

Maximizing Growth Through Transformation

»» Our Mission and Values

Passionate About What We Do
And Why We Do It ...



We Protect People

Solving customer challenges to ensure their employees work in a safe and productive work environment



We Protect The Environment

We minimize our environmental impact and help our global customers do the same

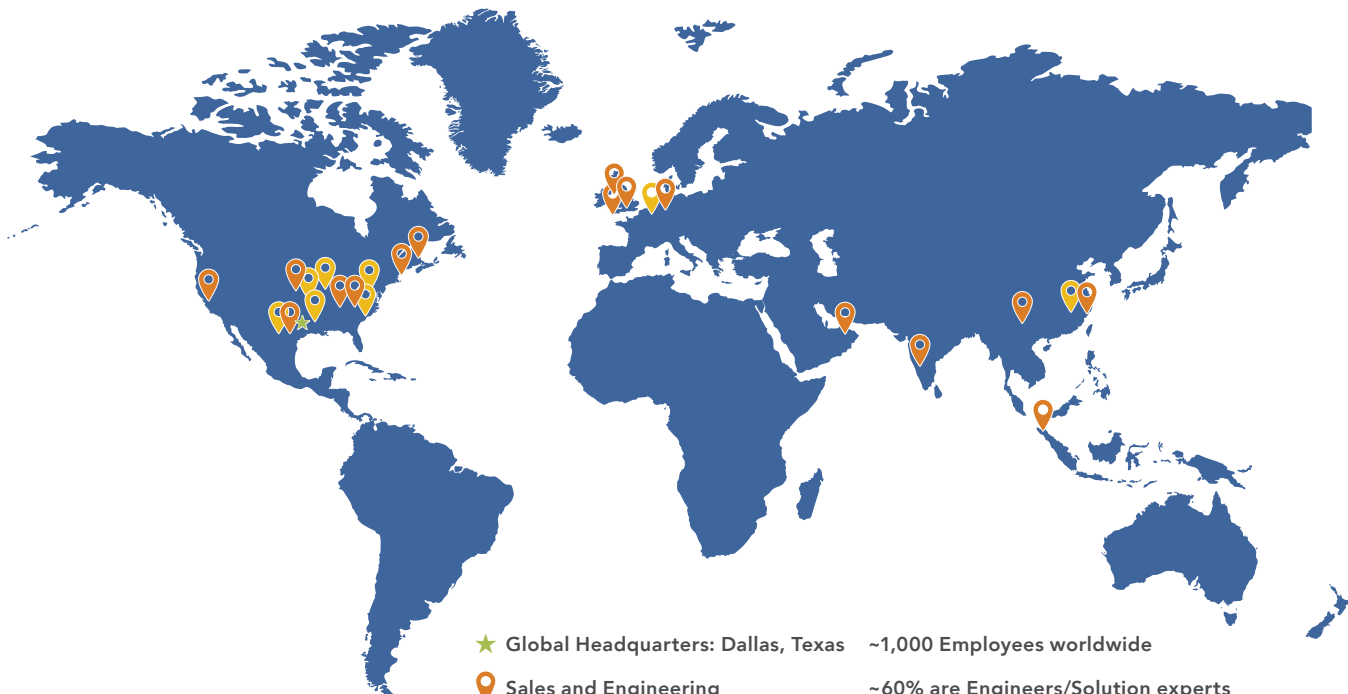


We Protect Industrial Equipment and Improve Process

We help maximize our customer's investment in their operating systems and optimize their output



»» Global Footprint ... Serving Global Customers



★ Global Headquarters: Dallas, Texas ~1,000 Employees worldwide

📍 Sales and Engineering ~60% are Engineers/Solution experts

🏭 Manufacturing and Assembly ~35% International Sales

» Advancing Our Strategy

CECO has a focused strategy to drive sustainable growth and deliver shareholder value:

- Increasing leadership positions in *Industrial Air*, *Industrial Water* and *Energy Transition* as outlined below.
- Invest in organic and inorganic growth opportunities to drive a *more balanced revenue mix* of both longer-cycle and shorter-cycle businesses
- Maintain balance sheet health for maximum flexibility

