as discontinued operations.

The Harsco Industrial Segment was historically a separate reportable segment with primary operations in North America and Latin America. In accordance with U.S. GAAP, the results of the former Harsco Industrial Segment are presented as discontinued operations and, as such, have been excluded from both continuing operations and segment results for the years ended December 31, 2021, 2020, and 2019. Certain key selected financial information included in net income from discontinued operations for the former Harsco Industrial Segment is as follows:

(In thousands)	Years ended December 31		
	2021	2020	2019
Amounts directly attributable to the former Harsco Industrial Segment:			
Total revenues	\$ —	\$ 10,203	\$ 306,972
Cost of products sold	—	8,082	224,811
Gain on sale from discontinued businesses	—	18,281	569,135
Income (loss) from discontinued businesses	(3,510)	(1,578)	27,823
Additional amounts allocated to the former Harsco Industrial Segment:			
Selling, general and administrative expenses (c)	\$ 3,510	\$ 2,695	\$ 8,429
Interest expense (d)	—	—	11,237
Loss on early extinguishment of debt (e)	—	—	5,314

(c) The Company allocated directly attributable transaction costs to discontinued operations. In addition, this caption includes costs directly attributable to retained contingent liabilities of the former Harsco Industrial Segment.

(d) The Company allocated interest expense, including a portion of the amount reclassified into income for the Company's interest rate swaps, amortization of deferred financing costs, and \$2.7 million related to interest rate swap terminations which were directly attributed with the mandatory repayment of certain debt resulting from the AXC disposal.

(e) The Company allocated the \$5.3 million write-off of deferred financing costs to discontinued operations as it directly attributed to the mandatory repayment of certain debt resulting from the AXC disposal.

The Company retained corporate overhead expenses previously allocated to the former Harsco Industrial Segment of \$4.0 million in 2019 as part of Selling, general and administrative expenses on the Consolidated Statements of Operations.

4. Accounts Receivable and Note Receivable

Accounts receivable consist of the following:

(In thousands)	December 31 2021	December 31 2020
Trade accounts receivable	\$ 385,143	\$ 362,801
Less: Allowance for expected credit losses	(7,262)	(7,488)
Trade accounts receivable, net	<u>\$ 377,881</u>	<u>\$ 355,313</u>
Other receivables (a)	<u>\$ 33,059</u>	<u>\$ 31,208</u>

(a) Other receivables include employee receivables, insurance receivable, tax claims and refunds and other miscellaneous receivables not included in Trade accounts receivable, net.

The provision for doubtful accounts related to trade accounts receivable was as follows:

(In thousands)	Years Ended December 31		
	2021	2020	2019
Provision for expected credit losses and doubtful accounts related to trade accounts receivable	\$ 589	\$ 1,961	\$ 7,123

The provision for doubtful accounts in 2019 primarily included a provision in the Harsco Environmental Segment related to a customer in the U.K entering administration which was subsequently written off in 2020.

At December 31, 2021 \$8.0 million of the Company's trade accounts receivable were past due by twelve months or more, with \$5.4 million of this amount reserved. Collection of the remaining balance is still ultimately expected.

In January 2020, the Company sold IKG for \$85.0 million including cash and a note receivable, subject to post-closing adjustments. The note receivable from the buyer has a face value of \$40.0 million, bearing interest at 2.50%, that is paid in kind and matures on January 31, 2027. Any unpaid principal, along with any accrued but unpaid interest is payable at maturity. Prepayment is required in case of a change in control or a percentage of excess cash flow, as defined in the note receivable agreement. Because there are no scheduled payments under the terms of the note receivable, the balance is not classified as current and is included in the caption Other assets on the Consolidated Balance Sheets. The initial fair value of the note receivable was \$34.3 million which was calculated using an average of various discounted cash flow scenarios based on anticipated timing of repayments (Level 3) and was a non-cash transaction. The note receivable is subsequently measured at amortized cost. Key inputs into the valuation model include: projected timing and amount of cash flows, pro forma debt rating, option-adjusted spread and U.S. Treasury spot rate. During the twelve months ended December 31, 2021, the Company received a payment of \$6.4 million related to excess cash flow. At December 31, 2021 the amortized cost of the note receivable was \$31.0 million, compared with a fair value of \$32.3 million.

(In thousands)	December 31 2021	December 31 2020
Note receivable	\$ 31,025	\$ 35,806

5. Inventories

Inventories consist of the following:

(In thousands)	December 31 2021	December 31 2020
Finished goods	\$ 8,323	\$ 7,749
Work-in-process	5,393	2,795
Raw materials and purchased parts	21,188	20,259
Stores and supplies	35,589	30,198
Total inventories	\$ 70,493	\$ 61,001
Valued at lower of cost or market:		
LIFO basis	\$ 14,133	\$ 14,690
FIFO basis	7,567	5,485
Average cost basis	48,793	40,826
Total inventories	\$ 70,493	\$ 61,001

Inventories valued on the LIFO basis at both December 31, 2021 and December 31, 2020 were approximately \$13 million less than the amounts of such inventories valued at current costs. There was no significant impact on net income as a result of reducing certain inventory quantities valued on a LIFO basis during 2021, 2020 or 2019.

6. Property, Plant and Equipment

Property, plant and equipment consist of the following:

(In thousands)	Estimated Useful Lives	December 31 2021	December 31 2020
Land	—	\$ 73,067	\$ 73,237
Land improvements	5-20 years	16,970	17,500
Buildings and improvements (a)	5-30 years	221,236	224,909
Machinery and equipment (b)	3-20 years	1,507,214	1,512,966
Uncompleted construction	—	63,816	39,587
Gross property, plant and equipment		1,882,303	1,868,199
Less: Accumulated depreciation		(1,228,390)	(1,237,845)
Property, plant and equipment, net		<u>\$ 653,913</u>	<u>\$ 630,354</u>

(a) Buildings and improvements include leasehold improvements that are amortized over the shorter of their useful lives or the initial term of the lease.

(b) Includes information technology hardware and software.

In the third quarter of 2020, a customer of the Harsco Environmental Segment in China ceased steel making operations at its steel mill site in order to relocate the operations to a new site, as a result of a government mandate to improve environmental conditions of the area. The Company will continue to provide services to the same customer at the new site. The net book value of the idled equipment associated with the previous location is approximately \$20 million. The customer has entered into an agreement with the government where it will receive compensation for the losses the customer has incurred as a result of the forced shutdown. The Company has continued discussions with the customer regarding compensation, which are expected to be protracted. While the customer has initially indicated that they will not provide compensation, the Company and the customer continue to discuss and the Company is evaluating its legal position. In addition, there may be other avenues of pursuing recovery, including seeking relief directly from the local government. At this point, considering the ongoing discussions with the customer, and other avenues, the Company believes it will recover the book value of the equipment and thus does not believe it has an asset impairment as of December 31, 2021. However, the Company will continue to evaluate changes in facts and circumstances and record any impairment charge when and if indicated.

7. Goodwill and Other Intangible Assets

Goodwill by Segment

The following table reflects the changes in carrying amounts of goodwill by segment for the years ended December 31, 2021 and 2020:

(In thousands)	Harsco Environmental Segment	Harsco Clean Earth Segment	Consolidated Totals
Balance at December 31, 2019	\$ 395,113	\$ 330,230	\$ 725,343
Changes to goodwill (a)	1,480	152,417	153,897
Foreign currency translation	9,808	—	9,808
Balance at December 31, 2020	406,401	482,647	889,048
Changes to goodwill	—	1,232	1,232
Foreign currency translation	(7,171)	—	(7,171)
Balance at December 31, 2021	<u>\$ 399,230</u>	<u>\$ 483,879</u>	<u>\$ 883,109</u>

(a) The changes to goodwill related to the acquisition of ESOL, and immaterial acquisitions in the Harsco Environmental segment. See Note 3, Acquisitions and Dispositions.

The Company's methodology for determining reporting unit fair value is described in Note 1, Summary of Significant Accounting Policies. Performance of the Company's 2021 annual impairment test did not result in impairment of any of the Company's reporting units.

Intangible Assets

Net intangible assets totaled \$402.8 million at December 31, 2021 and \$435.1 million at December 31, 2020. The following table reflects these intangible assets by major category:

(In thousands)	December 31, 2021		December 31, 2020	
	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Customer related	\$ 104,322	\$ 54,057	\$ 105,222	\$ 46,267
Permits	309,069	34,822	308,705	18,955
Technology related	39,886	13,415	40,274	9,654
Trade names	30,738	6,842	30,779	4,272
Air rights	26,139	1,675	26,139	1,044
Patents	179	138	192	139
Non-compete agreement	2,500	1,094	2,500	469
Other	3,407	1,396	3,335	1,230
Total	\$ 516,240	\$ 113,439	\$ 517,146	\$ 82,030

Amortization expense for intangible assets was \$32.2 million, \$30.6 million and \$15.2 million for 2021, 2020 and 2019, respectively. The following table shows the estimated amortization expense for the next five fiscal years based on current intangible assets.

(In thousands)	2022	2023	2024	2025	2026
Estimated amortization expense (b)	\$ 31,600	\$ 31,600	\$ 31,100	\$ 30,900	\$ 28,900

(b) These estimated amortization expense amounts do not reflect the potential effect of future foreign currency exchange rate fluctuations.

8. Debt and Credit Agreements

The Company's long-term debt consists of the following:

(In thousands)	December 31 2021	December 31 2020
Senior Secured Credit Facilities (a):		
New Term Loan with an interest rate of 2.75% at December 31, 2021	\$ 497,500	\$ —
Term Loan A with an interest rate of 3.50% at December 31, 2020	—	280,000
Term Loan B with an interest rate of 3.25% at December 31, 2020	—	218,188
Revolving Credit Facility with an average interest rate of 2.5% and 2.8% at December 31, 2021 and 2020, respectively	362,000	281,000
5.75% Senior Notes due July 31, 2027	500,000	500,000
Other financing payable (including capital leases) in varying amounts due principally through 2026 with a weighted-average interest rate of 4.7% and 5.0% at December 31, 2021 and 2020, respectively	28,389	21,344
Total debt obligations	1,387,889	1,300,532
Less: deferred financing costs	(18,217)	(15,767)
Total debt obligations, net of deferred financing costs	1,369,672	1,284,765
Less: current maturities of long-term debt	(10,226)	(13,576)
Long-term debt	\$ 1,359,446	\$ 1,271,189

(a) The current portion of long-term debt related to the Senior Secured Credit Facilities was \$5.0 million and \$10.5 million with the remainder reflected as Long-term debt at December 31, 2021 and 2020, respectively.

The maturities of long-term debt for the four years following December 31, 2022 are as follows:

(In thousands)	
2023	\$ 17,331
2024	9,351
2025	7,560
2026	368,558

Cash payments for interest on debt were \$60.9 million, \$59.5 million and \$27.6 million in 2021, 2020 and 2019, respectively.

Senior Secured Credit Facilities

March 2021 Amendment

In March 2021, the Company amended its Senior Secured Credit Facilities to, among other things, extend the maturity date of the Revolving Credit Facility to March 10, 2026, and to modify aspects of its total net leverage ratio covenant. As a result of this amendment, the net debt to consolidated adjusted EBITDA ratio covenant was increased to 5.75 through December 2021 and then decreases quarterly until reaching 4.50 in December 2022 and 4.00 in March 2023. In addition the Company issued the New Term Loan, as an additional tranche, under the Senior Secured Credit Facilities, in an aggregate principal amount of \$500 million. The New Term Loan bears interest at a rate per annum of 1.25% over base rate, subject to a zero floor, or 2.25% over LIBOR, subject to a 0.50% floor. The New Term Loan is subject to quarterly amortization of principal of 0.25%, beginning September 30, 2021. The proceeds of the New Term Loan were used to repay in full the outstanding Term Loan A and Term Loan B under the Senior Secured Credit Facilities, which were due on June 28, 2024 and December 8, 2024, respectively. The New Term Loan matures on March 10, 2028, or earlier, on the date that is 91 days prior to the maturity date of the Company's 5.75% Senior Notes, due 2027, if such Senior Notes are outstanding or have not been refinanced at such time.

In October 2021, the Company amended its Senior Secured Credit Facilities to, among other things, to make certain amendments in connection with the discontinuation of LIBOR.

At December 31, 2021, the Company was in compliance with all covenants for the Senior Secured Credit Facilities. During the twelve months ended December 31, 2021, 2020 and 2019, the Company recognized \$5.5 million, \$1.9 million and \$1.0 million, respectively, of fees and expenses related to amendments to the Senior Secured Credit Facilities in the caption Unused debt commitment, amendment fees and loss on the extinguishment of debt on the Consolidated Statements of Operations. The amount for 2021 includes a write-off of \$2.7 million of previously recorded deferred financing costs. The Company capitalized fees of \$7.8 million related to the March 2021 Amendment.

In addition, on February 22, 2022, the Company amended its Senior Credit Facilities ("Amendment No. 9 to the Third Amended and Restated Credit Agreement") to reset the levels of the net debt to consolidated adjusted EBITDA ratio covenant. As a result of this amendment, the net debt to consolidated adjusted EBITDA ratio covenant was set at 5.75 for the quarter ending March 31, 2022, and then decreases quarterly by 0.25 until reaching 4.00 for the quarter ending December 31, 2023 and thereafter. In addition, upon closing on the divestiture of the former Harsco Rail Segment, the net debt to consolidated adjusted EBITDA ratio covenant will decrease by an additional 0.25, provided, however, it will not go below 4.00.

See Note 20 Subsequent Events and Item 9B Other Information for discussion of the Amendment No. 9 to the Third Amended and Restated Credit Agreement.

The Credit Agreement imposes certain restrictions including, but not limited to, restrictions as to types and amounts of debt of liens that may be incurred by the Company; limitations on increases in dividend payments; limitations on repurchases of the Company's stock and limitations on certain acquisitions by the Company.

With respect to the Senior Secured Credit Facilities, the obligations of the Company are guaranteed by substantially all of the Company's current and future wholly-owned domestic subsidiaries ("Guarantors"). All obligations under the Senior Credit Facility, and the guarantees of those obligations, are secured, subject to certain exceptions, by substantially all of the Company's assets and the assets of the Guarantors.

The Credit Agreement requires certain mandatory prepayments of the New Term Loan, subject to certain exceptions, based on net cash proceeds of certain sales or distributions of assets, as well as certain casualty and condemnation events, in some cases subject to reinvestment rights and certain other exceptions; net cash proceeds of any issuance of debt, excluded permitted debt issuances; and a percentage of excess cash flow, as defined by the Credit Agreement, during a fiscal year.

Revolving Credit Facility

Borrowings under the Revolving Credit Facility, a U.S.-based program, bear interest at a rate per annum ranging from 50 to 150 basis points over base rate or 150 to 250 basis points over adjusted LIBOR, subject to a 0% floor. Any principal amount outstanding under the Revolving Credit Facility is due and payable on its maturity on March 10, 2026.

The following table shows the amount outstanding under the Revolving Credit Facility and available credit at December 31, 2021.

(In thousands)	December 31, 2021			
	Facility Limit	Outstanding Balance	Outstanding Letters of Credit	Available Credit
Revolving Credit Facility	\$ 700,000	\$ 362,000	\$ 29,824	\$ 308,176

Other

In 2019, the Company recognized \$6.7 million of expenses in the caption Unused commitment fees, amendment fees and loss on extinguishment of debt on the Consolidated Statements of Operations, for fees and other costs related to bridge financing commitments that the Company arranged in the event that the Senior Notes were not issued prior to the acquisition of Clean Earth. The Senior Notes were issued prior to completion of the Clean Earth acquisition thus the bridge financing commitments were not utilized.

Short-term borrowings totaled \$7.7 million and \$7.5 million at December 31, 2021 and 2020, respectively. At December 31, 2021 and 2020, Short-term borrowings consist primarily of bank overdrafts and other third-party debt. The weighted-average interest rate for short-term borrowings at December 31, 2021 and 2020 was 3.3% and 3.4%, respectively.

9. Leases

The components of lease expense were as follows:

(In thousands)	2021	2020	2019
Finance leases:			
Amortization expense	\$ 2,510	\$ 1,523	\$ 1,234
Interest on lease liabilities	495	184	50
Operating leases	32,544	28,537	13,754
Variable and short-term leases	47,780	40,953	22,201
Sublease income	(53)	(202)	(198)
Total lease expense from continuing operations	\$ 83,276	\$ 70,995	\$ 37,041

Supplemental cash flow information related to leases was as follows:

(In thousands)	2021	2020	2019
Cash paid for amounts included in the measurement of lease liabilities:			
Cash flows used by operating activities - Operating leases (a)	\$ 33,645	\$ 28,057	\$ 15,143
Cash flows used by financing activities - Finance leases	2,847	1,367	1,317
ROU assets obtained in exchange for lease obligations:			
Operating leases (b)	\$ 42,442	\$ 69,044	\$ 65,525
Finance leases	11,495	6,220	2,658

(a) Cash flows include cash paid for operating leases of discontinued operations.

(b) Cash flows include ROU assets of approximately \$56 million that were recorded upon the acquisition of ESOL in 2020. See Note 3, Acquisitions and Dispositions, for additional information.

Supplemental balance sheet information related to leases was as follows:

(In thousands)	2021	2020
Operating Leases (c):		
Operating lease ROU assets	\$ 101,576	\$ 92,495
Current portion of operating lease liabilities	25,590	23,117
Operating lease liabilities	74,571	67,126
Finance Leases:		
Property, plant and equipment, net	\$ 17,185	\$ 8,434
Current maturities of long-term debt	3,756	1,683
Long-term debt	13,736	6,867

(c) The 2021 operating lease ROU assets and operating lease liabilities include a \$15 million adjustment to record certain leases for ESOL. These leases have been incorrectly treated as short term leases versus operating leases since ESOL's acquisition on April 6, 2020.

Supplemental additional information related to leases was as follows:

	2021	2020
Other information:		
Weighted average remaining lease term - Operating leases (in years)	7.14	8.22
Weighted average remaining lease term - Finance leases (in years)	5.88	8.20
Weighted average discount rate - Operating leases	5.9 %	6.1 %
Weighted average discount rate - Finance leases	4.6 %	5.1 %

Maturities of lease liabilities were as follows:

(In thousands)	Operating Leases	Finance Leases
Year Ending December 31:		
2022	\$ 30,347	\$ 4,483
2023	24,959	4,311
2024	18,612	3,901
2025	12,923	2,834
2026	8,641	1,733
After 2026	31,890	3,078
Total lease payments	127,372	20,340
Less: Imputed interest	(27,211)	(2,848)
Total lease liabilities	<u>\$ 100,161</u>	<u>\$ 17,492</u>

The Company's leases, excluding short-term leases, have remaining terms of less than one year to 29 years, some of which include options to extend for up to 10 years, and some of which include options to terminate within one year. As of December 31, 2021, the Company has additional operating leases for property and equipment that have not yet commenced, with estimated ROU assets and lease liabilities of approximately \$17 million to be recognized upon anticipated lease commencements in the first and second quarters of 2022. There are no material residual value guarantees or material restrictive covenants in any of the Company's leases.

10. Employee Benefit Plans

Pension Benefits

The Company has defined benefit pension plans covering a certain number of employees. The defined benefits for salaried employees generally are based on years of service and the employee's level of compensation during specified periods of employment. Defined benefit pension plans covering hourly employees generally provide benefits of stated amounts for each year of service. MEPPs in which the Company participates provide benefits to certain unionized employees. The Company's funding policy for qualified plans is consistent with statutory regulations and customarily equals the amount deducted for income tax purposes. Periodic voluntary contributions are made, as recommended, by the Company's Pension Committee.

For most U.S. defined benefit pension plans and a majority of international defined benefit pension plans, accrued service is no longer granted. In place of these plans, the Company has established defined contribution plans providing for the Company to contribute a specified matching amount for participating employees' contributions to the plan. For U.S. employees, this match is made on employee contributions up to 4% of eligible compensation. Additionally, the Company may provide a discretionary contribution for eligible employees. There have been no discretionary contributions provided for the years 2021, 2020 and 2019. For non-U.S. employees, this match is up to 6% of eligible compensation with an additional 2% going towards insurance and administrative costs.

NPPC from continuing operations for U.S. and international plans for 2021, 2020 and 2019 is as follows:

(In thousands)	U.S. Plans			International Plans		
	2021	2020	2019	2021	2020	2019
Net Periodic Pension Cost (Income):						
Defined benefit pension plans:						
Service cost	\$ —	\$ —	\$ 39	\$ 1,805	\$ 1,642	\$ 1,308
Interest cost	4,813	7,381	10,551	12,652	17,599	22,148
Expected return on plan assets	(12,199)	(11,368)	(10,297)	(45,018)	(41,013)	(37,218)
Recognized prior service costs	—	—	—	582	512	326
Recognized losses	5,538	5,100	5,585	18,119	14,723	14,345
Settlement/curtailment loss (gain)	—	—	129	(6)	18	19
Defined benefit pension plan cost (income)	(1,848)	1,113	6,007	(11,866)	(6,519)	928
Multiemployer pension plans	640	620	727	1,035	969	1,167
Defined contribution plans	5,660	4,769	2,523	4,196	3,994	5,349
Net periodic pension cost (income)	\$ 4,452	\$ 6,502	\$ 9,257	\$ (6,635)	\$ (1,556)	\$ 7,444

The change in the financial status of the defined benefit pension plans and amounts recognized on the Consolidated Balance Sheets at December 31, 2021 and 2020 are as follows:

(In thousands)	U.S. Plans		International Plans	
	2021	2020	2021	2020
Change in benefit obligation:				
Benefit obligation at beginning of year	\$ 296,660	\$ 294,693	\$ 1,119,552	\$ 984,665
Service cost	—	—	1,805	1,642
Interest cost	4,813	7,381	12,652	17,599
Plan participants' contributions	—	—	15	18
Amendments	—	—	—	1,088
Actuarial (gain) loss	(8,063)	25,212	(58,567)	129,410
Settlements/curtailments	—	—	(269)	(256)
Benefits paid	(16,403)	(17,675)	(39,831)	(43,952)
Effect of foreign currency	—	—	(13,159)	29,379
Acquisitions/divestitures	—	(12,951)	—	(41)
Benefit obligation at end of year	\$ 277,007	\$ 296,660	\$ 1,022,198	\$ 1,119,552
Change in plan assets:				
Fair value of plan assets at beginning of year	\$ 226,125	\$ 226,268	\$ 957,177	\$ 860,321
Actual return on plan assets	19,005	24,975	40,382	95,132
Employer contributions	4,219	3,528	25,077	21,955
Plan participants' contributions	—	—	15	18
Settlements/curtailments	—	—	(269)	(256)
Benefits paid	(16,402)	(17,675)	(39,220)	(43,527)
Effect of foreign currency	—	—	(9,910)	23,534
Acquisitions/divestitures	—	(10,971)	—	—
Fair value of plan assets at end of year	\$ 232,947	\$ 226,125	\$ 973,252	\$ 957,177
Funded status at end of year	\$ (44,060)	\$ (70,535)	\$ (48,946)	\$ (162,375)

Significant items impacting actuarial gains and losses for 2021 for U.S. plans included: improvement in the funded position due to the actual return on the fair value of plan assets since the prior measurement date being greater than assumed, and an increase in the discount rate used to measure the benefit obligation compared with the prior year; partially offset by a decrease in the funded position due to updates in the mortality improvement projection assumption.

The significant item impacting actuarial gains and losses for 2021 for international plans, principally the U.K. plan, was improvement in the funded position due to an increase in the discount rate used to measure the benefit obligation compared with the prior year.

Amounts recognized on the Consolidated Balance Sheets for defined benefit pension plans consist of the following at December 31, 2021 and 2020:

(In thousands)	U.S. Plans December 31		International Plans December 31	
	2021	2020	2021	2020
Noncurrent assets	\$ —	\$ —	\$ 2,046	\$ —
Current liabilities	1,999	1,970	967	907
Noncurrent liabilities	42,061	68,565	50,025	161,468
AOCI	114,874	135,281	410,114	487,682

Amounts recognized in AOCI for defined benefit pension plans consist of the following at December 31, 2021 and 2020:

(In thousands)	U.S. Plans December 31		International Plans December 31	
	2021	2020	2021	2020
Net actuarial loss	\$ 114,874	\$ 135,281	\$ 400,497	\$ 477,238
Prior service cost	—	—	9,617	10,444
Total	\$ 114,874	\$ 135,281	\$ 410,114	\$ 487,682

The Company's estimate of expected contributions to be paid in 2022 for the U.S. and international defined benefit plans total \$2.0 million and \$24.7 million, respectively.

Future Benefit Payments

Expected benefit payments for defined benefit pension plans over the next ten years are as follows:

(In millions)	2022	2023	2024	2025	2026	2026-2030
U.S. Plans	\$ 27.2	\$ 16.7	\$ 16.6	\$ 16.5	\$ 16.4	\$ 78.7
International Plans	40.9	41.9	43.1	44.5	45.9	245.3

Net Periodic Pension Cost and Defined Benefit Pension Obligation Assumptions

The weighted-average actuarial assumptions used to determine the defined benefit pension plan NPPC for 2021, 2020 and 2019 were as follows:

	U.S. Plans December 31			International Plans December 31			Global Weighted-Average December 31		
	2021	2020	2019	2021	2020	2019	2021	2020	2019
Discount rates	2.4 %	3.2 %	4.2 %	1.4 %	2.1 %	2.9 %	1.6 %	2.4 %	3.2 %
Expected long-term rates of return on plan assets	6.8 %	7.0 %	7.3 %	4.7 %	5.2 %	5.5 %	5.1 %	5.6 %	5.9 %

The expected long-term rates of return on defined benefit pension plan assets for the 2022 NPPC are 6.3% for the U.S. plans and 4.4% for the international plans. The expected global long-term rate of return on assets for 2022 is 4.7%.

The weighted-average actuarial assumptions used to determine the defined benefit pension plan obligations at December 31, 2021 and 2020 were as follows:

	U.S. Plans December 31		International Plans December 31		Global Weighted-Average December 31	
	2021	2020	2021	2020	2021	2020
Discount rates	2.7 %	2.4 %	1.9 %	1.4 %	2.1 %	1.6 %

Since accrued service is no longer granted to the U.S. defined benefit plans and the majority of the international defined benefit pension plans, the rate of compensation increase did not have a significant impact on the defined benefit pension obligation at December 31, 2021 and 2020 or the defined benefit pension plan NPPC for the years ended 2021, 2020 and 2019.

The U.S. discount rate was determined using a yield curve that was produced from a universe containing approximately 1,100 U.S. dollar-denominated, AA-graded corporate bonds, all of which were noncallable (or callable with make-whole provisions) and excluding the 10% of the bonds with the highest deviation from the expected yield and the 10% with the lowest deviation from the expected yield within each duration group. The discount rate was then developed as the level-equivalent rate that would produce the same present value as that using spot rates to discount the projected benefit payments. For international

plans, the discount rate is aligned to corporate bond yields in the local markets, normally AA-rated corporations. The process and selection seek to approximate the cash inflows with the timing and amounts of the expected benefit payments.

Accumulated Benefit Obligation

The accumulated benefit obligation for all defined benefit pension plans at December 31, 2021 and 2020 was as follows:

(In millions)	U.S. Plans December 31		International Plans December 31	
	2021	2020	2021	2020
Accumulated benefit obligation	\$ 277.0	\$ 296.7	\$ 1,016.1	\$ 1,113.4

Defined Benefit Pension Plans with Accumulated Benefit Obligation in Excess of Plan Assets

The projected benefit obligation, accumulated benefit obligation and fair value of plan assets for defined benefit pension plans with accumulated benefit obligations in excess of plan assets at December 31, 2021 and 2020 were as follows:

(In millions)	U.S. Plans December 31		International Plans December 31	
	2021	2020	2021	2020
Projected benefit obligation	\$ 277.0	\$ 296.7	\$ 988.6	\$ 1,115.7
Accumulated benefit obligation	277.0	296.7	984.7	1,109.8
Fair value of plan assets	232.9	226.1	939.3	953.5

The asset allocations attributable to the Company's U.S. defined benefit pension plans at December 31, 2021 and 2020, and the long-term target allocation of plan assets, by asset category, are as follows:

U.S. Plans Asset Category	Target Long-Term Allocation	Percentage of Plan Assets December 31	
		2021	2020
Domestic equity securities	18%-28%	22.8 %	30.8 %
International equity securities	17%-27%	22.5 %	26.5 %
Fixed income securities	41%-51%	45.9 %	33.4 %
Cash and cash equivalents	Less than 5%	— %	0.7 %
Other (a)	4%-14%	8.8 %	8.6 %

(a) Investments within this caption include diversified global asset allocation funds and credit collection funds.

Defined benefit pension plan assets are allocated among various categories of equities, fixed income securities and cash and cash equivalents with professional investment managers whose performance is actively monitored. The primary investment objective is long-term growth of assets in order to meet present and future benefit obligations. The Company periodically conducts an asset/liability modeling study and accordingly adjusts investments among and within asset categories to ensure the long-term investment strategy is aligned with the profile of benefit obligations.

The Company reviews the long-term expected return on asset assumption on a periodic basis considering a variety of factors including historical investment returns achieved over a long-term period, the targeted allocation of plan assets and future expectations based on a model of asset returns for an actively managed portfolio. The model simulates 1,000 different capital market results over 20 years. The expected return-on-asset assumption for U.S. defined benefit pension plans for 2022 and 2021 are 6.3% and 6.8%, respectively.

The U.S. defined benefit pension plans' assets include 310,000 shares at December 31, 2021 and 330,000 shares at December 31, 2020 of the Company's common stock, valued at \$5.2 million and \$5.9 million, respectively. These shares represented 2.2% and 2.6% of total U.S. plan assets at December 31, 2021 and 2020, respectively.

The asset allocations attributable to the Company's international defined benefit pension plans at December 31, 2021 and 2020 and the long-term target allocation of plan assets, by asset category, are as follows:

International Plans Asset Category	Target Long-Term Allocation	Percentage of Plan Assets December 31	
		2021	2020
Equity securities	26.5 %	27.9 %	32.0 %
Fixed income securities	65.5 %	63.6 %	49.5 %
Cash and cash equivalents	—	0.7 %	0.2 %
Other (b)	8.0 %	7.8 %	18.3 %

(b) Investments within this caption include diversified growth funds and real estate funds.

International defined benefit pension plan assets at December 31, 2021 in the U.K. defined benefit pension plan totaled approximately 96% of the international defined benefit pension plan assets. The U.K. plan assets are allocated among various categories of equities, fixed income securities and cash and cash equivalents with professional investment managers whose performance is actively monitored. The primary investment objective is long-term growth of assets in order to meet present and future benefit obligations. The Company periodically conducts asset/liability modeling studies and accordingly adjusts investment amounts within asset categories to ensure the long-term investment strategy is aligned with the profile of benefit obligations.

For the international long-term rate of return assumption, the Company considered the current level of expected returns in risk-free investments (primarily government bonds), the historical level of the risk premium associated with other asset classes in which the portfolio is invested, and the expectations for future returns of each asset class and plan expenses. The expected return for each asset class is then weighted based on the target asset allocation to develop the expected long-term rate of return on assets. The expected return on asset assumption for the U.K. defined benefit pension plan for 2022 and 2021 are 4.3% and 4.7%, respectively. The remaining international defined benefit pension plans, with plan assets representing approximately 4% of the international defined benefit pension plan assets, are under the guidance of professional investment managers and have similar investment objectives.

The fair values of the Company's U.S. defined benefit pension plans' assets at December 31, 2021 by asset class are as follows:

(In thousands)	Total	Level 1	Investments Valued at Net Asset Value (c)
Domestic equities:			
Common stocks	\$ 5,180	\$ 5,180	\$ —
Mutual funds—equities	48,411	48,411	—
International equities:			
Mutual funds—equities	50,783	50,783	—
Fixed income investments:			
Mutual funds—bonds	105,114	105,114	—
Other—mutual funds	9,371	9,371	—
Cash and money market accounts	1,624	1,624	—
Other—partnerships/joint ventures	12,464	—	12,464
Total	<u>\$ 232,947</u>	<u>\$ 220,483</u>	<u>\$ 12,464</u>

(c) Certain investments that are measured at fair value using Net Asset Value per share (or its equivalent) as a practical expedient have not been classified in the fair value hierarchy.

The fair values of the Company's U.S. defined benefit pension plans' assets at December 31, 2020 by asset class are as follows:

(In thousands)	Total	Level 1	Investments Valued at Net Asset Value
Domestic equities:			
Common stocks	\$ 5,934	\$ 5,934	\$ —
Mutual funds—equities	63,651	63,651	—
International equities:			
Mutual funds—equities	59,933	59,933	—
Fixed income investments:			
Mutual funds—bonds	75,441	75,441	—
Other—mutual funds	8,944	8,944	—
Cash and money market accounts	1,691	1,691	—
Other - partnerships/joint ventures	10,531	—	10,531
Total	<u>\$ 226,125</u>	<u>\$ 215,594</u>	<u>\$ 10,531</u>

The fair values of the Company's international defined benefit pension plans' assets at December 31, 2021 by asset class are as follows:

(In thousands)	Total	Level 1	Level 2
Equity securities:			
Mutual funds—equities	\$ 271,811	\$ —	\$ 271,811
Fixed income investments:			
Mutual funds—bonds	613,243	—	613,243
Insurance contracts	5,684	—	5,684
Other:			
Other mutual funds	75,651	—	75,651
Cash and money market accounts	6,863	6,863	—
Total	\$ 973,252	\$ 6,863	\$ 966,389

The fair values of the Company's international defined benefit pension plans' assets at December 31, 2020 by asset class are as follows:

(In thousands)	Total	Level 1	Level 2
Equity securities:			
Mutual funds—equities	\$ 306,959	\$ —	\$ 306,959
Fixed income investments:			
Mutual funds—bonds	467,285	—	467,285
Insurance contracts	6,282	—	6,282
Other:			
Other mutual funds	174,921	—	174,921
Cash and money market accounts	1,730	1,730	—
Total	\$ 957,177	\$ 1,730	\$ 955,447

Following is a description of the valuation methodologies used for the defined benefit pension plans' investments measured at fair value:

- Level 1 Fair Value Measurements—Investments in interest-bearing cash are stated at cost, which approximates fair value. The fair values of money market accounts and certain mutual funds are based on quoted net asset values of the shares held by the plan at year-end. The fair values of domestic and international stocks and corporate bonds, notes and convertible debentures are valued at the closing price reported in the active market on which the individual securities are traded.
- Level 2 Fair Value Measurements—The fair values of investments in mutual funds for which quoted net asset values in an active market are not available are valued by the investment advisor based on the current market values of the underlying assets of the mutual fund based on information reported by the investment consistent with audited financial statements of the mutual fund. Further information concerning these mutual funds may be obtained from their separate audited financial statements. Investments in U.S. Treasury notes and collateralized securities are valued based on yields currently available on comparable securities of issuers with similar credit ratings.

Multiemployer Pension Plans

The Company, through the Harsco Environmental Segment, contributes to several MEPPs under the terms of collective-bargaining agreements that cover union-represented employees, many of whom are temporary in nature. The Company's total contributions to MEPPs were \$1.7 million, \$1.6 million and \$1.9 million for the years ended December 31, 2021, 2020 and 2019, respectively.

11. Income Taxes

Current income tax expense or benefit represents the amounts expected to be reported on the Company's income tax returns, and deferred income tax expense or benefit represents the change in net deferred tax assets and liabilities. Deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities as measured by the enacted income tax rates that will be in effect when these differences reverse. Valuation allowances are recorded as appropriate to reduce deferred tax assets to the amount considered more likely than not to be realized.

Included in the Tax Act were the global intangible low-taxed income ("GILTI") provisions. The Company elected to account for GILTI tax in the period in which it is incurred. The GILTI provisions require the Company to include in its U.S. income tax return foreign subsidiary earnings in excess of an allowable return on the foreign subsidiary's tangible assets.

Income (loss) from continuing operations before income taxes and equity income as reported on the Consolidated Statements of Operations consists of the following:

(In thousands)	2021	2020	2019
U.S.	\$ (34,462)	\$ (87,315)	\$ (38,969)
International	71,968	33,095	70,034
Total income (loss) from continuing operations before income taxes and equity income	<u>\$ 37,506</u>	<u>\$ (54,220)</u>	<u>\$ 31,065</u>

Income tax expense (benefit) as reported on the Consolidated Statements of Operations consists of the following:

(In thousands)	2021	2020	2019
Income tax expense (benefit):			
Currently payable:			
U.S. federal	\$ —	\$ (12,116)	\$ 902
U.S. state	507	468	220
International	22,295	16,518	21,132
Total income taxes currently payable	22,802	4,870	22,254
Deferred U.S. federal	(4,594)	(10,558)	(9,367)
Deferred U.S. state	(18)	(3,078)	(2,575)
Deferred international	(9,101)	93	2,416
Total income tax expense (benefit) from continuing operations	<u>\$ 9,089</u>	<u>\$ (8,673)</u>	<u>\$ 12,728</u>

Cash payments for income taxes were \$21.7 million, \$34.9 million and \$115.6 million for 2021, 2020 and 2019, respectively. The decrease in cash payments for 2021 is principally due to payments associated with the gain on the sale of IKG in 2020 and the gain on the sale of AXC and PK in 2019 not recurring in 2021.

A reconciliation of the normal expected statutory U.S. federal income tax expense (benefit) to the actual Income tax expense (benefit) from continuing operations as reported on the Consolidated Statements of Operations is as follows:

(In thousands)	2021	2020	2019
U.S. federal income tax expense (benefit), at statutory tax rate of 21%	\$ 7,877	\$ (11,386)	\$ 6,523
U.S. state income taxes, net of federal income tax benefit	(310)	(2,015)	(1,290)
U.S. other domestic deductions and credits	(415)	(1,312)	(596)
Difference in effective tax rates on international earnings and remittances	4,488	7,872	7,536
Uncertain tax position contingencies and settlements	783	289	310
Changes in realization on beginning of the year deferred tax assets	(5,035)	(1,501)	2,343
U.S. non-deductible expenses	936	2,300	2,461
Impact of U.S. tax reform	—	—	1,644
Net operating loss carryback	—	(2,696)	—
State deferred tax rate changes	592	(40)	(3,354)
Employee share-based payments	173	(184)	(2,817)
Other, net	—	—	(32)
Total income tax expense (benefit) from continuing operations	<u>\$ 9,089</u>	<u>\$ (8,673)</u>	<u>\$ 12,728</u>

At December 31, 2021, 2020 and 2019, the Company's annual effective income tax rate on income (loss) from continuing operations was 24.2%, 16.0% and 41.0%, respectively.

The Company's international income from continuing operations before income taxes and equity income was \$72 million and \$33.1 million for 2021 and 2020, respectively. In 2021, the Company recorded \$6.8 million income tax benefit arising from the recognition of deferred tax assets in Harsco Environmental Brazil. Brazil has 3 years of cumulative income and expects to utilize the deferred tax assets against future income. The Company's total international income tax expense decreased from \$16.6 million in 2020 to \$13.2 million in 2021 primarily due to the Brazil income tax benefit in 2021, partially offset by improvement of operating income.

The Company's differences in income tax expense for 2021 and 2020 on international earnings and remittances was \$4.5 million and \$7.9 million, respectively, which included U.S. income tax expense on international deemed remittances of \$0.1 million and \$0.1 million respectively. The decrease is primarily due to the change in mix of income.

The Company's U.S. loss from continuing operations before income taxes and equity income was \$34.5 million and \$87.3 million for 2021 and 2020, respectively. The Company's total U.S. income tax benefit decreased from \$25.3 million in

2020 to \$4.1 million in 2021 primarily due to decreased expenses from corporate strategic spending, recognition of net operating loss carrybacks not recurring in 2021, as well as disallowed interest expense.

The income tax effects of the temporary differences giving rise to the Company's deferred tax assets and liabilities at December 31, 2021 and 2020 are as follows:

(In thousands)	2021 (a)		2020 (a)	
	Asset	Liability	Asset	Liability
Depreciation and amortization	\$ —	\$ 80,278	\$ —	\$ 87,681
Right-of-use assets		25,759		23,406
Operating lease liabilities	25,431		22,868	
Expense accruals	24,949	—	22,136	—
Inventories	3,400	—	2,721	—
Provision for receivables	5,504	—	4,903	—
Deferred revenue	—	4,124	—	4,425
Operating loss carryforwards	65,935	—	66,703	—
Tax credit carryforwards	18,608	—	15,630	—
Pensions	23,298	—	49,740	—
Currency adjustments	5,075	—	4,829	—
Deferred financing costs	359	—	—	269
Section 163(j) disallowed interest expense	4,843	—	—	—
Post-retirement benefits	335	—	340	—
Stock based compensation	7,396	—	6,696	—
Other	1,470	—	1,954	—
Subtotal	186,603	110,161	198,520	115,781
Valuation allowance	(92,385)	—	(108,563)	—
Total deferred income taxes	\$ 94,218	\$ 110,161	\$ 89,957	\$ 115,781

(a) Does not include approximately \$1.1 billion of statutory loss carryforwards within Luxembourg for which the Company considers the utilization of these attributes remote and as such no deferred tax asset or corresponding valuation allowance has been recorded.

At December 31, 2021, the tax-effected amount of NOLs totaled \$65.9 million. Tax-effected NOLs from international operations are \$40.9 million. Of that amount, \$32.0 million can be carried forward indefinitely and \$8.9 million will expire at various times between 2022 and 2041. Tax-effected U.S. state NOLs are \$16.0 million. Of that amount, \$3.6 million expire at various times between 2022 and 2026, \$3.2 million expire at various times between 2027 and 2031, \$4.7 million expire at various times between 2032 and 2036 and \$4.5 million expire at various times between 2037 and 2041. At December 31, 2021, the tax-effected amount of U.S. Federal NOLs totaled \$9.0 million. Of that amount, \$7.2 million can be carried forward indefinitely and \$1.8 million will expire at various times between 2033 and 2034.

Valuation allowances of \$92.4 million and \$108.6 million at December 31, 2021 and 2020, respectively, related principally to deferred tax assets for pension liabilities, NOLs, foreign tax credit carryforwards and foreign currency translation that are uncertain as to realizability. In 2021, the Company recorded a valuation allowance reduction of \$19.3 million related to current year pension adjustment recorded through AOCI, a valuation allowance reduction of \$6.8 million in Brazil where the Company determined that it is more likely than not that these assets will be realized, and a valuation allowance reduction of \$3.5 million from the effects of foreign currency translation adjustments, partially offset by a \$14.4 million valuation allowance increase related to the UK tax rate change, and \$4.8 million valuation allowance increase related to disallowed interest expense.

The Tax Act introduced a transition tax and a territorial tax system, which was effective beginning in 2018. The territorial tax system impacts the Company's overall global capital and legal entity structure, working capital, and repatriation plan on a go-forward basis. The Company asserts that all foreign earnings will be indefinitely reinvested to meet local cash needs. The Company therefore intends to limit distributions to earnings previously taxed in the U.S., or earnings that would qualify for the 100 percent dividends received deduction provided for in the Tax Act, and earnings that would not result in any significant foreign taxes. Therefore, the Company has not recognized a deferred tax liability on its investment in foreign subsidiaries.

The Company recognizes accrued interest and penalty expense related to unrecognized income tax benefits in income tax expense or benefit. The Company recognized an income tax expense of \$0.4 million, \$0.2 million and \$0.3 million during 2021, 2020 and 2019, respectively, for interest and penalties. The Company has accrued \$1.7 million, \$1.4 million and \$1.2 million for the payment of interest and penalties at December 31, 2021, 2020 and 2019, respectively.

A reconciliation of the change in the unrecognized income tax benefits balance from January 1, 2019 to December 31, 2021 is as follows:

(In thousands)	Unrecognized Income Tax Benefits	Deferred Income Tax Benefits	Unrecognized Income Tax Benefits, Net of Deferred Income Tax Benefits
Balances, January 1, 2019	\$ 2,422	\$ (26)	\$ 2,396
Additions for tax positions related to the current year (includes currency translation adjustment)	414	(7)	407
Additions for tax positions related to prior years (includes currency translation adjustment)	681	—	681
Statutes of limitation expirations	(326)	2	(324)
Settlements	(62)	9	(53)
Balance at December 31, 2019	3,129	(22)	3,107
Additions for tax positions related to the current year (includes currency translation adjustment)	596	(2)	594
Other reductions for tax positions related to prior years	(771)	—	(771)
Statutes of limitation expirations	(58)	2	(56)
Balance at December 31, 2020	2,896	(22)	2,874
Additions for tax positions related to the current year (includes currency translation adjustment)	316	(1)	315
Additions for tax positions related to prior years (includes currency translation adjustment)	500	—	500
Statutes of limitation expirations	(585)	1	(584)
Total unrecognized income tax benefits that, if recognized, would impact the effective income tax rate at December 31, 2021	<u>\$ 3,127</u>	<u>\$ (22)</u>	<u>\$ 3,105</u>

Within the next twelve months, it is reasonably possible that up to \$0.4 million of unrecognized income tax benefits will be recognized upon settlement of income tax examinations and the expiration of various statutes of limitations.