Typical Applications & End Markets

Our Portfolio	Select Brands	Typical Applications & End Markets		
Industrial Air ~ 45% of Portfolio		Thermal Oxidation <ul style="list-style-type: none"> • EV Battery (EV) • Automotive • Beverage Can Wet/Dry Scrubbers <ul style="list-style-type: none"> • Semiconductor 	Mist Removal <ul style="list-style-type: none"> • Alum/Steel rolling • Chemical processing Dust & Particle Collection <ul style="list-style-type: none"> • Wood working • Machining/Grinding 	<ul style="list-style-type: none"> • Cement & Building Materials • Food Processing/ Milling Silencers <ul style="list-style-type: none"> • Blower/Fan intake • Rotating equipment exhaust
Industrial Water ~ 25% of Portfolio		Produced Water Treatment <ul style="list-style-type: none"> • Oil & Gas Production Oily Water Separation <ul style="list-style-type: none"> • Hydrocarbon Processing • Bilge Water Discharge 	Wastewater Treatment <ul style="list-style-type: none"> • Industrial Processes • Food & Beverage Prod. Ultra-pure (DI/DM) Water Treat <ul style="list-style-type: none"> • Semicon/Electronics • Electrolysis 	Condensate Polishing <ul style="list-style-type: none"> • Cooling Water • Steam Processing Desalination <ul style="list-style-type: none"> • Recirculation • Potable Water Supply
Energy Transition ~ 30% of Portfolio		Emission Management <ul style="list-style-type: none"> • Gas-fired Power Gen – Baseload, Backup • Flue Gas Scrubbers Gas-Liquid Separation <ul style="list-style-type: none"> • Natural Gas/CO₂ Transport • Natural Gas Liquefaction 	<ul style="list-style-type: none"> • Hydrocarbon Processing • Fuel Gas Upgrading Cyclone Separation <ul style="list-style-type: none"> • Hydrocarbon Processing • Polysilicon Production 	Carbon Capture <ul style="list-style-type: none"> • Ethanol Processing • Acid Gas Treatment Thermal/Acoustic Management <ul style="list-style-type: none"> • Gas-fired Power-Gen • Compressor Station Silencing

» Industrial Air

CECO is *ADVANCING* our already strong leadership position in Industrial Air with organic and inorganic actions focusing on:

- Geographic Expansion
- New Industrial Markets
- More Replacement and Recurring Revenue

» Industrial Water

CECO is *BUILDING* a strong leadership position across a focused set of industrial markets where we have a right to win and advance our brands:

- Niche Industrial Markets
- High Recurring Revenue
- Expand in Key Markets where CECO has Existing Technical Skills

» Energy Transition

CECO is *REPOSITIONING* our Energy portfolio to better support and capture growth associated with the transition and investments associated with:

- More Renewable Gases
- Infrastructure to Transport and Sequester
- Increased Capabilities to Sustain Existing Energy Sectors

Customer Highlights

Providing solutions for key emerging industries supports CECO's mission to protect people, the environment and industrial equipment. These projects represent just a few areas of increased focus and growth opportunities.



BEV CAN

Summary Title

Reducing Volatile Organic Compounds (VOCs) in beverage can production while harvesting the recovered energy for reuse

Product

EIS Rotary Concentrator and Regenerative Thermal Oxidizer (RTO), Mist Elimination Filters, Full Capture Ductwork and Heat Recovery System

Solution

Complete VOC abatement system designed, installed and commissioned to meet environmental compliance requirements

Key Value

Turnkey solution for the reduction of emissions and elimination of visible exhaust

Key Environmental Impact

Over 1 MW of energy recovered for reuse in the manufacturing process hot water system



Carbon Capture

Summary Title

Carbon Capture and Storage from the ethanol production process

Product

Peerless Vane-type Moisture Separators

Solution

Installation of moisture separators at multiple ethanol facilities where CO₂ is being captured from the corn fermentation process

Key Value

Turnkey separation equipment for multiple facilities feeding into a CO₂ pipeline network to deliver high-purity CO₂ for the food and beverage industry

Key Environmental Impact

Reduced greenhouse gases emitted from the ethanol plants and re-purposed exhaust gases for a sell-able CO₂ product



EV MFG

Summary Title

Greenfield Opportunity for Electric Vehicle (EV) manufacturing process

Product

Advest Regenerative Thermal Oxidizer (RTO) and Rotary Concentrator, Internet of Things (IoT) Smart System

Solution

Complete VOC abatement system designed, installed and commissioned to meet environmental compliance requirements, low profile design and reduced energy usage and cost

Key Value

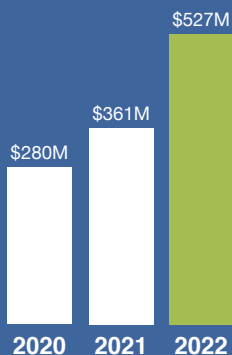
Turnkey high-efficiency solution with multiple lines provided under an aggressive delivery schedule