The Company files income tax returns as prescribed by the tax laws of the jurisdictions in which it operates. With few exceptions, the Company is no longer subject to U.S and international income tax examinations by tax authorities through 2015.

12. Commitments and Contingencies

Environmental

The Company is involved in a number of environmental remediation investigations and cleanups and, along with other companies, has been identified as a “potentially responsible party” for certain byproduct disposal sites. While each of these matters is subject to various uncertainties, it is probable that the Company will agree to make payments toward funding certain of these activities, and it is possible that some of these matters will be decided unfavorably to the Company. The Company has evaluated its potential liability and its financial exposure is dependent upon such factors as the continuing evolution of environmental laws and regulatory requirements, the availability and application of technology, the allocation of cost among potentially responsible parties, the years of remedial activity required and the remediation methods selected.

The Company evaluates its liability for future environmental remediation costs on a quarterly basis. Although actual costs to be incurred at identified sites in future periods may vary from the estimates (given inherent uncertainties in evaluating environmental exposures), the Company does not expect that any costs that are reasonably possible to be incurred by the Company in connection with environmental matters in excess of the amounts accrued would have a material adverse effect on the Company's financial condition, results of operations or cash flows.

The following table summarizes information related to the location and undiscounted amount of the Company's environmental liabilities:

(In thousands)	December 31 2021	December 31 2020
Current portion of environmental liabilities (a)	\$ 7,338	\$ 6,862
Long-term environmental liabilities	28,435	29,424
Total environmental liabilities	<u>\$ 35,773</u>	<u>\$ 36,286</u>

(a) The current portion of environmental liabilities is included in the caption Other current liabilities on the Consolidated Balance Sheets.

Environmental liabilities relate primarily to the ESOL business which was acquired on April 6, 2020. As part of the ESOL acquisition, the Company assumed control of certain closed sites that were being monitored as part of ongoing environmental remediation plans. See Note 3, Acquisitions and Dispositions, for additional details.

Legal Proceedings

In the ordinary course of business, the company is a defendant or party to various claims and lawsuits, including those discussed below.

On March 28, 2018, the United States Environmental Protection Agency (the “EPA”) conducted an inspection of ESOL’s off-site waste management facility in Detroit, MI. On November 23, 2021, the EPA proposed a civil penalty of \$390,092 as part of a proposed Administrative Consent Order for alleged improper air emissions at the site. The allegations in the proposed Administrative Consent Order and civil penalty relate exclusively to the period prior to the Company’s purchase of the ESOL business. The Company is vigorously contesting the allegations. The Company believes that any loss related to this issue will be recoverable under indemnity rights under the ESOL purchase agreement and representations and warranties insurance policies purchased by the Company, subject to applicable deductibles.

On January 27, 2020, the U.S. EPA issued a Notice of Potential Liability to the Company, along with several other companies, concerning the Newtown Creek Superfund Site located in Kings and Queens Counties in New York. The Notice alleges certain facilities formerly owned or operated by subsidiaries of the Company may have resulted in the discharge of hazardous substances into Newtown Creek or its Dutch Kills tributary. The site has been subject to CERCLA response activities since approximately 2011. The U.S. EPA expects to propose a sitewide cleanup plan no sooner than 2024 and announced in July 2021 that it would defer its decision on a potential early action response for the lower two miles of the Creek until the sitewide studies are completed. The Company is one of approximately twenty (20) Potentially Responsible Parties that have received notices, though it is believed other PRPs may exist. The Company vigorously contests the allegations of the Notice and currently does not believe that this matter will have a material effect on the Company’s financial position or results from operations.

On June 25 and 26, 2018, the DTSC conducted a compliance enforcement inspection of ESOL’s facility in Rancho Cordova, California, which was then owned by Stericycle, Inc. On February 14, 2020, the DTSC filed an action in the Superior Court for the State of California, Sacramento Division, alleging violations of California’s Hazardous Waste Control Law and the facility’s hazardous waste permit arising from the inspection. On August 27, 2020 the DTSC issued a Notice of Denial of Hazardous Waste Facility Permit Application. On September 25, 2020, the Company filed an administrative appeal. On September 28, 2021, DTSC scheduled a public hearing on October 28, 2021 as part of its Violation Scoring Procedure (VSP) program to hear testimony on the compliance tier assignment assigned to the facility. The Company would have the ability to judicially challenge any adverse permit actions resulting from this process. The DTSC investigation and compliance issues leading to the compliance tier assignment were ongoing well before the Company’s acquisition of the ESOL business, and the Company was aware of the investigation and many of the issues raised in the investigation at the time of the purchase. Accordingly, the Company is indemnified for certain fines and other costs and expenses associated with this matter by Stericycle, Inc. As a result, the administrative appeal and public hearing process will be led by Stericycle, Inc. The Company has not accrued any amounts in respect of these alleged violations and cannot estimate the reasonably possible loss or the range of reasonably possible losses that it may incur.

As previously disclosed, the Company has had ongoing meetings with the SCE over processing salt cakes, a processing byproduct, stored at the Al Hafeerah site. The Company’s Bahrain operations that produced the salt cakes has ceased operations. An Environmental Impact Assessment and Technical Feasibility Study for facilities to process the salt cakes was approved by the SCE during the first quarter of 2018. Commissioning of the facilities was completed during the third quarter of 2021 and the processing of the salt cakes has commenced. The Company has previously established a reserve of \$7.5 million, which continues to represent the Company’s best estimate of the ultimate costs to be incurred to resolve this matter. The Company continues to evaluate this reserve and any future change in estimated costs could be material to the Company’s results of operations in any one period.

On July 27, 2018 Brazil’s Federal and Rio de Janeiro State Public Prosecution Offices (MPF and MPE) filed a Civil Public Action against one of the Company’s customers (CSN), the Company’s Brazilian subsidiary, the Municipality of Volta Redonda, Brazil, and the Instituto Estadual do Ambiente (local environmental protection agency) seeking the implementation of various measures to limit and reduce the accumulation of customer-owned slag at the site in Brazil. On August 6, 2018 the 3rd Federal Court in Volta Redonda granted the MPF and MPE an injunction against the same parties requiring, among other things, CSN and the Company’s Brazilian subsidiary to limit the volume of slag sent to the site. Because the customer owns the site and the slag located on the site, the Company believes that complying with this injunction is the steel producer’s responsibility. On March 18, 2019 the Court issued an order fining the Company 5,000 Brazilian reais per day (or approximately \$1 thousand per day) and CSN 20,000 Brazilian reais per day (or approximately \$4 thousand per day) until the requirements of the injunction are met. On November 1, 2019 the Court issued an additional order increasing the fines assessed

to the Company to 25,000 Brazilian reais per day (or approximately \$5 thousand per day) and raising the fines assessed to CSN to 100,000 Brazilian reais per day (or approximately \$20 thousand per day). The Court also assessed an additional fine of 10,000,000 Brazilian reais (or approximately \$2 million) against CSN and the Company jointly. The Company is appealing the fines and the underlying injunction. Both the Company and CSN continue to have discussions with the governmental authorities on the injunction and the possible resolution of the underlying case. The Company does not believe that a loss relating to this matter is probable or estimable at this point.

On October 19, 2018 local environmental authorities issued an enforcement action against the Company concerning the Company's operations at a customer site in Ijmuiden, Netherlands. The enforcement action alleged violations of the Company's environmental permit at the site, which restricts the release of any visible dust emissions. On January 12, 2022, the Administrative Supreme Court upheld the Company's challenge of these enforcement actions as they relate to the slag tipping area of the site. As a result, all fines asserted against the Company to date have been invalidated and all fines paid to date must be reimbursed. This order is not appealable. On or about October 14, 2021, the Company received a subpoena and two indictments on this matter before the Amsterdam District Court in the Netherlands. The Amsterdam Public Prosecutor's Office issued the two indictments against the Company, alleging violations in connection with dust releases and/or events alleged to have occurred in 2018 through May 2020 at the site. The action cites provisions which permit fines for the alleged infractions and seeks EURO 100,000 in fines with a smaller amount held in abeyance. On February 2, 2022, the prosecutor announced that they would further investigate residents' claims related to this matter. The Company is vigorously contesting all allegations against it and is also working with its customer to ensure the control of emissions. The Company has contractual indemnity rights from its customer that it believes will substantially cover any fines or penalties.

DEA Investigation

Prior to the Company's acquisition of ESOL, Stericycle, Inc, notified the Company that the DEA had served an administrative subpoena on Stericycle, Inc. and executed a search warrant at a facility in Rancho Cordova, California and an administrative inspection warrant at a facility in Indianapolis, Indiana. The Company has determined that the DEA and the DTSC have launched investigations involving, at least in part, the ESOL business of collecting, transporting, and destroying controlled substances from retail customers that transferred from Stericycle, Inc. to the Company. In connection with these investigations, the DEA also executed a search warrant on an ESOL facility in Austin Texas on July 2, 2020. The Company is cooperating with these inquiries, which relate primarily to the period before the Company owned the ESOL business. Since the acquisition of the ESOL business, the Company has performed a vigorous review of ESOL's compliance program related to controlled substances and has made material changes to the manner in which controlled substances are transported from retail customers to DEA-registered facilities for destruction. The Company has not accrued any amounts in respect of these investigations and cannot estimate the reasonably possible loss or the range of reasonably possible losses that it may incur, if any. Investigations of this type are, by their nature, uncertain and unpredictable. While it is the Company's position that it has recourse for some or all liabilities, if any, that arise from these matters under the ESOL purchase agreement and representations and warranties insurance policies purchased by the Company, there can be no assurances that the Company's position will ultimately prevail.

Brazilian Tax Disputes

The Company is involved in a number of tax disputes with federal, state and municipal tax authorities in Brazil. These disputes are at various stages of the legal process, including the administrative review phase and the collection action phase, and include assessments of fixed amounts of principal and penalties, plus interest charges that increase at statutorily determined amounts per month and are assessed on the aggregate amount of the principal and penalties. In addition, the losing party, at the collection action or court of appeals phase, could be subject to a charge to cover statutorily mandated legal fees, which are generally calculated as a percentage of the total assessed amounts due, inclusive of penalty and interest. Many of the claims relate to ICMS, services and social security tax disputes. The largest proportion of the assessed amounts relate to ICMS claims filed by the SPRA, encompassing the period from January 2002 to May 2005.

In October 2009 the Company received notification of the SPRA's final administrative decision regarding the levying of ICMS in the State of São Paulo in relation to services provided to a customer in the State between January 2004 and May 2005. As of December 31, 2021, the principal amount of the tax assessment from the SPRA with regard to this case is \$1.1 million, with penalty, interest and fees assessed to date increasing such amount by an additional \$15.4 million. On June 4, 2018, the Appellate Court of the State of Sao Paulo ruled in favor of the SPRA but ruled that the assessed penalty should be reduced to \$1.1 million. After calculating the interest accrued on the penalty, the Company estimates that this ruling reduces the current overall potential liability for this case to approximately \$7 million. All such amounts include the effect of foreign currency translation. The Company has appealed the ruling in favor of the SPRA to the Superior Court of Justice. Due to multiple court precedents in the Company's favor, as well as the Company's ability to appeal, the Company does not believe a loss is probable.

Another ICMS tax case involving the SPRA refers to the tax period from January 2002 to December 2003. In December 2018, the administrative tribunal hearing the case upheld the Company's liability. The Company has appealed to the judicial phase.

The aggregate amount assessed by the tax authorities in August 2005 was \$4.5 million (the amounts with regard to this claim are valued as of the date of the assessment since it has not yet reached the collection phase), composed of a principal amount of \$1.1 million, with penalty and interest assessed through that date increasing such amount by an additional \$3.4 million. On December 6, 2018, the administrative tribunal reduced the applicable penalties to \$0.8 million. After calculating the interest accrued on the current penalty, the Company estimates that the current overall liability for this case to be approximately \$5 million. All such amounts include the effect of foreign currency translation. Due to multiple court precedents in the Company's favor the Company does not believe a loss is probable.

The Company continues to believe that sufficient coverage for these claims exists as a result of the indemnification obligations of the Company's customer and such customer's pledge of assets in connection with the October 2009 notice, as required by Brazilian law.

On December 30, 2020, the Company received an assessment from the municipal authority in Ipatinga, Brazil alleging \$1.9 million in unpaid service taxes from the period 2015 to 2020. After calculating the interest and penalties accrued, the Company estimates that the current overall potential liability for this case to be approximately \$3 million. On January 18, 2021, the Company filed a challenge to the assessment. Due to the multiple defenses that are available, the Company does not believe a loss is probable.

The Company intends to continue its practice of vigorously defending itself against these tax claims under various alternatives, including judicial appeal. The Company will continue to evaluate its potential liability with regard to these claims on a quarterly basis; however, it is not possible to predict the ultimate outcome of these tax-related disputes in Brazil. No loss provision has been recorded in the Company's consolidated financial statements for the disputes described above because the loss contingency is not deemed probable, and the Company does not expect that any costs that are reasonably possible to be incurred by the Company in connection with Brazilian tax disputes would have a material adverse effect on the Company's financial condition, results of operations or cash flows.

Brazilian Labor Disputes

The Company is subject to ongoing collective bargaining and individual labor claims in Brazil through the Harsco Environmental Segment which allege, among other things, the Company's failure to pay required amounts for overtime and vacation at certain sites. The Company is vigorously defending itself against these claims; however, litigation is inherently unpredictable, particularly in foreign jurisdictions. While the Company does not currently expect that the ultimate resolution of these claims will have a material adverse effect on the Company's financial condition, results of operations or cash flows, it is not possible to predict the ultimate outcome of these labor-related disputes. As of December 31, 2021 and 2020, the Company has established reserves of \$3.2 million and \$4.3 million, respectively, on the Consolidated Balance Sheets for amounts considered to be probable and estimable.

Other

The Company is named as one of many defendants (approximately 90 or more in most cases) in legal actions in the U.S. alleging personal injury from exposure to airborne asbestos over the past several decades. In their suits, the plaintiffs have named as defendants, among others, many manufacturers, distributors and installers of numerous types of equipment or products that allegedly contained asbestos.

The Company believes that the claims against it are without merit. The Company has never been a producer, manufacturer or processor of asbestos fibers. Any asbestos-containing part of a Company product used in the past was purchased from a supplier and the asbestos encapsulated in other materials such that airborne exposure, if it occurred, was not harmful and is not associated with the types of injuries alleged in the pending actions.

At December 31, 2021, there were approximately 17,240 pending asbestos personal injury actions filed against the Company. Of those actions, approximately 16,610 were filed in the New York Supreme Court (New York County), approximately 120 were filed in other New York State Supreme Court Counties and approximately 510 were filed in courts located in other states.

The complaints in most of those actions generally follow a form that contains a standard damages demand of \$20 million or \$25 million, regardless of the individual plaintiff's alleged medical condition, and without identifying any specific Company product.

At December 31, 2021, approximately 16,550 of the actions filed in New York Supreme Court (New York County) were on the Deferred/Inactive Docket created by the court in December 2002 for all pending and future asbestos actions filed by persons who cannot demonstrate that they have a malignant condition or discernible physical impairment. The remaining

approximately 60 cases in New York County are pending on the Active or In Extremis Docket created for plaintiffs who can demonstrate a malignant condition or physical impairment.

The Company has liability insurance coverage under various primary and excess policies that the Company believes will be available, if necessary, to substantially cover any liability that might ultimately be incurred in the asbestos actions referred to above. The costs and expenses of the asbestos actions are being paid by the Company's insurers.

In view of the persistence of asbestos litigation in the U.S., the Company expects to continue to receive additional claims in the future. The Company intends to continue its practice of vigorously defending these claims and cases. At December 31, 2021, the Company has obtained dismissal in approximately 28,360 cases by stipulation or summary judgment prior to trial.

It is not possible to predict the ultimate outcome of asbestos-related actions in the U.S. due to the unpredictable nature of this litigation, and no loss provision has been recorded in the Company's consolidated financial statements because a loss contingency is not deemed probable or estimable. Despite this uncertainty, and although results of operations and cash flows for a given period could be adversely affected by asbestos-related actions, the Company does not expect that any costs that are reasonably possible to be incurred by the Company in connection with asbestos litigation would have a material adverse effect on the Company's financial condition, results of operations or cash flows.

The Company is subject to various other claims and legal proceedings covering a wide range of matters that arose in the ordinary course of business. In the opinion of management, all such matters are adequately covered by insurance or by established reserves, and, if not so covered, are without merit or are of such kind, or involve such amounts, as would not have a material adverse effect on the financial position, results of operations or cash flows of the Company.

Insurance liabilities are recorded when it is probable that a liability has been incurred for a particular event and the amount of loss associated with the event can be reasonably estimated. Insurance reserves have been estimated based primarily upon actuarial calculations and reflect the undiscounted estimated liabilities for ultimate losses, including claims incurred but not reported. Inherent in these estimates are assumptions that are based on the Company's history of claims and losses, a detailed analysis of existing claims with respect to potential value, and current legal and legislative trends. If actual claims differ from those projected by management, changes (either increases or decreases) to insurance reserves may be required and would be recorded through income in the period the change was determined. When a recognized liability is covered by third-party insurance, the Company records an insurance claim receivable to reflect the covered liability. Insurance claim receivables are included in Insurance claim receivable and Other receivables on the Consolidated Balance Sheets. See Note 1, Summary of Significant Accounting Policies, for additional information on Accrued insurance and loss reserves.

13. Capital Stock

The authorized capital stock of the Company consists of 150,000,000 shares of common stock and 4,000,000 shares of preferred stock, both having a par value of \$1.25 per share. The preferred stock is issuable in series with terms as fixed by the Board. No preferred stock has been issued. The following table summarizes the Company's common stock:

	Shares Issued	Treasury Shares (a)	Outstanding Shares
Outstanding, January 1, 2019	113,473,951	33,928,928	79,545,023
Shares issued for vested restricted stock units	321,965	125,863	196,102
Shares issued for vested performance units	908,566	379,353	529,213
Stock appreciation rights exercised	15,865	4,619	11,246
Treasury shares purchased	—	1,766,826	(1,766,826)
Outstanding, December 31, 2019	114,720,347	36,205,589	78,514,758
Shares issued for vested restricted stock units	229,413	91,188	138,225
Shares issued for vested performance stock units	471,412	206,261	265,151
Stock appreciation rights exercised	8,870	2,634	6,236
Outstanding, December 31, 2020	115,430,042	36,505,672	78,924,370
Shares issued for vested restricted stock units	305,535	112,275	193,260
Shares issued for vested performance stock units	124,077	54,950	69,127
Stock appreciation rights exercised	46,739	17,950	28,789
Outstanding, December 31, 2021	115,906,393	36,690,847	79,215,546

(a) The Company repurchases shares in connection with the issuance of shares under stock-based compensation programs and in accordance with Board authorized share repurchase programs.

The following is a reconciliation of the average shares of common stock used to compute basic earnings per common share to the shares used to compute diluted earnings per common share as shown on the Consolidated Statements of Operations:

(In thousands, except per share data)	2021	2020	2019
Income (loss) from continuing operations attributable to Harsco Corporation common stockholders	\$ 22,137	\$ (49,727)	\$ 10,311
Weighted-average shares outstanding—basic	79,234	78,939	79,632
Dilutive effect of stock-based compensation	1,055	—	1,743
Weighted-average shares outstanding—diluted	80,289	78,939	81,375
Income (loss) from continuing operations per common share, attributable to Harsco Corporation common stockholders:			
Basic	\$ 0.28	\$ (0.63)	\$ 0.13
Diluted	\$ 0.28	\$ (0.63)	\$ 0.13

The following average outstanding stock-based compensation units were not included in the computation of diluted earnings per share because the effect was antidilutive or the market conditions for the performance share units were not met:

(In thousands)	2021	2020	2019
Restricted stock units	—	714	—
Stock appreciation rights	826	2,474	491
Performance share units	865	887	124

14. Stock-Based Compensation

The 2013 Equity and Incentive Plan as amended (the "2013 Plan") authorizes the issuance of up to 9.9 million shares of the Company's common stock for use in paying incentive compensation awards in the form of stock options or other equity awards such as restricted stock, restricted stock units ("RSUs"), stock appreciation rights ("SARs") or performance share units ("PSUs"). Of the 9.9 million shares authorized, a maximum of 6.5 million shares may be issued for awards other than option rights or SARs, as defined in the 2013 Plan. The 2016 Non-Employee Directors' Long-Term Equity Compensation Plan, as amended (the "2016 Plan") authorizes the issuance of up to 800 thousand shares of the Company's common stock for equity awards. Both plans have been approved by the Company's stockholders. At December 31, 2021, there were 2.4 million shares available for granting equity awards under the 2013 Plan, of which 1.8 million shares were available for awards other than option rights or SARs. At December 31, 2021, there were 430 thousand shares available for granting equity awards under the 2016 Plan.

Restricted Stock Units

The Board approves the granting of performance-based RSUs as the long-term equity component of director, officer and certain key employee compensation. The RSUs require no payment from the recipient and compensation cost is measured based on the market price of the Company's common stock on the grant date and is generally recorded over the vesting period. RSUs granted to officers and certain key employees in 2019, 2020 and 2021 either vest on a pro-rata basis over three years or upon attainment of specified retirement or years of service criteria. The vesting period for RSUs granted to non-employee directors is one year and each RSU is exchanged for an equal number of shares of the Company's common stock upon vesting for awards issued under the 2016 Plan and following the termination of the participant's service as a director under prior plans. RSUs do not have an option for cash payment.

The following table summarizes RSUs issued and the compensation expense from continuing operations recorded for the years ended December 31, 2021, 2020, and 2019:

(Dollars in thousands, except per unit)	RSUs (a)	Weighted Average Fair Value	Expense		
			2021	2020	2019
Directors:					
2018	43,821	20.54	—	—	280
2019	14,211	25.33	—	120	240
2020	34,986	10.29	120	240	—
2021	23,224	21.53	333	—	—
Employees:					
2016	536,773	7.09	—	—	245
2017	286,251	13.70	—	85	763
2018	242,791	19.93	142	706	1,064
2019	270,864	22.25	1,239	1,270	1,524
2020	522,087	8.22	1,093	1,244	—
2021	343,125	18.62	1,892	—	—
Total			\$ 4,819	\$ 3,665	\$ 4,116

(a) Represents number of awards originally issued.