Key Environmental Impact

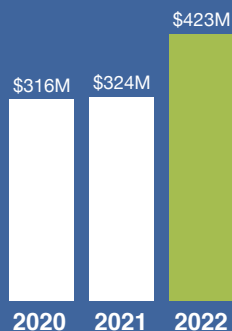
Rapid cold and warm RTO start-up times and increased natural gas efficiencies

Financial Highlights

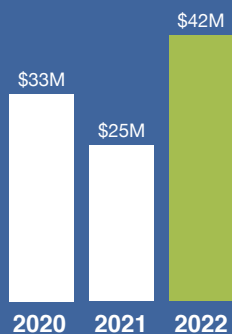
Bookings



Revenue



EBITDA



Revenue

\$423M

▲ 30% YOY

Gross Margin

\$128M

▲ 27% YOY

Bookings

\$527M

▲ 46% YOY

Free Cash Flow

\$27M

▲ \$16M YOY

EPS

\$0.50

▲ \$0.46 YOY

Backlog

\$312M

▲ 46% YOY

Adjusted EBITDA

\$42M

▲ 65% YOY



»»» Dear Shareholders

It is an exciting time at CECO Environmental and the year 2022 was filled with tremendous progress.

Everything starts with our passionate focus to serve our customers and help protect people, the environment, and their investment in industrial equipment. Our dedicated employees and global partners delivered this focus while navigating the challenges of the global supply chain markets and a multitude of other hurdles. Let me share with you how we not only supported our customers but have taken significant steps toward our strategic transformation goals and created meaningful shareholder value.

Strategic Transformation – Our Journey and Direction

When I joined CECO in mid-2020, the announcement of my appointment pointed toward a desire to transform CECO. The incredible diversity of CECO's businesses and its winding history of acquisitions and focus on legacy energy markets called into question what transformation meant and if the company was indeed ready. We quickly determined we were ready and that our transformation did not need to be a complete rebuild. Instead, we needed critical growth focus coupled with an operating structure

and model to execute at a higher and more sustainable level. We found many important foundational items from within the existing businesses and functions. We also quickly organized our businesses to point them toward optimal growth and broader market access. We steadily added strategic and core resources, and added diversity and more experience as we overhauled our senior leadership team and Board of Directors.

As we exit 2022 and enter a new chapter — which I call CECO 2.0 — we have a consistent strategic focus that builds upon our core market leadership positions and highlights our ability to protect people, the environment and industrial equipment.

Over the past few years, we have made significant investment in organic and inorganic growth programs to establish and refine our strategy and capabilities. We are advancing our leadership position in **Industrial Air**. We are building a strong leadership position in niche markets within **Industrial Water**. We are repositioning our leading solutions and services for the **Energy Transition**. Within each of these strategic

focus areas we are making key moves to add more balance to our long cycle and short cycle revenue mix and international profile. As we invest and grow, we maintain an unwavering commitment to sustain a healthy balance sheet to ensure flexibility.

Tremendous Progress and Result

We entered 2022 with confidence and momentum as we had delivered solid bookings and backlog growth throughout 2021. We exited 2022 with even more confidence and momentum! As we highlight in this annual report, our financial results were tremendous. We delivered the two highest bookings quarters in CECO's proud history, and we drove 46 percent bookings growth for the year. Revenue was up more than 30 percent, and our adjusted EBITDA grew more than 65 percent. The result for our shareholders was a stock that outperformed the broader markets by a significant margin. We believe we are just getting started.

In addition to significant organic growth and sustainable market penetration programs, we



started our inorganic growth journey. In 2022, we completed four strategic acquisitions – each of which was accretive from an EBITDA multiple perspective. These transactions are highlighted on pages 6 and 7. Each of the four transactions were sourced through our network relationships or market positions. These new additions add important strategic pieces that will advance our Industrial Air leadership, help build niche leadership within Industrial Water and reposition our leadership for the Energy Transition.

Our capital deployment programs went beyond organic growth investments and acquisition funding. In 2022 we repurchased \$7 million of CECO stock at an average price well below our year end per share value. When combined with our share repurchases from 2021, we have deployed \$12 million to stock buybacks. We remain committed to a steady capital deployment model, which will focus on programmatic M&A and maintain a solid balance sheet.