RSU activity for the year ended December 31, 2021 was as follows:

	Number of Shares	Weighted Average Grant-Date Fair Value
Non-vested at December 31, 2020	686,287	\$ 11.84
Granted	366,349	18.81
Vested	(307,543)	13.33
Forfeited	(32,249)	14.16
Non-vested at December 31, 2021	712,844	14.68

At December 31, 2021, the total unrecognized compensation expense related to non-vested RSUs was \$6.0 million, which will be recognized over a weighted-average period of 1.9 years.

The total fair value of RSU's vested in 2021, 2020 and 2019 was \$4.1 million, \$4.3 million and \$4.7 million, respectively.

Stock Appreciation Rights

The Board approves the granting of SARs to officers and certain key employees under the 2013 Plan. The SARs generally vest on a pro-rata three-year basis from the grant date or upon specified retirement or years of service criteria and expire no later than ten years after the grant date. The exercise price of the SARs is equal to the fair value of Harsco common stock on the grant date. Upon exercise, shares of the Company's common stock are issued based on the increase in the fair value of the Company's common stock over the exercise price of the SAR. SARs do not have an option for cash payment.

During 2019, the Company issued SARS covering 216,100 shares in March and 13,244 shares in July under the 2013 Plan. During 2020, the Company issued SARS covering 785,152 shares in March and 20,526 in October under the 2013 Plan.

During 2021, the Company issued SARS covering 184,641 shares in March under the 2013 Plan.

The fair value of each SAR grant was estimated on the grant date using a Black-Scholes pricing model with the following assumptions:

	Risk-free Interest rate	Dividend Yield	Expected Life (Years)	Volatility	SAR Grant Price	Fair Value of SAR
March 2019 Grant	2.52 %	— %	6.0	46.2 %	22.51	10.62
July 2019 Grant	1.84 %	— %	6.0	47.1 %	27.39	12.80
March 2020 Grant	0.76 %	— %	6.0	45.2 %	10.29	3.03
October 2020 Grant	0.44 %	— %	6.0	60.3 %	14.89	8.12
March 2021 Grant	0.91 %	— %	6.0	61.9 %	18.58	10.48

The March 2020 Grant's fair value was estimated using a Monte Carlo simulation because the exercise price is greater than the fair value of Harsco common stock on the grant date.

SARs activity for the year ended December 31, 2021 was as follows:

	Number of Shares	Weighted Average Exercise Price	Aggregate Intrinsic Value (in millions) (b)
Outstanding, December 31, 2020	2,401,131	\$ 14.37	\$ 11.7
Granted	184,641	18.58	
Exercised	(107,413)	10.81	
Forfeited/Expired	(84,304)	17.31	
Outstanding, December 31, 2021	2,394,055	14.75	8.6

(b) Intrinsic value is defined as the difference between the current market value and the exercise price, for those SARs where the market price exceeds the exercise price.

The total intrinsic value of SARs exercised in 2021, 2020 and 2019 was \$0.6 million, \$0.5 million, and \$0.3 million, respectively.

The following table summarizes information concerning outstanding and exercisable SARs at December 31, 2021:

Range of exercisable prices	SARs Outstanding				SARs Exercisable	
	Vested	Non-vested	Weighted-Average Exercise Price per Share	Weighted-Average Remaining Contractual Life in Years	Number Exercisable	Weighted-Average Exercise Price per Share
\$7.00 - \$14.89	807,168	443,256	\$ 9.87	6.53	807,168	\$ 9.48
\$16.53 - \$22.70	727,909	221,624	19.12	5.31	727,909	19.01
\$23.25 - \$26.92	194,098	—	24.80	2.61	194,098	24.80
	1,729,175	664,880	14.75	5.73	1,729,175	15.21

Total compensation expense from continuing operations related to SARs was \$1.8 million, \$1.7 million and \$1.8 million for the years ended December 31, 2021, 2020 and 2019, respectively. At December 31, 2021, total unrecognized compensation expense related to non-vested SARs was \$2.2 million, which will be recognized over a weighted average period of 1.8 years.

Weighted-average grant date fair value of non-vested SARs for the year ended December 31, 2021 was as follows:

	Number of Shares	Weighted-Average Grant Date Fair Value
Non-vested shares, December 31, 2020	877,947	\$ 4.50
Granted	184,641	10.48
Vested	(348,340)	5.33
Forfeited	(49,368)	5.77
Non-vested shares, December 31, 2021	664,880	5.63

Performance Share Units

The Board approves the granting of PSUs to officers and certain key employees that may be earned based on the Company's total shareholder return over the three-year performance period. PSUs are paid out at the end of each performance period based on the Company's performance, which is measured by determining the percentile rank of the total shareholder return of the Company's common stock in relation to the total shareholder return of a specific peer group of companies. The peer group of companies utilized is the S&P 600 Industrial Index. The payment of PSUs following the performance period will be based in accordance with the scale set forth in the PSU agreements, and may range from 0% to 200% of the initial grant. PSUs do not have an option for cash payment.

During the year ended December 31, 2019, the Company granted 233,112 shares in March, 6,189 shares in July and 38,006 shares in August under the 2013 Plan. During the year ended December 31, 2020, the Company granted 513,995 shares in March and 11,194 shares in October under the 2013 Plan. During the year ended December 31, 2021, the Company granted 316,959 shares in March under the 2013 Plan. The fair value of PSUs granted was estimated on the grant date using a Monte Carlo pricing model with the following assumptions:

	Risk-free Interest rate	Dividend Yield	Expected Life (Years)	Volatility	Fair Value of PSU
March 2019 Grant	2.48 %	— %	2.82	33.8 %	29.04
July 2019 Grant	1.75 %	— %	2.50	34.3 %	40.07
August 2019 Grant	1.57 %	— %	2.41	34.9 %	23.38
March 2020 Grant	0.56 %	— %	2.81	36.0 %	4.40
October 2020 Grant	0.17 %	— %	2.20	53.7 %	17.01
March 2021 Grant	0.25 %	— %	2.83	50.7 %	25.38

Total compensation expense from continuing operations related to PSUs was \$5.1 million, \$3.2 million and \$4.8 million for the years ended December 31, 2021, 2020 and 2019, respectively. At December 31, 2021, total unrecognized compensation expense related to non-vested PSUs was \$5.6 million, which will be recognized over a weighted average period of 1.9 years.

A summary of the Company's non-vested PSU activity during the year ending December 31, 2021 was as follows:

	Number of Shares	Weighted-Average Grant Date Fair Value
Non-vested shares, December 31, 2020	696,318	\$ 11.85
Granted	316,959	25.38
Forfeited	(44,839)	15.47
Vested, not issued (c)	(214,645)	26.84
Non-vested shares, December 31, 2021	<u>753,793</u>	<u>13.05</u>

(c) The measurement period for PSUs issued in 2019 ended on December 31, 2021 and these shares vested but will not be issued until the Board certifies the measurement period results in early 2022. A total of 0 shares are expected to be issued.

15. Financial Instruments

Off-Balance Sheet Risk

As collateral for the Company's performance and to insurers, the Company is contingently liable under standby letters of credit, bonds, bank guarantees and performance guarantees in the amounts of \$519.4 million, \$410.6 million and \$281.8 million at December 31, 2021, 2020 and 2019, respectively. The expiration periods of the standby letters of credit, bonds and bank guarantees range from less than 1 year to over 5 years, but the majority are generally in force for up to 2 years. Certain issues have no scheduled expiration date. The Company pays fees to various banks and insurance companies that range from 0.4% to 3.8% per annum of the instrument's face value. If the Company were required to obtain replacement standby letters of credit, bonds and bank guarantees at December 31, 2021 for those currently outstanding, it is the Company's opinion that the replacement costs would be within the present fee structure.

The Company has currency exposures in approximately 30 countries. The Company's primary foreign currency exposures during 2021 were in the European Union, the U.K., Brazil and China.

Off-Balance Sheet Risk—Third-Party Guarantees

Any liabilities related to the Company's obligation to stand ready to act on third-party guarantees are included in Other current liabilities or Other liabilities (as appropriate) on the Consolidated Balance Sheets. Any recognition of these liabilities did not have a material impact on the Company's financial position or results of operations for 2021, 2020 or 2019.

In the normal course of business, legal indemnifications are provided related primarily to the performance of the Company's products and services and patent and trademark infringement of the products and services sold. These indemnifications generally relate to the performance (regarding function, not price) of the respective products or services and therefore no liability is recognized related to the fair value of such guarantees.

Derivative Instruments and Hedging Activities

The Company uses derivative instruments, including foreign currency exchange forward contracts, interest rate swaps and CCIRs, to manage certain foreign currency and interest rate exposures. Derivative instruments are viewed as risk management tools by the Company and are not used for trading or speculative purposes. All derivative instruments are recorded on the Consolidated Balance Sheets at fair value. The accounting for changes in the fair value of derivatives depends on the intended use of the derivative, whether the Company has elected to designate a derivative in a hedging relationship and apply hedge accounting and whether the hedging relationship has satisfied the criteria necessary to apply hedge accounting. Derivatives

designated and qualifying as a hedge of the exposure to variability in expected future cash flows, or other types of forecasted transactions, are considered cash flow hedges. Hedge accounting generally provides for the matching of the timing of gain or loss recognition on the hedging instrument with the recognition of the earnings effect of the hedged forecasted transactions in a cash flow hedge. The Company may enter into derivative contracts that are intended to economically hedge certain of its risks, even though hedge accounting does not apply, or the Company elects not to apply hedge accounting.

The Company primarily applies the market approach for recurring fair value measurements and endeavors to utilize the best available information. Accordingly, the Company utilizes valuation techniques that maximize the use of observable inputs, such as forward rates, interest rates, the Company's credit risk and counterparties' credit risks, and which minimize the use of unobservable inputs. The Company is able to classify fair value balances based on the ability to observe those inputs. Foreign currency exchange forward contracts, interest rate swaps and CCIRs are based upon pricing models using market-based inputs (Level 2). Model inputs can be verified and valuation techniques do not involve significant management judgment.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (an exit price). The Company utilizes market data or assumptions that the Company believes market participants would use in valuing the asset or liability, including assumptions about risk and the risks inherent in the inputs to the valuation technique.

The fair value hierarchy distinguishes between (1) market participant assumptions developed based on market data obtained from independent sources (observable inputs), and (2) an entity's own assumptions about market participant assumptions based on the best information available in the circumstances (unobservable inputs). The fair value hierarchy consists of three broad levels, which give the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3).

The three levels of the fair value hierarchy are described below:

- Level 1—Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities.
- Level 2—Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly, including quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in markets that are not active; inputs other than quoted prices that are observable for the asset or liability (e.g., interest rates); and inputs that are derived principally from or corroborated by observable market data by correlation or other means.
- Level 3—Inputs that are both significant to the fair value measurement and unobservable.

In instances in which multiple levels of inputs are used to measure fair value, hierarchy classification is based on the lowest level input that is significant to the fair value measurement in its entirety. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment and considers factors specific to the asset or liability.

The fair value of outstanding derivative contracts recorded as assets and liabilities on the Consolidated Balance Sheets was as follows:

(In thousands)	Balance Sheet Location	Fair Value of Derivatives Designated as Hedging Instruments	Fair Value of Derivatives Not Designated as Hedging Instruments	Total Fair Value
December 31, 2021				
Asset derivatives (Level 2):				
Foreign currency exchange forward contracts	Other current assets	\$ 719	\$ 1,405	\$ 2,124
Total		<u>\$ 719</u>	<u>\$ 1,405</u>	<u>\$ 2,124</u>
Liability derivatives (Level 2):				
Foreign currency exchange forward contracts	Other current liabilities	\$ 560	\$ 2,905	\$ 3,465
Interest rate swaps	Other current liabilities	4,157	—	4,157
Total		<u>\$ 4,717</u>	<u>\$ 2,905</u>	<u>\$ 7,622</u>

(In thousands)	Balance Sheet Location	Fair Value of Derivatives Designated as Hedging Instruments	Fair Value of Derivatives Not Designated as Hedging Instruments	Total Fair Value
December 31, 2020				
Asset derivatives (Level 2):				
Foreign currency exchange forward contracts	Other current assets	\$ 900	\$ 2,777	\$ 3,677
Total		\$ 900	\$ 2,777	\$ 3,677
Liability derivatives (Level 2):				
Foreign currency exchange forward contracts	Other current liabilities	\$ 950	\$ 4,098	\$ 5,048
Interest rate swaps	Other current liabilities	3,959	—	3,959
Interest rate swaps	Other liabilities	3,718	—	3,718
Total		\$ 8,627	\$ 4,098	\$ 12,725

All of the Company's derivatives are recorded on the Consolidated Balance Sheets at gross amounts and not offset. All of the Company's interest rate swaps, CCIRs and certain foreign currency exchange forward contracts are transacted under ISDA documentation. Each ISDA master agreement permits the net settlement of amounts owed in the event of default. The Company's derivative assets and liabilities subject to enforceable master netting arrangements, if offset, would have resulted in a \$0.9 million net liability at December 31, 2021 and at December 31, 2020 would not have resulted in a net asset or liability.

The effect of derivative instruments on the Consolidated Statements of Operations and the Consolidated Statements of Comprehensive Income (Loss) was as follows:

(In thousands)	Derivatives Designated as Hedging Instruments						
	Amount Recognized in OCI on Derivatives			Location of Amount Reclassified from AOCI into Income	Amount Reclassified from AOCI into Income - Effective Portion or Equity		
	2021	2020	2019		2021	2020	2019
Foreign currency exchange forward contracts	\$ —	\$ —	\$ (41)	Product revenues/Cost of services sold	\$ —	\$ —	\$ 44
Foreign currency exchange forward contracts	309	(930)	(1,186)	Income (loss) from discontinued businesses	(129)	(1,026)	(550)
Interest rate swaps	—	—	—	Income (loss) from discontinued businesses	—	—	2,741
Interest rate swaps	(42)	(3,889)	(8,209)	Interest expense	3,474	2,589	(520)
CCIRs(a)	—	39	(42)	Interest expense	—	1,015	1,219
	<u>\$ 267</u>	<u>\$ (4,780)</u>	<u>\$ (9,478)</u>		<u>\$ 3,345</u>	<u>\$ 2,578</u>	<u>\$ 2,934</u>

(a) Amounts represent changes in foreign currency translation related to balances in AOCI.

The location and amount of gain (loss) recognized on the Consolidated Statements of Operations:

(In thousands)	2021		
	Interest Expense	Income (Loss) from Discontinued Businesses	
Total amounts of line items presented in the Consolidated Statements of Operations in which the effects of cash flow hedges are recorded	\$ (63,235)	(25,863)	
Interest rate swaps:			
Gain or (loss) reclassified from AOCI into income	(3,474)	—	
Gain or (loss) reclassified from AOCI into income as a result that a forecasted transaction Amount recognized in earnings due to ineffectiveness	89	—	
Foreign exchange contracts:			
Gain or (loss) reclassified from AOCI into income	—	129	
Amount excluded from effectiveness testing recognized in earnings based on changes in fair value	—	62	
Amount excluded from the effectiveness testing recognized in earnings based on an amortization approach	—	(2)	
(In thousands)	2020		
	Interest Expense	Income (Loss) From Discontinued Businesses	
Total amounts of line items presented in the Consolidated Statements of Operations in which the effects of cash flow hedges are recorded	\$ (58,196)	20,350	
Interest rate swaps:			
Gain or (loss) reclassified from AOCI into income	(2,589)	—	
Foreign exchange contracts:			
Gain or (loss) reclassified from AOCI into income	—	1,026	
Amount excluded from effectiveness testing recognized in earnings based on changes in fair value	—	197	
Amount excluded from the effectiveness testing recognized in earnings based on an amortization approach	—	31	
CIRs:			
Gain or (loss) reclassified from AOCI into income	(1,015)	—	
(In thousands)	2019		
	Cost of Services Sold	Interest Expense	Income (Loss) From Discontinued Businesses
Total amounts of line items presented in the Consolidated Statements of Operations in which the effects of cash flow hedges are recorded	\$ 822,043	(34,024)	52,937
Interest rate swaps:			
Gain or (loss) reclassified from AOCI into income	—	520	—
Gain or (loss) reclassified from AOCI into income as a result that a forecasted transaction is no longer probable of occurring	—	—	(2,741)
Foreign exchange contracts:			
Gain or (loss) reclassified from AOCI into income	(44)	—	550
Amount excluded from effectiveness testing recognized in earnings based on changes in fair value	—	—	509
CIRs:			
Gain or (loss) reclassified from AOCI into income	—	(1,219)	—

Derivatives Not Designated as Hedging Instruments

(In thousands)	Location of Gain (Loss) Recognized in Income on Derivatives	Amount of Gain (Loss) Recognized in Income on Derivatives for the Twelve Months Ended December 31(b)		
		2021	2020	2019
Foreign currency exchange forward contracts	Cost of services and products sold	\$ 10,761	\$ (9,052)	\$ 6,807

(b) These gains (losses) offset amounts recognized in cost of service and products sold principally as a result of intercompany or third-party foreign currency exposures.

Foreign Currency Exchange Forward Contracts

The Company conducts business in multiple currencies and, accordingly, is subject to the inherent risks associated with foreign exchange rate movements. Foreign currency-denominated assets and liabilities are translated into U.S. dollars at the exchange rates existing at the respective balance sheet dates, and income and expense items are translated at the average exchange rates during the respective periods.

The Company uses derivative instruments to hedge cash flows related to foreign currency fluctuations. Foreign currency exchange forward contracts outstanding are part of a worldwide program to minimize foreign currency exchange operating income and balance sheet exposure by offsetting foreign currency exposures of certain future payments between the Company and various subsidiaries, suppliers or customers. The unsecured contracts are with major financial institutions. The Company may be exposed to credit loss in the event of non-performance by the contract counterparties. The Company evaluates the creditworthiness of the counterparties and does not expect default by them. Foreign currency exchange forward contracts are used to hedge commitments, such as foreign currency debt, firm purchase commitments and foreign currency cash flows for certain export sales transactions.

Changes in the fair value of derivatives used to hedge foreign currency denominated balance sheet items are reported directly in earnings, along with offsetting transaction gains and losses on the items being hedged. Derivatives used to hedge forecasted cash flows associated with foreign currency commitments may be accounted for as cash flow hedges, as deemed appropriate, if the criteria for hedge accounting are met. Gains and losses on derivatives designated as cash flow hedges are deferred in AOCI, a separate component of equity, and reclassified to earnings in a manner that matches the timing of the earnings impact of the hedged transactions. The ineffective portion of all hedges, if any, is recognized currently in earnings.

The recognized gains and losses offset amounts recognized in cost of services and products sold principally as a result of intercompany or third-party foreign currency exposures. At December 31, 2021 and December 31, 2020, the notional amounts of foreign currency exchange forward contracts were \$425.8 million and \$460.5 million, respectively. These contracts primarily hedge British pounds sterling and euros against other currencies and mature through March 2023.

In addition to foreign currency exchange forward contracts, the Company designates certain loans as hedges of net investments in international subsidiaries. The Company recorded pre-tax net gains of \$2.7 million, \$0.4 million and \$7.7 million related to hedges of net investments during 2021, 2020 and 2019, respectively, in AOCI.

Interest Rate Swaps

The Company uses interest rate swaps in conjunction with certain variable rate debt issuances in order to secure a fixed interest rate. Changes in the fair value attributed to the effect of the swaps' interest spread and changes in the credit worthiness of the counter-parties are recorded in AOCI.

At December 31, 2021, the Company has entered into a series of interest rate swaps that are in effect through 2022 and have the effect of converting \$200.0 million of the New Term Loan from floating-rate to fixed-rate. The fixed-rates provided by the swaps replace the adjusted LIBOR rate in the interest calculation, ranging from 2.71% for 2021 to 3.12% for 2022. In 2019, the Company terminated certain interest rate swaps in conjunction with the issuance of its Senior Notes. The Company paid \$2.8 million and recognized a loss of \$2.7 million related to these terminations in Income (loss) from discontinued businesses on the Consolidated Statements of Operations. In the fourth quarter of 2021, the interest rate swaps were deemed ineffective and thus the subsequent changes in fair value were recorded in earnings in the current period.

Cross-Currency Interest Rate Swaps

The Company may use CCIRs in conjunction with certain debt issuances in order to secure a fixed local currency interest rate. Under these CCIRs, the Company receives interest based on a fixed or floating U.S. dollar rate and pays interest on a fixed local currency rate based on the contractual amounts in dollars and the local currency, respectively. At maturity, there is also the payment of principal amounts between currencies. Changes in the fair value attributed to the effect of the swaps' interest spread and changes in the credit worthiness of the counter-parties are recorded in AOCI. Changes in value attributed to the effect of foreign currency fluctuations are recorded in the Consolidated Statements of Operations and offset currency fluctuation effects on the debt principal. The Company had no outstanding CCIRs at December 31, 2021 or December 31, 2020.

Fair Value of Other Financial Instruments

The carrying amounts of cash and cash equivalents, accounts receivable, accounts payable, accrued liabilities and short-term borrowings approximate fair value due to the short-term maturities of these assets and liabilities. At December 31, 2021 and 2020, the total fair value of long-term debt, including current maturities, was \$1,394.2 million and \$1,324.9 million, respectively, compared with a carrying value of \$1,387.9 million and \$1,300.5 million, respectively. Fair values for debt are

based upon pricing models using market-based inputs (Level 2) for similar issues or on the current rates offered to the Company for debt of the same remaining maturities.

Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash and cash equivalents and accounts receivable. The Company places cash and cash equivalents with high-quality financial institutions and, by policy, limits the amount of credit exposure to any single institution.

Concentrations of credit risk with respect to accounts receivable exist in the Company's Harsco Environmental Segment which have several large customers throughout the world with significant accounts receivable balances. Consolidation in the global steel or rail industries could result in an increase in concentration of credit risk for the Company. The Clean Earth Segment also has significant sales to several U.S. customers.

The Company generally does not require collateral or other security to support customer receivables. If a receivable from one or more of the Company's larger customers becomes uncollectible, it could have a material effect on the Company's results of operations or cash flows.

16. Information by Segment and Geographic Area

The Company reports information about operating segments using the "management approach," which is based on the way management organizes and reports the segments within the enterprise for making operating decisions and assessing performance. The Company's reportable segments are identified based upon differences in products, services and markets served. In 2021, the Company had two reportable segments. These segments and the types of products and services offered include the following:

Harsco Environmental

The Segment provides environmental services and material processing to the global steel and metals industries. The Segment partners with its global customer base to deliver production-critical on-site operational support and resource recovery services, through management of its customers' primary waste or byproduct streams. The Segment's services support the metal manufacturing process, generating significant operational and financial efficiencies for its customers and allowing them to focus on their core steelmaking businesses. In addition, this Segment creates value-added downstream products from industrial waste streams.

Harsco Clean Earth

The Segment is one of the largest specialty waste processing companies in the U.S., providing processing and beneficial reuse solutions for hazardous wastes, and soil and dredged materials.

Other Information

The measurement basis of segment profit or loss is operating income. There are no significant inter-segment sales. Corporate assets, at December 31, 2021 and 2020, include principally cash, prepaid taxes, fair value of derivative instruments and U.S. deferred income taxes. Countries with revenues from unaffiliated customers or net property, plant and equipment of ten percent or more of the consolidated totals (in at least one period presented) are as follows:

Information by Geographic Area (a)

(In thousands)	Revenues from Unaffiliated Customers		
	Twelve Months Ended December 31		
	2021	2020	2019
U.S.	\$ 1,008,689	\$ 830,699	\$ 420,956
U.K.	117,529	116,425	126,660
All Other	722,181	586,909	656,753
Totals including Corporate	\$ 1,848,399	\$ 1,534,033	\$ 1,204,369

(a) Revenues are attributed to individual countries based on the location of the facility generating the revenue.

(In thousands)	Property, Plant and Equipment, Net	
	December 31	
	2021	2020
U.S.	\$ 267,174	\$ 253,994
China	108,496	109,617
All Other	278,243	266,743
Totals including Corporate	\$ 653,913	\$ 630,354

No customer provided in excess of 10% of the Company's consolidated revenues in 2021 and 2020. One customer provided in excess of 10% of the Company's consolidated revenues in 2019.

In 2021, 2020 and 2019, the Harsco Environmental Segment had one customer that provided in excess of 10% of this Segment's revenues under multiple long-term contracts at several mill sites. Should additional consolidations occur involving some of the steel industry's larger companies which are customers of the Company, it would result in an increase in concentration of credit risk for the Company. The loss of any one of the contracts would not have a material adverse effect upon the Company's financial position or cash flows; however, it could have a significant effect on quarterly or annual results of operations.

In 2021 and 2020, Harsco Clean Earth had one customer that provided in excess of 10% of the Segment's revenue and, in 2019, no customers in excess of 10% of the Segment's revenues. The loss of this customer would not have a material adverse impact on the Company's financial positions or cash flows; however, it could have a material effect on quarterly or annual results of operations.

Operating Information by Segment:

(In thousands)	Twelve Months Ended		
	December 31		
	2021	2020	2019
Revenues (b)			
Harsco Environmental	\$ 1,068,083	\$ 914,445	\$ 1,034,847
Harsco Clean Earth	780,316	619,588	169,522
Total Revenues	\$ 1,848,399	\$ 1,534,033	\$ 1,204,369
Operating Income (Loss) (b)			
Harsco Environmental	\$ 103,402	\$ 59,006	\$ 112,298
Harsco Clean Earth	25,639	16,096	20,009
Corporate	(40,665)	(78,408)	(55,904)
Total Operating Income (Loss)	\$ 88,376	\$ (3,306)	\$ 76,403
Total Assets			
Harsco Environmental	\$ 1,386,087	\$ 1,322,731	\$ 1,296,061
Harsco Clean Earth	1,278,472	1,279,387	745,410
Corporate	56,086	74,185	28,455
Discontinued Operations	333,263	316,984	297,541
Total Assets	\$ 3,053,908	\$ 2,993,287	\$ 2,367,467
Depreciation (b)			
Harsco Environmental	\$ 105,830	\$ 100,971	\$ 104,840
Harsco Clean Earth	19,672	17,450	4,932
Corporate	1,900	2,022	2,737
Total Depreciation	\$ 127,402	\$ 120,443	\$ 112,509
Amortization (b)			
Harsco Environmental	\$ 8,052	\$ 7,825	\$ 7,286
Harsco Clean Earth	24,180	22,814	7,923
Corporate (c)	2,710	2,961	2,500
Total Amortization	\$ 34,942	\$ 33,600	\$ 17,709
Capital Expenditures (b)			
Harsco Environmental	\$ 137,228	\$ 99,056	\$ 153,694
Harsco Clean Earth	18,403	12,612	5,870
Corporate	1,289	488	1,762
Total Capital Expenditures	\$ 156,920	\$ 112,156	\$ 161,326

(b) The Company's acquisition of ESOL closed on April 6, 2020 and the Company's acquisition of Clean Earth closed on June 28, 2019. The operating results of the former Harsco Rail Segment and former Harsco Industrial Segment have been reflected as discontinued operations in the Consolidated Statement of Operations for all periods presented. See Note 3, Acquisitions and Dispositions, for additional details.

(c) Amortization expense on Corporate relates to the amortization of deferred financing costs.

Reconciliation of Segment Operating Income to Consolidated Income (Loss) From Continuing Operations Before Income Taxes and Equity Income:

(In thousands)	Twelve Months Ended		
	December 31		
	2021	2020	2019
Segment operating income	\$ 129,041	\$ 75,102	\$ 132,307
General Corporate expense	(40,665)	(78,408)	(55,904)
Operating income from continuing operations	88,376	(3,306)	76,403
Interest income	2,231	2,129	1,946
Interest expense	(63,235)	(58,196)	(34,024)
Defined benefit pension income (expense)	15,640	7,073	(5,556)
Unused debt commitment fees, amendment fees and loss on extinguishment of debt	(5,506)	(1,920)	(7,704)
Income (loss) from continuing operations before income taxes and equity income	\$ 37,506	\$ (54,220)	\$ 31,065

17. Revenue Recognition

The Company recognizes revenues to depict the transfer of promised services and products to customers in an amount that reflects the consideration the Company expects to receive in exchange for those services or products. Service revenues include the Harsco Clean Earth Segment and the service components of the Harsco Environmental Segment. Product revenues include portions of the Harsco Environmental Segment. See Note 1, Summary of Significant Accounting Policies, Revenue Recognition, for additional information.

A summary of the Company's revenues by primary geographical markets as well as by key product and service groups is as follows:

(In thousands)	Twelve Months Ended		
	December 31, 2021		
	Harsco Environmental Segment	Harsco Clean Earth Segment	Consolidated Totals
Primary Geographical Markets (a)(b):			
North America	\$ 281,124	\$ 780,317	\$ 1,061,441
Western Europe	442,286	—	442,286
Latin America (c)	132,349	—	132,349
Asia-Pacific	110,790	—	110,790
Middle East and Africa	81,337	—	81,337
Eastern Europe	20,196	—	20,196
Total Revenues	\$ 1,068,082	\$ 780,317	\$ 1,848,399
Key Product and Service Groups (a):			
Environmental services related to resource recovery for metals manufacturing; and related logistical services	\$ 920,579	\$ —	\$ 920,579
Ecoproducts	132,389	—	132,389
Environmental systems for aluminum dross and scrap processing	15,114	—	15,114
Waste processing and reuse solutions	—	780,317	780,317
Total Revenues	\$ 1,068,082	\$ 780,317	\$ 1,848,399

(In thousands)	Twelve Months Ended December 31, 2020		
	Harsco Environmental Segment	Harsco Clean Earth Segment	Consolidated Totals
Primary Geographical Markets (a)(b):			
North America	\$ 249,904	\$ 619,588	\$ 869,492
Western Europe	377,066	—	377,066
Latin America (c)	119,457	—	119,457
Asia-Pacific	87,608	—	87,608
Middle East and Africa	63,427	—	63,427
Eastern Europe	16,983	—	16,983
Total Revenues	\$ 914,445	\$ 619,588	\$ 1,534,033
Key Product and Service Groups (a):			
Environmental services related to resource recovery for metals manufacturing; and related logistical services	\$ 781,060	\$ —	\$ 781,060
Ecoproducts	120,432	—	120,432
Environmental systems for aluminum dross and scrap processing	12,953	—	12,953
Waste processing and reuse solutions	—	619,588	619,588
Total Revenues	\$ 914,445	\$ 619,588	\$ 1,534,033

(In thousands)	Twelve Months Ended December 31, 2019		
	Harsco Environmental Segment	Harsco Clean Earth Segment	Consolidated Totals
Primary Geographical Markets (b):			
North America	\$ 294,367	\$ 169,522	\$ 463,889
Western Europe	386,593	—	386,593
Latin America (c)	146,040	—	146,040
Asia-Pacific	128,949	—	128,949
Middle East and Africa	60,402	—	60,402
Eastern Europe	18,496	—	18,496
Total Revenues	\$ 1,034,847	\$ 169,522	\$ 1,204,369
Key Product and Service Groups:			
Environmental services related to resource recovery for metals manufacturing; and related logistical services	\$ 888,851	\$ —	\$ 888,851
Ecoproducts	127,874	—	127,874
Environmental systems for aluminum dross and scrap processing	18,122	—	18,122
Waste processing and reuse solutions	—	169,522	169,522
Total Revenues	\$ 1,034,847	\$ 169,522	\$ 1,204,369

(a) The Company acquired ESOL in 2020 and Clean Earth in 2019. The results of both are included in the Harsco Clean Earth Segment. The operating results of the former Harsco Rail Segment and Harsco Industrial Segment have been reflected as discontinued operations in the Consolidated Statements of Operations. See Note 3, Acquisition and Dispositions, for additional details.

(b) Revenues are attributed to individual countries based on the location of the facility generating the revenue.

(c) Includes Mexico.

The Company may receive payments in advance of earning revenue (advances on contracts), which are included in Other current liabilities and Other liabilities on the Consolidated Balance Sheets. The Company may recognize revenue in advance of being able to contractually invoice the customer (contract assets), which is included in Other current assets on the Consolidated Balance Sheets. Contract assets are transferred to Trade accounts receivable, net, when right to payment becomes unconditional. Contract assets and advances on contracts are reported as a net position, on a contract-by-contract basis, at the end of each reporting period.

The Company had contract assets totaling \$3.1 million at December 31, 2021 and \$2.5 million at December 31, 2020. The increase is due principally to additional contract assets recognized in excess of the transfer of contract assets to accounts receivable. The Company had advances on contracts totaling \$4.1 million at December 31, 2021 and \$2.7 million at December 31, 2020. The increase is due principally to the receipts of new advances on contracts in excess of the recognition of revenue on previously received advances on contracts during the period. During the year ended December 31, 2021, the Company recognized approximately \$15 million of revenue related to amounts previously included in advances on contracts.

At December 31, 2021, the Harsco Environmental Segment had remaining, fixed, unsatisfied performance obligations, where the expected contract duration exceeds one year totaling \$82.8 million. Of this amount, \$20.1 million is expected to be fulfilled by December 31, 2022, \$19.7 million by December 31, 2023, \$19.0 million by December 31, 2024, \$16.6 million by December 31, 2025 and the remainder thereafter. These amounts exclude any variable fees, fixed fees subject to indexation and any performance obligations expected to be satisfied within one year.

18. Other (Income) Expenses, Net

The major components of this Consolidated Statements of Operations caption are as follows:

(In thousands)	2021	2020	2019
Net gains			
Harsco Environmental Segment	\$ (8,902)	\$ (3,723)	\$ (6,303)
Employee termination benefit costs			
Harsco Environmental Segment	2,852	9,389	1,254
Clean Earth Segment	433	833	1,960
Corporate	1,481	27	1,012
Total employee termination benefit costs	4,766	10,249	4,226
Other costs to exit activities			
Harsco Environmental Segment	640	504	970
Clean Earth Segment	23	—	—
Corporate	—	29	196
Total other costs to exit activities	663	533	1,166
Impaired asset write-downs			
Harsco Environmental Segment	942	776	632
Clean Earth Segment	63	—	—
Total impaired asset write-downs	1,005	776	632
Contingent consideration adjustments			
Harsco Environmental Segment	—	—	(8,506)
Harsco Clean Earth Segment	—	112	825
Corporate	—	2,274	—
Total contingent consideration adjustments	—	2,386	(7,681)
Other income	(1,254)	(149)	(234)
Total other (income) expenses, net	\$ (3,722)	\$ 10,072	\$ (8,194)

Net Gains

Net gains result from the sales of redundant properties (primarily land, buildings and related equipment) and non-core assets. In 2021, gains related to assets sold principally in Western Europe. In 2020, gains related to assets sold principally in Latin America and Western Europe. In 2019, gains related to assets sold principally in Asia Pacific and North America; as well as a cumulative translation adjustment resulting from the substantial liquidation of a subsidiary in Western Europe.

Employee Termination Benefit Costs

Costs and the related liabilities associated with involuntary termination benefit costs for one-time benefit arrangements provided as part of an exit or disposal activity are recognized when a formal plan for reorganization is approved at the appropriate level of management and is communicated to the affected employees. Additionally, costs associated with ongoing benefit arrangements, or in certain countries where statutory requirements dictate a minimum required benefit, are recognized when they are probable and estimable. The employee termination benefit costs in 2021 principally related to the Harsco Environmental Segment primarily in Western Europe and Asia Pacific; and the Harsco Corporate segment primarily in North America. The employee termination benefits costs in 2020 principally related to the Harsco Environmental Segment primarily in Western Europe, North America, Latin America and Asia Pacific. The employee termination benefits costs in 2019 principally related to the Harsco Clean Earth Segment primarily in North America; and the Harsco Environmental Segment primarily in Asia Pacific and Western Europe.

Other Costs to Exit Activities

Costs associated with exit or disposal activities include costs to terminate a contract and other costs associated with exit or disposal activities. Costs to terminate a contract are recognized when an entity terminates the contract or when an entity ceases

using the right conveyed by the contract. This includes the costs to terminate the contract before the end of its term or the costs that will continue to be incurred under the contract for its remaining term without economic benefit to the entity. Other costs associated with exit or disposal activities (e.g., costs to consolidate or close facilities and relocate equipment or employees) are recognized and measured at their fair value in the period in which the liability is incurred. In 2021, exit costs were incurred principally in the Harsco Environmental Segment, mostly in North America. In 2020 and 2019, exit costs were incurred in the Harsco Environmental Segment across several regions.

Impaired Asset Write-downs

Impaired asset write-downs are measured as the amount by which the carrying amount of assets exceeds their fair value. Fair value is estimated based upon the expected future realizable cash flows including anticipated selling prices. Non-cash impaired asset write-downs are included in, Other, net, on the Consolidated Statements of Cash Flows as adjustments to reconcile net income (loss) to net cash provided by operating activities. In all years presented, impaired asset write-downs were incurred primarily in the Harsco Environmental Segment across several regions.

Contingent Consideration Adjustments

The Company acquired Clean Earth in 2019. Included in liabilities acquired was a contingent liability resulting from a prior Clean Earth acquisition. In 2018, the Company acquired Altek, which is included in the Harsco Environmental Segment, and the purchase price included contingent consideration based on the performance of Altek through 2021. Each quarter until settlement of the related contingencies, the Company assesses the likelihood that the acquired businesses will achieve performance goals and the resulting fair value of the contingent consideration and any future adjustments (increases or decreases) are included in operating results. The Company's acquisition of Clean Earth included an agreement to reimburse the sellers for any usage of assumed net operating losses in a post-closing period for up to five years. In 2020, Corporate recorded an adjustment related to the expected reimbursement of these net operating losses.

Other Income

Other income in 2021 relates principally to compensation received for a site previously exited in the Harsco Environmental Segment.

19. Components of Accumulated Other Comprehensive Loss

AOCI is included on the Consolidated Statements of Stockholders' Equity. The components of AOCI, net of the effect of income taxes, and activity for the years ended December 31, 2021 and 2020 are as follows:

(In thousands)	Components of AOCI - Net of Tax				Total
	Cumulative Foreign Exchange Translation Adjustments	Effective Portion of Derivatives Designated as Hedging Instruments	Cumulative Unrecognized Actuarial Losses on Pension Obligations	Unrealized Loss on Marketable Securities	
Balance at December 31, 2019	(143,340)	(3,717)	(440,562)	(3)	(587,622)
OCI before reclassifications	7,854 ^(a)	(3,709) ^(b)	(96,684) ^(c)	(6)	(92,545)
Amounts reclassified from AOCI, net of tax	12,906	1,586	22,746	—	37,238
Total OCI	20,760	(2,123)	(73,938)	(6)	(55,307)
Less: OCI attributable to noncontrolling interests	(2,812)	—	—	—	(2,812)
OCI attributable to Harsco Corporation	17,948	(2,123)	(73,938)	(6)	(58,119)
Balance at December 31, 2020	\$ (125,392)	\$ (5,840)	\$ (514,500)	\$ (9)	\$ (645,741)

Components of AOCI - Net of Tax

(In thousands)	Cumulative Foreign Exchange Translation Adjustments	Effective Portion of Derivatives Designated as Hedging Instruments	Cumulative Unrecognized Actuarial Losses on Pension Obligations	Unrealized Loss on Marketable Securities	Total
Balance at December 31, 2020	\$ (125,392)	\$ (5,840)	\$ (514,500)	\$ (9)	\$ (645,741)
OCI before reclassifications	(10,994) ^(a)	441 ^(b)	69,517 ^(c)	31	58,995
Amounts reclassified from AOCI, net of tax		2,375	22,735		25,110
Total OCI	(10,994)	2,816	92,252	31	84,105
Plus: OCI attributable to noncontrolling interests	1,497	—	—		1,497
OCI attributable to Harsco Corporation	(9,497)	2,816	92,252	31	85,602
Balance at December 31, 2021	\$ (134,889)	\$ (3,024)	\$ (422,248)	\$ 22	\$ (560,139)

(a) Principally foreign currency fluctuation.

(b) Principally net change from periodic revaluations.

(c) Principally changes due to annual actuarial remeasurements and foreign currency translation.

Amounts reclassified from AOCI for 2021 and 2020 are as follows:

(In thousands)	Year Ended December 31 2021	Year Ended December 31 2020	Affected Caption on the Consolidated Statements of Operations
Amortization of defined benefit pension items (d):			
Actuarial losses	\$ 23,657	\$ 19,623	Defined benefit pension income (expense)
Prior-service costs	582	511	Defined benefit pension income (expense)
Pension asset transfer - discontinued businesses	—	5,363	Gain on sale of discontinued businesses
Settlement/curtailment losses	(72)	(110)	Discontinued operations
Settlement/curtailment losses	—	18	Defined benefit pension income (expense)
Total before tax	24,167	25,405	
Tax benefit	(1,432)	(2,659)	
Total reclassification of defined benefit pension items, net of tax	<u>\$ 22,735</u>	<u>\$ 22,746</u>	
Recognition of cumulative foreign currency translation adjustments:			
Gain on substantial liquidation of subsidiaries (e)	\$ —	\$ 12,906	Other (income) expenses, net
Amortization of cash flow hedging instruments:			
Foreign currency exchange forward contracts	\$ (129)	\$ (1,026)	Discontinued operations
CCIRs	—	1,015	Interest expense
Interest rate swaps	3,474	2,589	Interest expense
Total before tax	3,345	2,578	
Tax benefit	(970)	(992)	
Total reclassification of cash flow hedging instruments	<u>\$ 2,375</u>	<u>\$ 1,586</u>	

(d) These AOCI components are included in the computation of NPPC. See Note 10, Employee Benefit Plans, for additional information.

(e) No tax impact.

20. Subsequent Events

Amendment to Senior Secured Credit Facilities

On February 22, 2022, the Company entered into Amendment No. 9 (“Amendment No. 9 to the Third Amended and Restated Credit Agreement”), dated as of November 2, 2016 (as the same has been amended, supplemented or otherwise modified prior to February 22, 2022, and as further amended by Amendment No. 9, the “Senior Secured Credit Facility”), with Bank of America, N.A., as administrative agent and as collateral agent, the lenders party thereto, and the other parties thereto. Amendment No. 9 reset the required level of the net debt to consolidated adjusted EBITDA ratio covenant beginning with the quarter ending on March 31, 2022 through the quarter ending December 31, 2023. As a result of this amendment, the net debt to consolidated adjusted EBITDA ratio covenant was set at 5.75 for the quarter ending March 31, 2022, and then decreases quarterly by 0.25 until reaching 4.00 for the quarters ending December 31, 2023 and thereafter. In addition, upon closing on the

divestiture of the former Harsco Rail Segment, the net debt to consolidated adjusted EBITDA ratio covenant will decrease by an additional 0.25, provided, however, it will not go below 4.00.

Two-Year Summary of Quarterly Results (Unaudited)
(In millions, except per share amounts)

Quarterly	2021 (a)			
	First	Second	Third	Fourth
Revenues	\$ 447.3	\$ 468.7	\$ 470.4	\$ 462.1
Gross profit (b)	89.9	93.2	95.0	79.7
Net income (loss) attributable to Harsco Corporation	0.1	13.4	7.6	(24.4)
Basic earnings (loss) per share attributable to Harsco Corporation common stockholders:				
Continuing operations	\$ (0.02)	\$ 0.11	\$ 0.06	\$ 0.13
Discontinued operations (c)	0.02	0.06	0.03	(0.43)
Basic earnings (loss) per share attributable to Harsco Corporation common stockholders	\$ —	\$ 0.17	\$ 0.10	\$ (0.31)
Diluted earnings (loss) per share attributable to Harsco Corporation common stockholders:				
Continuing operations	\$ (0.02)	\$ 0.11	\$ 0.06	\$ 0.13
Discontinued operations (c)	0.02	0.06	0.03	(0.43)
Diluted loss per share attributable to Harsco Corporation common stockholders	\$ —	\$ 0.17	\$ 0.09	\$ (0.30)
2020 (a)				
Quarterly	First	Second	Third	Fourth
Revenues	\$ 320.4	\$ 365.6	\$ 416.6	\$ 431.5
Gross profit (b)	62.3	62.1	80.5	86.8
Net income (loss) attributable to Harsco Corporation	0.1	(10.6)	(9.6)	(6.3)
Basic earnings (loss) per share attributable to Harsco Corporation common stockholders:				
Continuing operations	\$ (0.17)	\$ (0.25)	\$ (0.12)	\$ (0.09)
Discontinued operations (c)	0.17	0.12	—	0.01
Basic earnings (loss) per share attributable to Harsco Corporation common stockholders	\$ —	\$ (0.13)	\$ (0.12)	\$ (0.08)
Diluted income per share attributable to Harsco Corporation common stockholders:				
Continuing operations	\$ (0.17)	\$ (0.25)	\$ (0.12)	\$ (0.09)
Discontinued operations (c)	0.17	0.12	—	0.01
Diluted earnings (loss) per share attributable to Harsco Corporation common stockholders	\$ —	\$ (0.13)	\$ (0.12)	\$ (0.08)

(a) Sum of the quarters may not equal the total year due to rounding.