Sustainable Solutions and Culture

Protecting people, the environment and industrial equipment is the heartbeat of what drives our relationship with our customers and communities. Our employees are proud to work at CECO. To enhance this pride and to ensure our operating model continues to deliver above market results, we are investing in new cultural tools and capabilities. By

recruiting, developing and retaining top talent — and giving them common tools and language to work in a positive and consistent environment — we will continue to win, and win the right way.

To highlight many of our commitments as a sustainable organization, in 2022 we published our inaugural Environmental, Social and Governance Report (ESG). We highlight certain items in this annual report, and I encourage you to visit our website to download or review the document in its entirety.

Well Positioned for the Future

CECO is in the driver's seat. We have a unique position of leadership in Industrial Air that we will continue to advance. We are building a real leadership position in niche markets within Industrial Water. And we are repositioning our solutions and services to better serve the Energy Transition. We entered 2023 with a record backlog and perhaps our largest pipeline of future project opportunities than ever before. This is the result of years of hard work to systematically enter new vertical markets and geographies. We are confident our growth will continue, and we expect our programmatic M&A approach will open even more opportunities.

Maintain Momentum

CECO is committed to building upon the tremendous success we delivered in 2022.

Our purpose-driven organization continues to reach new markets and our solutions are in demand. The awareness and demand for sustainable solutions that protect people, the environment, and industrial equipment continues to rise. Our talented and diverse team has navigated the challenges of the past few years and tirelessly delivered for our customers. I am proud to help lead this team.

In summary, I want to thank each of our shareholders for your support and confidence in the CECO team. We look forward to delivering higher performance and more value.

Sincerely,

Todd R. Gleason
Chief Executive Officer
CECO Environmental



» Winning in Diverse Growth Markets

CECO has a programmatic M&A approach that is focused on adding key strategic businesses to propel our progress in Industrial Air, Industrial Water and Energy Transition. Each transaction goes through a rigorous screening process to evaluate the growth opportunities combined with the financial profile of the business and transaction cost. In 2022, the Company was pleased to have completed the four acquisitions as highlighted here.



General Rubber

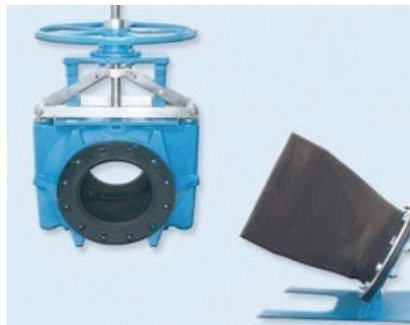
Date Closed: March

Location: Tucson, Arizona

Employees: 101

Products: Rubber Expansion Joints, Pinch & Check Valves

End Markets: Industrial Process, Chemical Processing Water Supply, Stormwater Management



Compass Water Solutions

Date Closed: May

Location: Tustin, California

Employees: 22

Products: Oil-Water Separators, Reverse Osmosis Watermakers, Industrial Waste Treatment

End Markets: Marine & Maritime, Offshore Oil & Gas Production, Offshore Wind





Western Airducts

Date Closed: June

Location: Frome, United Kingdom

Employees: 21

Products: Dust Collectors, Variable Air Volume Controls

End Markets: Manufacturing, Woodworking, Machining



DS21

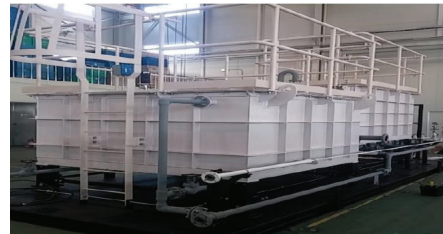
Date Closed: September

Location: Incheon, Korea

Employees: 27

Products: Industrial Water and Wastewater Treatment Solutions

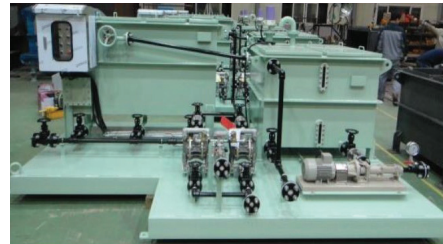
End Markets: Hydrogen Production, Semiconductor and Electronics, Produced Water, Hydrocarbon & Chemical



CPI Separator



Storm Water Treatment Skid



CPI Separator for MOE Project in Iraq, Dec. 20, 2011



Activated Carbon Filter



Human Capital, Talent, Culture and Growth

As a global diversified environmental company, we recognize that having a diverse team of employees helps make us innovative, collaborative and a great place to work. In the last year, CECO has expanded its global footprint to nine countries, and we now have approximately 1,000 employees in our organization.