(b) Gross profit is defined as Revenues less costs and expenses associated directly with or allocated to products sold or services rendered.

(c) Discontinued operations related principally to the Company's former Harsco Rail Segment.

(d) Does not total due to rounding.

Item 9. Changes In and Disagreements With Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.**Evaluation of Disclosure Controls and Procedures**

As of December 31, 2021, an evaluation was performed, under the supervision and with the participation of the Company's management, including the Company's Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures pursuant to Rule 13a-15 under the Securities Exchange Act of 1934, as amended. Based upon that evaluation, such officers concluded that the Company's disclosure controls and procedures are effective to ensure that information required to be disclosed by the Company in the reports it files or submits under the Securities Exchange Act of 1934, as amended (1) is recorded, processed, summarized, and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and (2) is accumulated and communicated to the Company's management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow for timely decisions regarding required disclosure.

Remediation of Previously Reported Material Weaknesses

Prior to our acquisition of ESOL on April 6, 2020, the prior owner of the business, Stericycle, Inc., had identified two material weaknesses in their internal control over financial reporting, related in part to ESOL. The first material weakness related to not fully implementing and monitoring of general information technology controls in the areas of user access and program change management for systems supporting Stericycle Inc.'s internal control process, including ESOL. The second material weakness related to not fully designing, implementing and monitoring controls relevant to the revenue and cost of disposal processes, including certain general information technology controls. The Company has designed and implemented general information technology controls for ESOL's systems and has implemented additional controls to enhance check-in procedures at the waste processing facilities and monitoring controls over the order and invoicing processes and cost of disposal processes. Based on the results of our testing, management has concluded that the controls are adequately designed and have operated effectively for a sufficient period of time during 2021. Management has concluded that the previously identified material weaknesses have been remediated.

Changes in Internal Control Over Financial Reporting

As described above under the "Remediation of Previously Reported Material Weaknesses" section, there were changes in the Company's internal control over financial reporting during the Company's most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting

Management's Report on Internal Control Over Financial Reporting is included in Part II, Item 8, "Financial Statements and Supplementary Data." The effectiveness of the Company's internal control over financial reporting as of December 31, 2021 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report appearing in Part II, Item 8, "Financial Statements and Supplementary Data."

Item 9B. Other Information.*Amendment to Senior Secured Credit Facilities*

On February 22, 2022, the Company entered into Amendment No. 9 ("Amendment No. 9") to the Third Amended and Restated Credit Agreement, dated as of November 2, 2016 (as the same has been amended, supplemented or otherwise modified prior to February 22, 2022, and as further amended by Amendment No. 9, the "Senior Secured Credit Facility"), with Bank of America, N.A., as administrative agent and as collateral agent, the lenders party thereto, and the other parties thereto. Amendment No. 9 reset the required level of the net debt to consolidated adjusted EBITDA ratio covenant beginning with the quarter ending on March 31, 2022 through the quarter ending December 31, 2023. As a result of this amendment, the net debt to consolidated adjusted EBITDA ratio covenant was set at 5.75 for the quarter ending March 31, 2022, and then decreases quarterly by 0.25 until reaching 4.00 for the quarters ending December 31, 2023 and thereafter. In addition, upon closing on the divestiture of the former Harsco Rail Segment, the net debt to consolidated adjusted EBITDA ratio covenant will decrease by an additional 0.25, provided, however, it will not go below 4.00.

The foregoing description of Amendment No. 9 is qualified in its entirety by reference to the actual terms of the agreement. A copy of Amendment No. 9 is attached as Exhibit 10(a)(xv) hereto, and is incorporated by reference herein.

Certain of the agents and lenders providing funding or other services under the Senior Secured Credit Facility, as well as certain of their affiliates, have, from time to time, provided various financial advisory, commercial and investment banking services to the Company and/or its affiliates for which they have received customary fees and commissions.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.

None.

PART III**Item 10. Directors, Executive Officers and Corporate Governance.**

The information regarding executive officers of the Company required by this Item is set forth as a Supplementary Item, titled "Executive Officers of the Registrant," at the end of Part I of this Annual Report on Form 10-K (pursuant to the general Instruction to Item 401 of Regulation S-K) and is incorporated herein by reference. The other information required by this Item is incorporated herein by reference from the disclosures that will be included under the sections entitled "Corporate Governance," "Proposal 1: Election of Directors - Nominees for Director," "Meetings and Committees of the Board," and "Report of the Audit Committee" of the Company's Definitive Proxy Statement for its 2022 Annual Meeting of Stockholders (the "2022 Proxy Statement"), which will be filed pursuant to SEC Regulation 14A not later than 120 days after the end of the Company's fiscal year ended December 31, 2021.

The Company's Code of Conduct (the "Code"), which applies to all officers, directors and employees of the Company, may be found on the Company's Internet website, www.harsco.com. The Company intends to disclose on its website any amendments to the Code or any waiver from a provision of the Code granted to an executive officer or director of the Company. The Code is available in print, without charge, to any person who requests it. To request a copy of the Code please contact the Company's Vice President—Corporate Communications at (717) 730-3683.

Item 11. Executive Compensation.

The information regarding compensation of executive officers and directors required by this Item is incorporated herein by reference from the disclosures that will be included under the sections entitled "Compensation Discussion and Analysis," "Discussion and Analysis of 2021 Compensation" and "Non-Employee Director Compensation" of the 2022 Proxy Statement. The other information required by this Item is incorporated herein by reference from the disclosures that will be included under the sections entitled "Compensation Committee Interlocks and Insider Participation" and "Compensation Committee Report" of the 2022 Proxy Statement.

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

The information regarding security ownership of certain beneficial owners and management required by this Item is incorporated herein by reference from the disclosures that will be included under the section entitled "Share Ownership of Directors, Management and Certain Beneficial Owners" of the 2022 Proxy Statement.

Equity compensation plan information is incorporated herein by reference from the disclosures that will be included under the section entitled "Equity Compensation Plan Information (As of December 31, 2021)" of the 2022 Proxy Statement.

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

The information regarding certain relationships and related transactions required by this Item is incorporated herein by reference from the disclosures that will be included under the section entitled "Transactions with Related Persons" of the 2022 Proxy Statement. The information regarding director independence required by this Item is incorporated herein by reference from the disclosures that will be included under the section entitled "Corporate Governance" of the 2022 Proxy Statement.

Item 14. Principal Accountant Fees and Services.

The information regarding principal accounting fees and services required by this Item is incorporated herein by reference from the disclosures that will be included under the section entitled "Fees Billed by the Independent Auditors for Audit and Non-Audit Services" of the 2022 Proxy Statement.

PART IV

Item 15. Exhibit and Financial Statement Schedules.

- (a) 1. The Index to Consolidated Financial Statements and Supplementary Data is located under Part II, Item 8, "Financial Statements and Supplementary Data."

	<u>Page</u>
Index to Consolidated Financial Statements and Supplementary Data	42

2. The following financial statement schedule should be read in conjunction with the Consolidated Financial Statements under Part II, Item 8, "Financial Statements and Supplementary Data":

	<u>Page</u>
Schedule II—Valuation and Qualifying Accounts for the years 2021, 2020 and 2019	104

Financial statement schedules other than that listed above are omitted because the required information is not applicable, or because the information required is included in the consolidated financial statements.

SCHEDULE II. VALUATION AND QUALIFYING ACCOUNTS

Continuing Operations

(In thousands)

COLUMN A	COLUMN B	COLUMN C	COLUMN D		COLUMN E
Description	Balance at Beginning of Period	Additions (Deductions) Charged to Cost and Expenses	Additions (Deductions) Due to Currency Translation Adjustments Other		Balance at End of Period
For the year 2021:					
Allowance for Expected Credit Losses and Doubtful Accounts	\$ 7,488	\$ 589	\$ (206)	\$ (609) ^(a)	\$ 7,262
Deferred Tax Assets—Valuation Allowance	108,563	(4,252)	(3,502)	(8,424) ^(b)	92,385
For the year 2020:					
Allowance for Expected Credit Losses and Doubtful Accounts	\$ 13,265	\$ 1,961	\$ (104)	\$ (7,634) ^(a)	\$ 7,488
Deferred Tax Assets—Valuation Allowance	100,245	6,936	1,305	77 ^(b)	108,563
For the year 2019:					
Allowance for Doubtful Accounts	\$ 4,396	\$ 7,123	\$ 370	\$ 1,376 ^(a)	\$ 13,265
Deferred Tax Assets—Valuation Allowance	112,706	(8,545)	860	(4,776) ^(b)	100,245

(a) Includes the write-off of previously reserved accounts receivable balances. Also, 2020 includes the acquisition of ESOL and 2019 includes the acquisition of Clean Earth. Prior to the adoption of the expected credit loss allowance methodology on January 1, 2020, the Company established an allowance for doubtful accounts based upon a specific-identification method as well as historical collection experience, as appropriate.

(b) Includes a decrease of \$19.3 million related to pension adjustments recorded through AOCI, and an increase of \$14.4 million related to the UK tax rate change in 2021. Includes a decrease of \$15.5 million related to foreign tax credit carryforwards due to statutory limitation expiration in the U.S., an increase of \$13.0 million related to pension adjustments recorded through AOCI and an increase of \$3.7 million related to the UK tax rate change in 2020. Includes a decrease of \$5.6 million related to the loss of certain tax attributes in certain foreign dormant entities due to merger and liquidation in 2019.

Listing of Exhibits Filed with Form 10-K

	Description of Exhibit
2(a)	<u>Stock Purchase Agreement, dated as of May 8, 2019, by and between Calrissian Holdings, LLC, CEHI Acquisition Corporation, the holders of stock and options in CEHI Acquisition Corporation, Compass Group Diversified Holdings LLC and, solely for the purposes of Section 9(r) thereof, the Company (incorporated by reference to the Company's Current Report on Form 8-K dated May 13, 2019, Commission File Number 001-03970).</u>*
2(b)	<u>Asset Purchase Agreement, dated as of May 8, 2019, by and among the Company, E&C FinFan, Inc. and, solely with respect to Section 11.19 thereof, Chart Industries, Inc (incorporated by reference to the Company's Current Report on Form 8-K dated May 13, 2019, Commission File Number 001-03970).</u>*
2(c)	<u>Sale and Purchase Agreement by and among Harsco Corporation, Harsco México Holding, S.A. de C.V. and Sidero Inc., dated as of January 9, 2020 (incorporated by reference to the Company's Current Report on Form 8-K dated January 15, 2020, Commission File Number 001-03970).</u>*
2(d)	<u>Amendment to Sale and Purchase Agreement, dated January 30, 2020 by and among Harsco Corporation, Harsco Mexico Holding, S. A. de C.V. and Sidero Inc. (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2020, Commission File Number 001-03970).</u>
2(e)	<u>Stock Purchase Agreement, dated as of February 6, 2020, by and among Stericycle, Inc., CEI Holding, LLC and solely with respect to Section 11.16 thereof, Harsco Corporation (incorporated by reference to the Company's Current Report on Form 8-K dated February 12, 2020, Commission File Number 001-03970).</u>*
3(a)	<u>Restated Certificate of Incorporation (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2013, Commission File Number 001-03970).</u>
3(b)	<u>Certificate of Designation filed September 25, 1997 (incorporated by reference to Exhibit 3.A to the Company's Annual Report on Form 10-K for the period ended December 31, 1997, Commission File Number 001-03970).</u>
3(c)	<u>Certificate of Amendment to the Restated Certificate of Incorporation, dated April 29, 2015 (incorporated by reference to the Company's Current Report on Form 8-K/A dated May 22, 2015, Commission File Number 001-03970).</u>
3(d)	<u>By-laws, as amended October 28, 2014 (incorporated by reference to the Company's Current Report on Form 8-K dated October 28, 2014, Commission File Number 001-03970).</u>
4(a)	<u>Description of Company's Securities.</u>
4(b)	<u>Form of Specimen Common Stock Certificate (incorporated by reference to Exhibit 4(h) to the Company's Registration Statement on Form S-3 dated December 15, 1994, Registration No. 33-56885).</u>
4(c)	<u>Indenture, dated June 28, 2019, by and among Harsco Corporation, the subsidiary guarantors named therein and U.S. Bank National Association, as trustee (incorporated by reference to the Company's Current Report on Form 8-K dated July 5, 2019, Commission File Number 001-03970).</u>
4(d)	<u>Form of 5.75% Senior Notes due 2027 (included as part of Exhibit 4.1 above).</u>
* Schedules and similar attachments have been omitted pursuant to Item 601(b)(2) of Regulation S-K. The Company will furnish copies of any such schedules and attachments to the U.S. Securities and Exchange Commission upon request.	
Material Contracts—Credit and Underwriting Agreements	
10(a)(i)	<u>Amended and Restated Five-Year Credit Agreement, dated March 2, 2012, among Harsco Corporation, the lenders named therein, Citibank, N.A., as administrative agent, RBS Securities Inc., as syndication agent, and the Bank of Tokyo-Mitsubishi UFJ, Ltd., HSBC Bank USA, National Association, ING Bank N.V., Dublin Branch, JPMorgan Chase Bank, N.A. and Lloyds TSB Bank PLC, as documentation agents (incorporated by reference to the Company's Current Report on Form 8-K dated March 7, 2012, Commission File No. 001-03970).</u>
10(a)(ii)	<u>Amendment No. 1, dated September 12, 2013, to the Amended and Restated Five-Year Credit Agreement, dated March 2, 2012, among Harsco Corporation, the lenders named therein, Citibank, N.A., as administrative agent, RBS Securities Inc., as syndication agent, and the Bank of Tokyo-Mitsubishi UFJ, Ltd., HSBC Bank USA, National Association, ING Bank N.V., Dublin Branch, JPMorgan Chase Bank, N.A. and Lloyds TSB Bank PLC, as documentation agents (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended September 30, 2013, Commission File Number 001-03970).</u>

Description of Exhibit

10(a)(iii)	<u>Amendment No. 2, dated December 20, 2013, to the Amended and Restated Five-Year Credit Agreement, dated March 2, 2012, among Harsco Corporation, the lenders named therein, Citibank, N.A., as administrative agent, RBS Securities Inc., as syndication agent, and the Bank of Tokyo-Mitsubishi UFJ, Ltd., HSBC Bank USA, National Association, ING Bank N.V., Dublin Branch, JPMorgan Chase Bank, N.A. and Lloyds TSB Bank PLC, as documentation agents (incorporated by reference to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2014, Commission File Number 001-03970).</u>
10(a)(iv)	<u>Amendment No. 3, dated as of March 27, 2015, to the Amended and Restated Five-Year Credit Agreement among Harsco Corporation, a Delaware corporation, as Borrower, the Lenders party thereto and Citibank, N.A., as Administrative Agent (incorporated by reference to the Company's Current Report on Form 8-K filed April 1, 2015, Commission File Number 001-03970).</u>
10(a)(v)	<u>Amendment and Restatement Agreement, dated as of December 2, 2015, among Harsco Corporation, the subsidiaries of the Company party thereto, Citibank N.A., as administrative agent, the other agents party thereto and the lenders party thereto including Second Amended and Restated Credit Agreement, dated as of December 2, 2015, among Harsco Corporation, the lenders named therein, Citibank, N.A. and Royal Bank of Canada, as issuing lenders, and Citibank N.A., as administrative agent and as collateral agent (incorporated by reference to the Company's Current Report on Form 8-K dated December 4, 2015, Commission File No. 001-03970).</u>
10(a)(vi)	<u>Amendment and Restatement Agreement and First Amendment to Guarantee and Collateral Agreement, dated as of November 2, 2016, among the Company, the subsidiaries of the Company party thereto, Citibank N.A., as administrative agent and collateral agent and the lenders party thereto (incorporated by reference to the Company's Current Report on Form 8-K filed November 8, 2016, Commission file No. 001-03970).</u>
10(a)(vii)	<u>Amendment No. 1, dated December 8, 2017, among Harsco Corporation, the subsidiaries of the Company party thereto, Citibank N.A., as administrative agent and collateral agent, and the lenders party thereto (incorporated by reference to the Company's Current Report on Form 8-K dated December 13, 2017, Commission File No. 001-03970).</u>
10(a)(viii)	<u>Amendment No. 2, dated as of June 18, 2018, among the Company, the subsidiaries of the Company party thereto, Citibank N.A., as administrative agent and collateral agent and the lenders party thereto (incorporated by reference to the Company's Current Report on Form 8-K dated June 21, 2018, Commission File No. 001-03970).</u>
10(a)(ix)	<u>Amendment No. 3, dated as of June 18, 2018, among the Company, the subsidiaries of the Company party thereto, Citibank N.A., as administrative agent and collateral agent and the lenders party thereto (incorporated by reference to the Company's Current Report on Form 8-K Dated June 21, 2018, Commission File No. 001-03970).</u>
10(a)(x)	<u>Amendment No. 4, dated June 28, 2019, among Harsco Corporation, the subsidiaries of the Company party thereto, Citibank N.A., as administrative agent and collateral agent, and the lenders party thereto (incorporated by reference to the Company's Current Report on Form 8-K dated July 5, 2019, Commission File Number 001-03970).</u>
10(a)(xi)	<u>Amendment No. 5, dated March 31, 2020, among Harsco Corporation, the subsidiaries of the Company party thereto, Citibank N.A., as administrative agent and collateral agent, and the lenders party thereto (incorporated by reference to the Company's Current Report on Form 8-K filed March 31, 2020, Commission file No. 001-03970).</u>
10(a)(xii)	<u>Amendment No. 6, dated June 26, 2020, among Harsco Corporation, the subsidiaries of the Company party thereto, Citibank N.A., as administrative agent and collateral agent, and the lenders party thereto (incorporated by reference to the Company's Current Report on Form 8-K filed June 26, 2020, Commission File Number 001-03970).</u>
10(a)(xiii)	<u>Amendment No. 7 to Third Amended and Restated Credit Agreement, dated March 10, 2021, among Harsco Corporation, the subsidiaries of the Company party thereto, Citibank, N.A., as administrative agent and collateral agent, and the lenders party thereto (incorporated by reference to the Company's Current Report on Form 8-K dated March 10, 2021, Commission File Number 001-03970).</u>
10(a)(xiv)	<u>Amendment No. 8 to Third Amended and Restated Credit Agreement dated October 27, 2021, among the Company, the subsidiaries of the Company party thereto, and Bank of America, N.A., as administrative agent (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the period ended September 30, 2021, Commission File Number 001-03970).</u>
10(a)(xv)	<u>Amendment No. 9, dated February 22, 2022, among Harsco Corporation, the subsidiaries of the Company party thereto, Citibank N.A., as administrative agent and collateral agent, and the lenders party thereto.</u>

Material Contracts—Management Contracts and Compensatory Plans

Description of Exhibit

10(b)	<u>Harsco Corporation Supplemental Retirement Benefit Plan as amended and restated January 1, 2009 (incorporated by reference to the Company's Annual Report on Form 10-K, for the period ended December 31, 2008, Commission File Number 001-03970).</u>
10(c)	Trust Agreement between Harsco Corporation and Dauphin Deposit Bank and Trust Company dated July 1, 1987 relating to the Supplemental Retirement Benefit Plan (incorporated by reference to the Company's Annual Report on Form 10-K for the period ended December 31, 1987, Commission File Number 001-03970).
10(d)	<u>Harsco Corporation 2013 Equity and Incentive Compensation Plan (incorporated by reference to the Company's Current Report on Form 8-K dated April 26, 2013, Commission File Number 001-03970).</u>
10(e)	<u>Amendment No. 1 to the Harsco Corporation 2013 Equity and Incentive Compensation Plan (incorporated by reference to the Company's Current Report on Form 8-K dated May 1, 2017, Commission File Number 001-03970).</u>
10(f)	<u>Harsco Corporation Form of Stock Appreciation Rights Agreement (effective for grants on and after May 10, 2013) (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2013, Commission File Number 001-03970).</u>
10(g)(i)	<u>Harsco Corporation 1995 Non-Employee Directors' Stock Plan as Amended and Restated at January 27, 2004 (incorporated by reference to Proxy Statement dated March 23, 2004 on Exhibit A, pages A-1 through A-9, Commission File Number 001-03970).</u>
10(g)(ii)	<u>Amendment No. 1 to the Harsco Corporation 1995 Non-Employee Directors' Stock Plan (incorporated by reference to the Company's Annual Report on Form 10-K for the period ended December 31, 2008, Commission File Number 001-03970).</u>
10(h)(i)	<u>Harsco Corporation Deferred Compensation Plan for Non-Employee Directors (as Amended and Restated as of December 31, 2008) (incorporated by reference to the Company's Annual Report on Form 10-K for the period ended December 31, 2008, Commission File Number 001-03970).</u>
10(h)(ii)	<u>First Amendment to the Harsco Corporation Deferred Compensation Plan for Non Employee Directors (incorporated by reference to the Company's Annual Report on Form 10-K for the period ended December 31, 2016, Commission File Number 001-03970).</u>
10(i)	<u>Harsco Non-Qualified Retirement Savings & Investment Plan Part B—Amendment and Restatement as of January 1, 2009 (incorporated by reference to the Company's Annual Report on Form 10-K for the period ended December 31, 2008, Commission File Number 001-03970).</u>
10(j)	<u>Form of Change in Control Severance Agreement (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended September 30, 2014, Commission File Number 001-03970).</u>
10(k)	<u>Notification Letter to F. Nicholas Grasberger, III dated March 20, 2013 (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2013, Commission File Number 001-03970).</u>
10(l)	<u>Notification Letter to David Everitt dated March 14, 2014 (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2014, Commission File Number 001-03970).</u>
10(m)	<u>Notification Letter to F. N. Grasberger dated April 8, 2014 (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2014, Commission File Number 001-03970).</u>
10(n)	<u>Notification Letter to F. N. Grasberger dated August 1, 2014 (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended September 30, 2014, Commission File Number 001-03970).</u>
10(o)	<u>Form of Stock Appreciation Rights Agreement (effective for grants on or after April 28, 2014) (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2014, Commission File Number 001-03970).</u>
10(p)	<u>Form of Performance Share Units Agreement (effective for grants on or after April 28, 2015) (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2015, Commission File Number 001-03970).</u>
10(q)	<u>Form of Stock Appreciation Rights Agreement (effective for grants on or after April 28, 2015) (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2015, Commission File Number 001-03970).</u>
10(r)(i)	<u>2016 Non-Employee Directors' Long-Term Equity Compensation Plan (incorporated by reference to the Company's Form S-8 dated May 6, 2016, Commission File Number 001-03970).</u>
10(r)(ii)	<u>First Amendment to 2016 Non-Employee Directors' Long-Term Equity Compensation Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2016, Commission File Number 001-03970).</u>

Description of Exhibit

10(s)	<u>Amendment No.2 to 2016 Non-Employee Directors' Long-Term Equity Compensation Plan (incorporated by reference to Exhibit 10.3 to the Company's Form S-8 dated August 3, 2021, Commission File Number 001-03970).</u>
10(t)	<u>Form of Restricted Stock Units Agreement (Non-Employee Director).(incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2016, Commission File Number 001-03970).</u>
10(u)	<u>Form of Performance Share Units Agreement (effective for grants on or after April 26, 2016) (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2016, Commission File Number 001-03970).</u>
10(v)	<u>Form of Restricted Stock Units Agreement (effective for grants on or after April 26, 2016) (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2016, Commission File Number 001-03970).</u>
10(w)	<u>Form of Stock Appreciation Rights Agreement (effective for grants on or after April 26, 2016) (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2016, Commission File Number 001-03970).</u>
10(x)	<u>Form of Performance Share Units Agreement (effective for grants on or after February 16, 2017) (incorporated by reference to the Company's Annual Report on Form 10-K for the period ended December 31, 2016, Commission File Number 001-03970).</u>
10(y)	<u>Form of Restricted Stock Units Agreement (effective for grants on or after February 16, 2017) (incorporated by reference to the Company's Annual Report on Form 10-K for the period ended December 31, 2016, Commission File Number 001-03970).</u>
10(z)	<u>Form of Stock Appreciation Rights Agreement (effective for grants on or after February 16, 2017) (incorporated by reference to the Company's Annual Report on Form 10-K for the period ended December 31, 2016, Commission File Number 001-03970).</u>
10(aa)	<u>Form of PSU Award Agreement (for awards granted on or after March 2, 2018) (incorporated by reference to the Company's current report on Form 8-K dated March 8, 2018, Commission File Number 001-03970).</u>
10(ab)	<u>Form of RSU Award Agreement (for awards granted on or after March 6, 2019) (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period Ended March 31, 2019, Commission File Number 001-03970).</u>
10(ac)	<u>Form of PSU Award Agreement (for awards granted on or after March 6, 2019) (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period Ended March 31, 2019, Commission File Number 001-03970).</u>
10(ad)	<u>Form of SAR Award Agreement (for awards granted on or after March 6, 2019) (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period Ended March 31, 2019, Commission File Number 001-03970).</u>
10(ae)	<u>Form of Consulting Agreement to be entered into as of July 1, 2020 by Tracey L. McKenzie and Harsco Corporation (incorporated by reference to the Company's current report on Form 8-K dated May 12, 2020, Commission File Number 001-03970).</u>
10(af)	<u>Amendment No. 2 to the 2013 Equity Incentive Compensation Plan (incorporated by reference to the Company's Form S-8 filed July 31, 2020, Commission File Number 001-03970).</u>
10(ag)	<u>Form of RSU Award Agreement (for awards granted on or after March 10, 2020) (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2020, Commission File Number 001-03970).</u>
10(ah)	<u>Form of PSU Award Agreement (for awards granted on or after March 10, 2020) (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2020, Commission File Number 001-03970).</u>

Description of Exhibit

10(ai)	Form of SAR Award Agreement (for awards granted on or after March 10, 2020) (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2020, Commission File Number 001-03970).
10(aj)	Form of Restricted Stock Units Agreement (Non-Employee Director)(incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2020, Commission File Number 001-03970).
Director Indemnity Agreements	
10(bb)	Form of Director Indemnification Agreement (incorporated by reference to the Company's Annual Report on Form 10-K for the period ended December 31, 2017, Commission File Number 001-03970).
21	Subsidiaries of the Registrant.
23	Consent of Independent Registered Public Accounting Firm.
31.1	Certification Pursuant to Rule 13a-14(a) and 15d-14(a) as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (Chief Executive Officer).
31.2	Certification Pursuant to Rule 13a-14(a) and 15d-14(a) as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (Chief Financial Officer).
32	Certifications Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Chief Executive Officer and Chief Financial Officer).
101.Def	Definition Linkbase Document
101.Pre	Presentation Linkbase Document
101.Lab	Labels Linkbase Document
101.Cal	Calculation Linkbase Document
101.Sch	Schema Document
101.Ins	Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.

Exhibits other than those listed above are omitted for the reason that they are either not applicable or not material.

Item 16. Form 10-K Summary.

None.

SIGNATURES

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

HARSCO CORPORATION (Registrant)

DATE February 24, 2022

/s/ ANSHOOMAN AGA

Anshooman Aga
Senior Vice President and Chief Financial Officer
(Principal Financial Officer)

DATE February 24, 2022

/s/ SAMUEL C. FENICE

Samuel C. Fenice
Vice President and Corporate Controller
(Principal Accounting Officer)

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

<u>Signature</u>	<u>Capacity</u>	<u>Date</u>
<u>/s/ F. NICHOLAS GRASBERGER III</u> F. Nicholas Grasberger III	Chairman, President, Chief Executive Officer and Director (Principal Executive Officer)	<u>February 24, 2022</u>
<u>/s/ ANSHOOMAN AGA</u> Anshooman Aga	Senior Vice President and Chief Financial Officer (Principal Financial Officer)	<u>February 24, 2022</u>
<u>/s/ DAVID C. EVERITT</u> David C. Everitt	Lead Director	<u>February 24, 2022</u>
<u>/s/ JAMES F. EARL</u> James F. Earl	Director	<u>February 24, 2022</u>
<u>/s/ KATHY G. EDDY</u> Kathy G. Eddy	Director	<u>February 24, 2022</u>
<u>/s/ CAROLANN I. HAZNEDAR</u> Carolann I. Haznedar	Director	<u>February 24, 2022</u>
<u>/s/ MARIO LONGHI</u> Mario Longhi	Director	<u>February 24, 2022</u>
<u>/s/ EDGAR M. PURVIS, JR.</u> Edgar M. Purvis, Jr.	Director	<u>February 24, 2022</u>
<u>/s/ JOHN S. QUINN</u> John S. Quinn	Director	<u>February 24, 2022</u>
<u>/s/ PHILLIP C. WIDMAN</u> Phillip C. Widman	Director	<u>February 24, 2022</u>

AMENDMENT NO. 9, dated as of February 22, 2022 (this “**Amendment Agreement**”), among HARSCO CORPORATION, a Delaware corporation (the “**Company**”), the Subsidiary Guarantors party hereto, BANK OF AMERICA, N.A., as administrative agent (the “**Administrative Agent**”), and the Lenders party hereto (each, a “**Consenting Lender**”).

Reference is made to the Third Amended and Restated Credit Agreement, dated as of November 2, 2016 (as amended by Amendment No. 1 to Credit Agreement, dated as of December 8, 2017, Amendment No. 2 to Credit Agreement, dated as of June 18, 2018, Amendment No. 3 to Credit Agreement, dated as of June 18, 2018, Amendment No. 4 to Credit Agreement, dated as of June 28, 2019, Amendment No. 5 to Credit Agreement, dated as of March 31, 2020, Amendment No. 6 to Credit Agreement, dated as of June 26, 2020, Amendment No. 7 to Credit Agreement, dated as of March 10, 2021 and Amendment No. 8 to Credit Agreement, dated as of October 27, 2021, the “**Existing Credit Agreement**”; the Existing Credit Agreement as amended by this Amendment Agreement, the “**Amended Credit Agreement**”), among the Company, the Approved Borrowers (as defined therein) from time to time party thereto, the lenders from time to time party thereto and Bank of America, N.A., as Administrative Agent and Collateral Agent. Unless otherwise defined herein, terms defined in the Amended Credit Agreement and used herein shall have the meanings given to them in the Amended Credit Agreement.

WHEREAS, the Company has requested certain amendments to the Existing Credit Agreement on the terms set forth herein (the “**Majority Revolving Credit Facility Lender Amendments**”);

WHEREAS, in order to effect the foregoing, the Company and the Consenting Lenders, which Consenting Lenders constitute Majority Revolving Credit Facility Lenders (as defined in the Existing Credit Agreement), desire to amend the Existing Credit Agreement as of the Amendment No. 9 Effective Date and approve the Majority Revolving Credit Facility Lender Amendments as provided herein; and

WHEREAS, all notice requirements set forth in Section 10.01 of the Existing Credit Agreement have been duly provided by the Company or waived by the Administrative Agent and the Consenting Lenders.

NOW, THEREFORE, in consideration of the foregoing and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

Section 1. *Credit Agreement Amendments.* On the Amendment No. 9 Effective Date, the Company, the Administrative Agent, and the Consenting Lenders agree that the Existing Credit Agreement is, effective as of the Amendment No. 9 Effective Date, hereby amended pursuant to Section 10.01 of the Existing Credit Agreement, as follows:

(a) The following definition is hereby added after the definition of “Quotation Day”:

“**Rail Disposition**’: a Disposition of all or substantially all of the Company’s “Rail” business segment (i.e., as described in the Company’s public disclosures, the “Harsco Rail Segment” or “Rail business”).”

(b) The definition of “**Relief Period Termination Date**” is hereby amended by adding the double-underlined text (indicated textually in the same manner as the following example: double-underlined text) and by deleting the stricken text (indicated textually in the same manner as the following example: ~~stricken text~~):

“**Relief Period Termination Date**’: the earlier of (i) the date on which the Administrative Agent receives a Compliance Certificate from the Company pursuant to Section 6.02(b) demonstrating a Total Net Leverage Ratio not greater than 4.00:1.00 and (ii) the date on which the Administrative Agent receives a Compliance Certificate from the Company pursuant to Section 6.02(b) in respect of the fiscal quarter ending on ~~March 31, 2023~~December 31, 2023.”

(c) Section 7.01(a) is hereby amended by adding the double-underlined text (indicated textually in the same manner as the following example: double-underlined text) and by deleting the stricken text (indicated textually in the same manner as the following example: ~~stricken text~~):

“without the written consent of the Majority Revolving Credit Facility Lenders, permit the Total Net Leverage Ratio on a Pro Forma Basis as at the last day of any Test Period to exceed (i) in the case of any Test Period ending on or before ~~December 31, 2021~~March 31, 2022, 5.75:1.00, (ii) in the case of the Test Period ending on ~~March 31, 2022~~June 30, 2022, 5.50:1.00, (iii) in the case of the Test Period ending on ~~June 30, 2022~~September 30, 2022, ~~5.25~~5.00:1.00, (iv) in the case of the Test Period ending on ~~September 30, 2022~~December 31, 2022, ~~5.00~~4.75:1.00, (v) in the case of the Test Period ending on ~~December 31, 2022~~March 31, 2023, ~~4.75~~4.50:1.00, (vi) in the case of the Test Period ending on June 30, 2023, 4.50:1.00, (vii) in the case of the Test Period ending on September 30, 2023, 4.25:1.00 and (viii) in the case of any Test Period ending thereafter, ~~4.50~~4.00:1.00; *provided*, solely in the case of this subsection (a), that, notwithstanding the foregoing, ~~(x) from and after the closing of the Rail Disposition, the maximum permitted Total Net Leverage Ratio levels set forth in this subsection (a) (other than the Total Net Leverage Ratio level specified in subclause (viii) of this subsection (a)) shall each be decreased by 0.25, and (y) from and on or~~ after the Relief Period Termination Date, the maximum permitted Total Net Leverage Ratio levels set forth in this subsection (a) shall be increased by 0.50 for a period of one year following the consummation of any Significant Acquisition (but shall in no event exceed 4.50:1.00); *provided, further*, that such increase described in this subclause (y).

shall not be cumulative in the event that more than one Significant Acquisition is consummated within the same 12-month period.”

Section 2. *Representations and Warranties.* The Company hereby represents and warrants to the Administrative Agent and each Lender party hereto that (x) no Default or Event of Default has occurred and is continuing on and as of the Amendment No. 9 Effective Date after giving effect hereto, and (y) each of the representations and warranties in each of the Loan Documents is true and correct in all material respects (except that any representation and warranty that is qualified by materiality shall be true and correct in all respects) on and as of the Amendment No. 9 Effective Date after giving effect hereto (except to the extent such representations and warranties are specifically made as of an earlier date, in which case such representations and warranties were true and correct in all material respects as of such date).

Section 3. *Effectiveness of this Amendment Agreement.* This Amendment Agreement shall become effective as of the date hereof, subject to the satisfaction of the following conditions precedent on such date (the date on which all of such conditions shall first be satisfied, the “**Amendment No. 9 Effective Date**”):

(a) the Administrative Agent shall have received in .pdf or electronic format (followed promptly by originals to the extent requested by the Administrative Agent) and, unless otherwise specified, properly executed by a Responsible Officer of the signing Loan Party and by each other party thereto, each in form and substance reasonably satisfactory to the Administrative Agent and its legal counsel:

(i) counterparts hereof that, when taken together, bear the signatures of the Loan Parties, the Administrative Agent, the Collateral Agent, and each other Consenting Lender collectively constituting the Majority Revolving Credit Facility Lenders; and

(ii) a certificate of a Responsible Officer certifying as to the matters set forth in Section 2 hereof; and

(b) the Administrative Agent shall have received for the ratable benefit of each Consenting Lender an amendment fee in an amount equal to 0.05% of the aggregate amount of the Revolving Credit Commitments of such Consenting Lender as of the Amendment No. 9 Effective Date; and

(c) All other fees and expenses (in the case of expenses, to the extent invoiced at least three (3) Business Days prior to the Amendment No. 9 Effective Date (except as otherwise reasonably agreed by the Company)) required to be paid hereunder, under the Amended Credit Agreement on the Amendment No. 9 Effective Date, shall have been paid.

Section 4. *Effect of Amendment; No Novation.*

(a) Except as expressly set forth herein or in the Amended Credit Agreement, this Amendment Agreement shall not by implication or otherwise limit, impair, constitute a waiver of or otherwise affect the rights and remedies of the Lenders or the Agents under the Existing Credit Agreement or any other Loan Document and shall not alter, modify, amend or in any way affect any of the terms, conditions, obligations, covenants or agreements contained in the Existing Credit Agreement or any other provision of the Existing Credit Agreement or of any other Loan Document, all of which are ratified and affirmed in all respects and shall continue in full force and effect.

(b) Nothing herein shall be deemed to entitle the Company to a consent to, or a waiver, amendment, modification or other change of, any of the terms, conditions, obligations, covenants or agreements contained in the Existing Credit Agreement or any other Loan Document in similar or different circumstances.

(c) On and after the Amendment No. 9 Effective Date, each reference in the Existing Credit Agreement to “this Agreement”, “hereunder”, “hereof”, “herein”, or words of like import, and each reference to the “Credit Agreement”, in any other Loan Document shall be deemed a reference to the Amended Credit Agreement. This Amendment Agreement shall constitute a “Loan Document” for all purposes of the Amended Credit Agreement and the other Loan Documents.

(d) The parties hereto hereby consent to the Majority Revolving Credit Facility Lender Amendments upon the terms and subject to the conditions set forth herein. Upon the Amendment No. 9 Effective Date, all conditions and requirements set forth in the Existing Credit Agreement or the other Loan Documents relating to the effectiveness of this Amendment Agreement, including the Majority Revolving Credit Facility Lender Amendments, shall be deemed satisfied.

(e) Nothing contained in this Amendment Agreement, the Amended Credit Agreement or any other Loan Document shall constitute or be construed as a novation of any of the Obligations.

Section 5. *Governing Law.* THIS AMENDMENT AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES UNDER THIS AMENDMENT AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED AND INTERPRETED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK, WITHOUT REGARD TO CONFLICT OF LAWS PRINCIPLES.

Section 6. *Costs and Expenses.* In accordance with, and subject to the limitations of, Section 10.05 of the Amended Credit Agreement, the Company agrees to reimburse the Administrative Agent for its reasonable documented out-of-pocket expenses in connection with this Amendment Agreement, including the reasonable documented fees, charges and disbursements of counsel for the Administrative Agent.

Section 7. *Electronic Execution; Electronic Records; Counterparts.* This Amendment Agreement and any document, amendment, approval, consent, information, notice,

certificate, request, statement, disclosure or authorization related to this Agreement (each a “Communication”), including Communications required to be in writing, may, if agreed by the the Administrative Agent, be in the form of an Electronic Record and may be executed using Electronic Signatures, including, without limitation, facsimile and/or .pdf and shall be considered an original, and shall have the same legal effect, validity and enforceability as a paper record. This Amendment Agreement may be executed in as many counterparts as necessary or convenient, including both paper and electronic counterparts, but all such counterparts are one and the same Amendment Agreement. For the avoidance of doubt, the authorization under this paragraph may include, without limitation, use or acceptance by the Administrative Agent of a manually signed paper Communication which has been converted into electronic form (such as scanned into PDF format), or an electronically signed Communication converted into another format, for transmission, delivery and/or retention. Notwithstanding anything contained herein to the contrary, the Administrative Agent is under no obligation to accept an Electronic Signature in any form or in any format unless expressly agreed to by the Administrative Agent pursuant to procedures approved by it; provided, further, without limiting the foregoing, (a) to the extent the Administrative Agent has agreed to accept such Electronic Signature, the Administrative Agent shall be entitled to rely on any such Electronic Signature without further verification and (b) upon the request of the Administrative Agent any Electronic Signature shall be promptly followed by a manually executed, original counterpart. For purposes hereof, “Electronic Record” and “Electronic Signature” shall have the meanings assigned to them, respectively, by 15 USC §7006, as it may be amended from time to time.

Section 8. *Headings*. The headings of this Amendment Agreement are for purposes of reference only and shall not limit or otherwise affect the meaning hereof.

[Remainder of page intentionally blank]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment Agreement to be duly executed and delivered by their respective duly authorized officers or representatives as of the day and year first above written.

HARSCO CORPORATION,
as Borrower

By: /s/ MICHAEL KOLINSKY
Name: Michael Kolinsky
Title: Vice President - Treasurer, Tax and Real Estate

**HARSCO DEFENSE HOLDING LLC
HARSCO MINNESOTA FINANCE, INC.
PROTRAN TECHNOLOGY LIMITED
LIABILITY COMPANY
HARSCO MINERALS TECHNOLOGIES LLC
HARSCO FINANCIAL HOLDINGS, INC.**

By: /s/ MICHAEL H. KOLINSKY

Name: Michael H. Kolinsky

Title: President

**HARSCO MINNESOTA LLC
HARSCO TECHNOLOGIES LLC**

By: /s/ DANIEL G. KING

Name: Daniel G. King

Title: President

HARSCO RAIL, LLC

By: /s/ JON S. PLOETZ

Name: Jon S. Ploetz

Title: Secretary

HARSCO METRO RAIL HOLDINGS, LLC
HARSCO METRO RAIL, LLC

By: /s/ JON S. PLOETZ

Name: Jon S. Ploetz

Title: Vice President and Secretary

ALTEK, L.L.C.
HARSCO CLEAN EARTH HOLDINGS, LLC

BBy: /s/ JON S. PLOETZ

Name: Jon S. Ploetz

Title: Secretary

21st CENTURY ENVIRONMENTAL
MANAGEMENT OF NEVADA, LLC
21st CENTURY ENVIRONMENTAL
MANAGEMENT, LLC OF RHODE ISLAND
ADVANCED REMEDIATION & DISPOSAL
TECHNOLOGIES OF DELAWARE, LLC
AERC ACQUISITION CORPORATION
ALLIED ENVIRONMENTAL GROUP, LLC
ALLWORTH, LLC
BURLINGTON ENVIRONMENTAL, LLC
CEHI ACQUISITION, LLC
CEI HOLDING, LLC
CHEMICAL POLLUTION CONTROL OF
FLORIDA, LLC
CHEMICAL RECLAMATION SERVICES, LLC
CHEMICAL POLLUTION CONTROL, LLC OF
NEW YORK
CLEAN EARTH ENVIRONMENTAL SERVICE INC
AES ASSET ACQUISITION CORPORATION
CLEAN EARTH ENVIRONMENTAL SOLUTIONS,
INC
CLEAN EARTH, LLC
CLEAN EARTH HOLDINGS, LLC
CLEAN EARTH SPECIALTY WASTE SOLUTIONS
INC
CLEAN EARTH OF ALABAMA, INC
CLEAN EARTH OF CARTERET, LLC
CLEAN EARTH DREDGING TECHNOLOGIES,
LLC
CLEAN EARTH OF GEORGIA, LLC
CLEAN EARTH OF GREATER WASHINGTON,
LLC
CLEAN EARTH OF MARYLAND, LLC
CLEAN EARTH OF NEW CASTLE, LLC
CLEAN EARTH OF NORTH JERSEY, INC
CLEAN EARTH OF PHILADELPHIA, LLC
CLEAN EARTH OF SOUTHEAST PENNSYLVANIA,
LLC
CLEAN EARTH OF SOUTHERN FLORIDA LLC
CLEAN EARTH OF WILLIAMSPORT, LLC
CLEAN EARTH OF MICHIGAN, LLC
CLEAN ROCK PROPERTIES LTD
ESOL TOPCO, LLC
GENERAL ENVIRONMENTAL MANAGEMENT
OF RANCHO CORDOVA LLC
LUNTZ ACQUISITION (DELAWARE), LLC
NORTHLAND ENVIRONMENTAL, LLC

**NORTRU, LLC
PHILIP RECLAMATION SERVICES, HOUSTON,
LLC
PSC ENVIRONMENTAL SERVICES LLC
PSC RECOVERY SYSTEMS, LLC
REAL PROPERTY ACQUISITIONS LLC
REPUBLIC ENVIRONMENTAL SYSTEMS (NEW
JERSEY), INC
REPUBLIC ENVIRONMENTAL SYSTEMS
(PENNSYLVANIA), LLC
REPUBLIC ENVIRONMENTAL SYSTEMS
(TRANSPORTATION GROUP), LLC
RHO-CHEM, LLC
SOLVENT RECOVERY, LLC
GARDNER ROAD OIL, LLC
CLEAN EARTH MOBIL SERVICES, LLC
CLEAN EARTH OF PUERTO RICO, LLC
ENVIRONMENTAL SOIL MANAGEMENT INC
ENVIRONMENTAL SOIL MANAGEMENT OF
NEW YORK, LIMITED LIABILITY COMPANY
MKC ACQUISITION CORPORATION**

By: /s/ SARAH KOWALCZYK

Name: Sarah Kowalczyk

Title: Secretary

BANK OF AMERICA, N.A.,
as Administrative Agent

By: /s/ KEVIN DOBOSZ

Name: Kevin Dobosz

Title: SVP

[Consenting Lenders Signature Pages on file with the Administrative Agent]

CONSENT AND REAFFIRMATION

Each of the undersigned hereby acknowledges receipt of a copy of the foregoing Amendment Agreement (the “**Amendment Agreement**”), dated as of February 22, 2022, which amends the Third Amended and Restated Credit Agreement dated as of November 2, 2016 (as amended by Amendment No. 1 to Credit Agreement, dated as of December 8, 2017, Amendment No. 2 to Credit Agreement, dated as of June 18, 2018, Amendment No. 3 to Credit Agreement, dated as of June 18, 2018, Amendment No. 4 to Credit Agreement, dated as of June 28, 2019, Amendment No. 5 to Credit Agreement, dated as of March 31, 2020, Amendment No. 6 to Credit Agreement, dated as of June 26, 2020, Amendment No. 7 to Credit Agreement, dated as of March 10, 2021, and Amendment No. 8 to Credit Agreement, dated as of October 27, 2021, the “**Existing Credit Agreement**”), among Harsco Corporation, a Delaware corporation, Bank of America, N.A., as Administrative Agent, and the several lenders from time to time party thereto. Capitalized terms used in this Consent and Reaffirmation and not defined herein shall have the meanings given to them in the Amended Credit Agreement (as defined in the Amendment Agreement). In connection with the execution and delivery of the Amendment Agreement, each of the undersigned, except as expressly set forth in the Amendment Agreement, (i) ratifies and affirms all the provisions in the Amended Credit Agreement, the Guarantee and Collateral Agreement and the other Loan Documents, (ii) agrees that the terms and conditions of the Loan Documents, including the security provisions set forth therein, shall continue in full force and effect as amended thereby, and shall not be impaired or limited by the execution or effectiveness of the Amendment Agreement and (iii) acknowledges and agrees that the Collateral continues to secure, to the fullest extent possible in accordance with the Amended Credit Agreement and the Guarantee and Collateral Agreement, the payment and performance of all Obligations. All references in the Loan Documents to (i) the “Credit Agreement” shall hereafter mean and refer to the Existing Credit Agreement as amended pursuant to the Amendment Agreement and (ii) the term “Obligations” shall hereafter mean and refer to the Obligations as redefined in the Amended Credit Agreement and shall include all additional Obligations resulting from or incurred pursuant to the Amended Credit Agreement.

The terms and conditions of the Guarantee and Collateral Agreement and the other Security Documents are hereby reaffirmed by the Subsidiary Guarantors.

Dated: February 22, 2022

[Signature Pages Follow]

HARSCO CORPORATION,
as Borrower

By: /s/ MICHAEL KOLINSKY

Name: Michael Kolinsky

Title: Vice President - Treasurer, Tax and Real Estate

**HARSCO DEFENSE HOLDING LLC
HARSCO MINNESOTA FINANCE, INC.
PROTRAN TECHNOLOGY LIMITED LIABILITY
COMPANY
HARSCO MINERALS TECHNOLOGIES LLC
HARSCO FINANCIAL HOLDINGS, INC.**

By: /s/ MICHAEL H. KOLINSKY

Name: Michael H. Kolinsky

Title: President

HARSCO MINNESOTA LLC
HARSCO TECHNOLOGIES LLC

By: /s/ DANIEL G. KING

Name: Daniel G. King

Title: President

HARSCO RAIL, LLC

By: /s/ JON S. PLOETZ

Name: Jon S. Ploetz

Title: Secretary

HARSCO METRO RAIL HOLDINGS, LLC
HARSCO METRO RAIL, LLC

By: /s/ JON S. PLOETZ

Name: Jon S. Ploetz

Title: Vice President and Secretary

ALTEK, L.L.C.
HARSCO CLEAN EARTH HOLDINGS, LIC

By: /s/ JON S. PLOETZ

Name: Jon S. Ploetz

Title: Secretary

21st CENTURY ENVIRONMENTAL
MANAGEMENT OF NEVADA, LLC
21st CENTURY ENVIRONMENTAL
MANAGEMENT, LLC OF RHODE ISLAND
ADVANCED REMEDIATION & DISPOSAL
TECHNOLOGIES OF DELAWARE, LLC
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ALLWORTH, LLC
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CEHI ACQUISITION, LLC
CEI HOLDING, LLC
CHEMICAL POLLUTION CONTROL OF
FLORIDA, LLC
CHEMICAL RECLAMATION SERVICES, LLC
CHEMICAL POLLUTION CONTROL, LLC OF
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CLEAN EARTH ENVIRONMENTAL SERVICE INC
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INC
CLEAN EARTH HOLDINGS, LLC
CLEAN EARTH SPECIALTY WASTE SOLUTIONS
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CLEAN EARTH OF ALABAMA, INC
CLEAN EARTH OF CARTERET, LLC
CLEAN EARTH DREDGING TECHNOLOGIES,
LLC
CLEAN EARTH OF GEORGIA, LLC
CLEAN EARTH OF GREATER WASHINGTON,
LLC
CLEAN EARTH OF MARYLAND, LLC
CLEAN EARTH OF NEW CASTLE, LLC
CLEAN EARTH OF NORTH JERSEY, INC
CLEAN EARTH OF PHILADELPHIA, LLC
CLEAN EARTH OF SOUTHEAST PENNSYLVANIA,
LLC
CLEAN EARTH OF SOUTHERN FLORIDA LLC
CLEAN EARTH OF WILLIAMSPORT, LLC
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NORTHLAND ENVIRONMENTAL, LLC

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PHILIP RECLAMATION SERVICES, HOUSTON,
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PSC ENVIRONMENTAL SERVICES LLC
PSC RECOVERY SYSTEMS, LLC
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REPUBLIC ENVIRONMENTAL SYSTEMS (NEW
JERSEY), INC
REPUBLIC ENVIRONMENTAL SYSTEMS
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REPUBLIC ENVIRONMENTAL SYSTEMS
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CLEAN EARTH MOBIL SERVICES, LLC
CLEAN EARTH OF PUERTO RICO, LLC
ENVIRONMENTAL SOIL MANAGEMENT INC
ENVIRONMENTAL SOIL MANAGEMENT OF
NEW YORK, LIMITED LIABILITY COMPANY
MKC ACQUISITION CORPORATION**

By: /s/ SARAH KOWALCZYK

Name: Sarah Kowalczyk

Title: Secretary

HARSCO CORPORATION

Exhibit 21

Subsidiaries of Registrant

Subsidiary	Country of Incorporation	Ownership Percentage
Harsco Metals Argentina S.A.	Argentina	100%
Harsco (Australia) Pty. Limited	Australia	100%
Harsco Metals Australia Pty. Ltd.	Australia	100%
Harsco Metals Australia Holding Investment Co. Pty. Ltd.	Australia	100%
Harsco Rail Pty. Ltd.	Australia	100%
AluServ Middle East W.L.L.	Bahrain	100%
Harsco Belgium SRL	Belgium	100%
Harsco Metals Emirates Partnership	Belgium	65%
Harsco Rail Emirates Maatschap/Societe de Droit Commun	Belgium	100%
Harsco Brazil Investments SRL	Belgium	100%
Harsco Chile Investments SRL	Belgium	100%
Harsco Metals Limitada	Brazil	100%
Harsco Minerai Limitada	Brazil	100%
Harsco Rail Ltda	Brazil	100%
Harsco Canada Corporation Societe Harsco Canada	Canada	100%
Harsco Canada General Partner Limited	Canada	100%
Harsco Canada Limited Partnership	Canada	100%
Harsco Nova Scotia Holding Corporation	Canada	100%
Harsco Metals Chile S.A.	Chile	100%
Harsco (Beijing) Fertiliser Co., Ltd	China	60%
Harsco Metals (Ningbo) Pty. Ltd.	China	70%
Harsco Metals Zhejiang Co. Ltd.	China	70%
Shanxi TISCO-Harsco Technology Co., Ltd.	China	60%
Harsco APAC Rail Machinery (Beijing) Co., Ltd.	China	100%
Harsco Technology China Co., Ltd.	China	100%
Harsco (Tangshan) Metallurgical Materials Technology Co., Ltd	China	65%
Harsco (Tangshan) Metallurgical Materials Technology Co., Ltd. - GuYe Branch	China	100%
Harsco (Tangshan) Metallurgical Materials Technology Co., Ltd. - Leting Branch	China	100%
Czech Slag- Nova Hut s.r.o.	Czech Republic	65%
Harsco Metals CZ s.r.o	Czech Republic	100%
Harsco Metals Egypt L.L.C.	Egypt	100%
Heckett Bahna Co. For Industrial Operations S.A.E.	Egypt	65%
Heckett MultiServ Bahna S.A.E.	Egypt	65%
Slag Processing Company Egypt (SLAR) S.A.E.	Egypt	60%
MultiServ Oy	Finland	100%
Harsco Metals and Minerals France S.A.S.	France	100%
Harsco France S.A.S.	France	100%
Harsco Metals Germany GmbH	Germany	100%
Harsco Minerals Deutschland GmbH	Germany	100%
Harsco Rail Europe GmbH	Germany	100%
Harsco (Gibraltar) Holding Limited	Gibraltar	100%
Harsco Metals Guatemala S.A.	Guatemala	100%
Harsco China Holding Company Limited	Hong Kong	100%
Harsco Industrial Grating China Holding Co. Ltd.	Hong Kong	100%

HARSCO CORPORATION

Exhibit 21

Subsidiaries of Registrant

Subsidiary	Country of Incorporation	Ownership Percentage
Harsco Infrastructure Hong Kong Ltd	Hong Kong	100%
Harsco India Metals Private Limited	India	100%
Harsco India Private Ltd.	India	100%
Harsco India Services Private Ltd.	India	100%
Harsco Track Machines and Services Private Limited	India	100%
Ilserv S.R.L.	Italy	65%
Harsco Environmental S.R.L.	Italy	100%
Ballagio S.a.r.l.	Luxembourg	100%
Excell Africa Holdings, Ltd.	Luxembourg	100%
Harsco Luxembourg S.a.r.l	Luxembourg	100%
Harsco Metals Luxembourg S.A.	Luxembourg	100%
Harsco Metals Luxequip S.A.	Luxembourg	100%
Excell Americas Holdings Ltd S.a.r.L.	Luxembourg	100%
Harsco Americas Investments S.a.r.l.	Luxembourg	100%
Harsco International Finance S.a.r.l.	Luxembourg	100%
Harsco Rail Malaysia Sdn Bhd	Malaysia	100%
Harsco Metals de Mexico S.A. de C.V.	Mexico	100%
Harsco Mexico Holdings, S.A. de C.V.	Mexico	100%
GasServ (Netherlands) VII B.V.	Netherlands	100%
Harsco (Mexico) Holdings B.V.	Netherlands	100%
Harsco (Peru) Holdings B.V.	Netherlands	100%
Harsco Infrastructure Industrial Services B.V.	Netherlands	100%
Harsco Infrastructure B.V.	Netherlands	100%
Harsco Infrastructure Construction Services B.V.	Netherlands	100%
Harsco Investments Europe B.V.	Netherlands	100%
Harsco Metals Holland B.V.	Netherlands	100%
Harsco Metals Transport B.V.	Netherlands	100%
Harsco Metals Oostelijk Staal International B.V.	Netherlands	100%
Harsco Minerals Europe B.V.	Netherlands	100%
Harsco Nederland Slag B.V.	Netherlands	100%
Harsco Europa B.V.	Netherlands	100%
Harsco Finance B.V.	Netherlands	100%
Heckett MultiServ China B.V.	Netherlands	100%
Heckett MultiServ Far East B.V.	Netherlands	100%
Minerval Metallurgic Additives B.V.	Netherlands	100%
MultiServ Finance B.V.	Netherlands	100%
MultiServ International B.V.	Netherlands	100%
Slag Reductie (Pacific) B.V.	Netherlands	100%
Slag Reductie Nederland B.V.	Netherlands	100%
Harsco Metals Norway A.S.	Norway	100%
Harsco Minerals Arabia LLC (FZC)	Oman	100%
Harsco Steel Mill Trading Arabia LLC	Oman	100%
Harsco Metals Peru S.A.	Peru	100%
Harsco Metals Polska SP Z.O.O.	Poland	100%

HARSCO CORPORATION

Exhibit 21

Subsidiaries of Registrant

Subsidiary	Country of Incorporation	Ownership Percentage
Harsco Metals CTS Prestacao de Servicos Tecnicos e Aluguer de Equipamentos LDA Unipessoal	Portugal	100%
Harsco Metals Saudi Arabia, Ltd.	Saudi Arabia	55%
Harsco Metals D.O.O. Smederevo	Serbia	100%
Harsco Metals Slovensko s.r.o.	Slovak Republic	100%
Harsco Minerali d.o.o.	Slovenia	100%
Harsco Infrastructure South Africa (Pty.) Ltd.	South Africa	100%
Harsco Metals Ilanga Pty. Ltd.	South Africa	100%
Harsco Metals RSA Africa (Pty.) Ltd.	South Africa	100%
Harsco Metals South Africa (Pty.) Ltd.	South Africa	100%
Harsco Metals SRH Mill Services (Pty.) Ltd.	South Africa	100%
Harsco Metals SteelServ (Pty.) Ltd.	South Africa	100%
Heckett MultiServ (FS) Pty Ltd	South Africa	100%
Metal Reclamation SPV (Pty.) Ltd.	South Africa	100%
MultiServ Technologies (South Africa) Pty Ltd	South Africa	100%
Harsco Metals Gesmafesa S.A.	Spain	100%
Harsco Metals Lycrete S.A.	Spain	100%
Harsco Metals Reclamet S.A.	Spain	100%
Harsco Metals Sweden A.B.	Sweden	100%
MultiServ (Sweden) AB	Sweden	100%
Harsco Rail Switzerland GmbH	Switzerland	100%
Harsco Switzerland Holdings GmbH	Switzerland	100%
Harsco Metals (Thailand) Company Ltd.	Thailand	100%
Harsco Metals Turkey Celik Limited Sirkety	Turkey	100%
Harsco Sun Demiryolu Ekipmanlari Uretim Ve Ticaret Limited Sirketi	Turkey	51%
Tosyali Harsco Geri Kazanim Teknolojileri Anonim Sirketi	Turkey	50%
Altek Europe Holdings Ltd.	U.K.	100%
Altek Europe Limited	U.K.	100%
Altek Melting Solutions Limited	U.K.	100%
Alusalt Limited	U.K.	100%
Faber Prest Limited	U.K.	100%
Harsco (U.K.) Limited	U.K.	100%
Harsco (UK) Group Ltd	U.K.	100%
Harsco (York Place) Limited	U.K.	100%
Harsco Infrastructure Group Ltd.	U.K.	100%
Harsco Infrastructure Services Ltd.	U.K.	100%
Harsco Investment Ltd.	U.K.	100%
Harsco Leatherhead Limited	U.K.	100%
Harsco Metals 373 Ltd	U.K.	100%
Harsco Metals 385 Ltd	U.K.	100%
Harsco Metals Group Limited	U.K.	100%
Harsco Metals Holdings Limited	U.K.	100%
Harsco Mole Valley Limited	U.K.	100%
Harsco Rail Limited	U.K.	100%
HLWKH 517 Limited	U.K.	100%

Subsidiaries of Registrant

Subsidiary	Country of Incorporation	Ownership Percentage
Iductelec Limited	U.K.	100%
Mastclimbers Ltd	U.K.	100%
MultiServ Limited	U.K.	100%
MultiServ Logistics Limited	U.K.	100%
Nortal Limited	U.K.	100%
SGB Holdings Limited	U.K.	100%
SGB Investments Ltd.	U.K.	100%
Short Brothers (Plant) Ltd.	U.K.	100%
21st Century Environmental Management of NV, LLC	U.S.A.	100%
21st Century Environmental Management of RI, LLC	U.S.A.	100%
Accelerated Remediation Kinetics, LLC	U.S.A.	100%
Advanced Remediation & Disposal Technologies of Delaware, LLC	U.S.A.	100%
AES Asset Acquisition Corporation	U.S.A.	100%
AERC Acquisition Corporation	U.S.A.	100%
Allied Environmental Group, LLC	U.S.A.	100%
Allworth, LLC	U.S.A.	100%
Altek LLC	U.S.A.	100%
Assessment & Remedial Design Technologies, Inc	U.S.A.	100%
Burlington Environmental LLC	U.S.A.	100%
Harsco Clean Earth Holdings LLC	U.S.A.	100%
Carteret Asphalt Corporation	U.S.A.	100%
CEHI Acquisition LLC	U.S.A.	100%
CEI Holding LLC	U.S.A.	100%
Chemical Pollution Control of Florida, LLC	U.S.A.	100%
Chemical Pollution Control of New York, LLC	U.S.A.	100%
Chemical Reclamation Services, LLC	U.S.A.	100%
Clean Earth Dredging Technologies, LLC	U.S.A.	100%
Clean Earth Environmental Services, Inc.	U.S.A.	100%
Clean Earth Environmental Solutions, Inc.	U.S.A.	100%
Clean Earth Government Services, LLC	U.S.A.	100%
Clean Earth Holdings, LLC	U.S.A.	100%
Clean Earth, LLC	U.S.A.	100%
Clean Earth of Alabama, Inc	U.S.A.	100%
Clean Earth of Carteret, LLC	U.S.A.	100%
Clean Earth of Georgia, LLC	U.S.A.	100%
Clean Earth of Greater Washington, LLC	U.S.A.	100%
Clean Earth of Maryland, LLC	U.S.A.	100%
Clean Earth of Michigan, LLC	U.S.A.	100%
Clean Earth Mobile Services, LLC	U.S.A.	100%
Clean Earth of New Castle, LLC	U.S.A.	100%
Clean Earth of North Jersey, Inc.	U.S.A.	100%
Clean Earth of Philadelphia, LLC	U.S.A.	100%
Clean Earth of Puerto Rico, LLC	U.S.A.	100%
Clean Earth of Southeast Pennsylvania, LLC	U.S.A.	100%
Clean Earth of Southern Florida, LLC	U.S.A.	100%

HARSCO CORPORATION

Exhibit 21

Subsidiaries of Registrant

Subsidiary	Country of Incorporation	Ownership Percentage
Clean Earth of West Virginia, LLC	U.S.A.	100%
Clean Earth of Williamsport, LLC	U.S.A.	100%
Clean Earth Specialty Waste Solutions, Inc.	U.S.A.	100%
Clean Rock Properties, Ltd	U.S.A.	100%
Environmental Soil Management, Inc	U.S.A.	100%
Environmental Soil Management of New York, LLC	U.S.A.	100%
ESOL TOPCO, LLC	U.S.A.	100%
Gardner Road Oil, LLC	U.S.A.	100%
General Environmental Management of Rancho Cordova, LLC	U.S.A.	100%
Harsco Defense Holding, LLC	U.S.A.	100%
Harsco Financial Holdings Inc.	U.S.A.	100%
Harsco Holdings, Inc.	U.S.A.	100%
Harsco Infrastructure Holdings, Inc.	U.S.A.	100%
Harsco Metals Holding LLC	U.S.A.	100%
Harsco Metals Intermetal LLC	U.S.A.	100%
Harsco Metals Investment LLC	U.S.A.	100%
Harsco Metals Operations LLC	U.S.A.	100%
Harsco Metals SRI LLC	U.S.A.	100%
Harsco Metals VB LLC	U.S.A.	100%
Harsco Metro Rail, LLC	U.S.A.	100%
Harsco Metro Rail Holdings, LLC	U.S.A.	100%
Harsco Minerals Technologies LLC	U.S.A.	100%
Harsco Minnesota Finance, Inc.	U.S.A.	100%
Harsco Minnesota LLC	U.S.A.	100%
Harsco Rail, LLC	U.S.A.	100%
Harsco Technologies LLC	U.S.A.	100%
Luntz Acquisition (Delaware) LLC	U.S.A.	100%
MKC Acquisition Corporation	U.S.A.	100%
Northland Environmental LLC	U.S.A.	100%
Nortru, LLC	U.S.A.	100%
Phillip Reclamation Services Houston, LLC	U.S.A.	100%
Protran Technology LLC	U.S.A.	100%
PSC Environmental Services, LLC	U.S.A.	100%
PSC Recovery Systems, LLC	U.S.A.	100%
Real Property Acquisition, LLC	U.S.A.	100%
Republic Environmental Recycling (New Jersey), LLC	U.S.A.	100%
Republic Environmental Systems (Pennsylvania), LLC	U.S.A.	100%
Republic Environmental Systems (Transportation Group), LLC	U.S.A.	100%
Rho-Chem LLC	U.S.A.	100%
Solvent Recovery, LLC	U.S.A.	100%
United Retek of Connecticut, LLC	U.S.A.	100%
Heckett Multiserv MV & MS, CA	Venezuela	100%

HARSCO CORPORATION
Subsidiaries of Registrant

Exhibit 21

Companies in which Harsco Corporation does not exert management control are not consolidated. These companies are listed below as unconsolidated entities.

<u>Company Name</u>	<u>Country of Incorporation</u>	<u>Ownership Percentage</u>
P.T. Purna Baja Harsco	Indonesia	26%

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-240257, 333-13175, 333-13173, 333-59832, 333-70710, 333-114958, 333-188448, 333-211203, 333-217616, and 333-258398) of Harsco Corporation of our report dated February 24, 2022 relating to the financial statements and financial statement schedule and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
Philadelphia, Pennsylvania
February 24, 2022

HARSCO CORPORATION
CERTIFICATION PURSUANT TO RULE 13a-14(a) OR 15d-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, F. Nicholas Grasberger, III, certify that:

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

February 24, 2022

/s/ F. NICHOLAS GRASBERGER III

F. Nicholas Grasberger III

Chairman, President and Chief Executive Officer

HARSCO CORPORATION
CERTIFICATION PURSUANT TO RULE 13a-14(a) OR 15d-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Anshooman Aga, certify that:

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

February 24, 2022

/s/ ANSHOOMAN AGA

Anshooman Aga

Senior Vice President and Chief Financial Officer

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

In connection with the Annual Report of Harsco Corporation (the "Company") on Form 10-K for the period ending December 31, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), we certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of our knowledge:

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

February 24, 2022

/s/ F. NICHOLAS GRASBERGER III

F. Nicholas Grasberger III
Chairman, President and Chief Executive Officer

/s/ ANSHOOMAN AGA

Anshooman Aga
Senior Vice President and Chief Financial Officer

A signed original of this written statement required by Section 906 has been provided to Harsco Corporation and will be retained by Harsco Corporation and furnished to the Securities and Exchange Commission or its staff upon request.