With offices and manufacturing plants around the world, we have a well-connected network that is global in nature yet respects local culture. From our headquarters in Dallas, Texas, to our regional offices in the Netherlands, India and Dubai, to our manufacturing facilities like Guangzhou and Telford, Pennsylvania, we embrace diversity, encourage collaboration and respect one another.

To continually grow as a company and drive innovation and operational excellence, we strive to identify, attract, retain and motivate world-class talent. We believe that CECO is only as good as its people, which inspires us to invest in our employees and help them succeed in their careers. Our goal is to enable our global talent — at every level — to achieve its full potential. Our teams grow, lead and innovate through opportunities to develop and expand their skills and expertise while achieving their career goals. We believe that investing in our employees today helps us excel as an organization in the future.

We recognize and reward success, and strive to make CECO a great place to work. As part of our efforts to continuously improve, we regularly seek feedback from our employees

on workplace culture and environment, company benefits and programs, and management engagement. We believe that in order to retain top talent, it's important to ensure that not only are we rewarding our employees for their achievements but also taking action to address the needs of our workforce.

Our people are our biggest asset, and we believe that our high-integrity culture and talented employees drive our success. Their knowledge and skills are crucial to providing consistent quality solutions and an excellent customer experience. We can only ensure the continuous growth and improvement of our company by ensuring their well-being, safety and professional growth.



»» ESG Highlights

- In mid-2022 CECO issued its inaugural ESG Report outlining the commitment and focus on the Environment, Social Programs and Governance
- CECO has a proud history of delivering solutions that help protect people, the environment and industrial equipment. The Company's solutions and services help ensure our customers are compliant with a multitude of environmental regulations and their communities are safer as a result.



Understanding Today, Improving Tomorrow

2021 ENVIRONMENTAL, SOCIAL AND
GOVERNANCE REPORT

CECO
ENVIRONMENTAL

Articulates
Commitment
to ESG

ESG Score (ISS)
Improved
By 50%

Establishes
Solid Baseline
Data and
Sets Clear
Objectives

CECO'S ESG Report: www.cecoenviro.com/esg

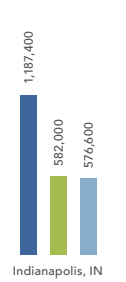
Environmental

CECO has a strong mission to help companies grow their business with clean, safe and more efficient solutions that help protect our shared environment.

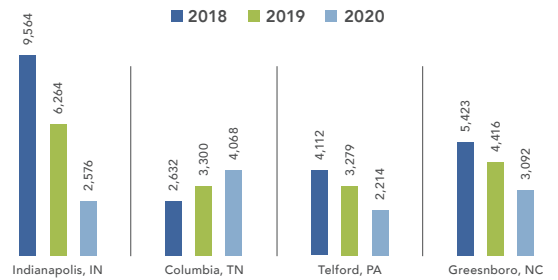
CECO believes that it is important to be transparent in disclosing our environmental footprint and equally critical to strive to minimize our footprint.

Sites With Current EHS And Quality Certifications	ISO 9001	ISO 45001	ISO 14001
Pune, India	X	X	X
Singapore	X	X	X
Stansted, United Kingdom	X	X	X
Dubai, United Arab			
Zhenjiang, China			
Denton, Texas			
Birmingham, United			
Nunspeet, Netherl			
Elma, New York			
Guangzhou, China			

Energy Usage at US Manufacturing Facilities (kWh)



Water Usage in USA Manufacturing Facilities (cu-ft)



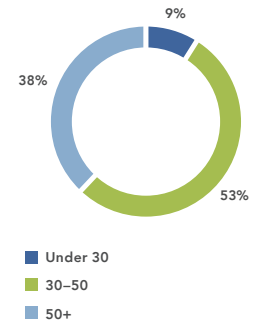
Social

CECO is committed to employees by well established programs around health, safety, wellness, development and key retention programs.

CECO continues to add diversity across its entire organization including the board, executive leadership team and other key management.

U.S. Health And Safety Metrics	2018	2019	2020
Total Recordable Injuries	2	5	10*
Total Hours Worked		2019	2020
Total Recordable Incidents		781	884
Lost Time Injuries		99; 12%	116; 15%
D.A.R.T. ¹		99; 12%	171; 21%
Interstate Experience Metrics	Employee tenure for the entire company		
Employee Count			

% Employees in Each Age Range (2020)



Governance

CECO prides itself on developing and maintaining a strong reputation of integrity, honesty, fairness, and accountability.

CECO has a robust set of practices and policies to ensure that teams are operating with the highest levels of business and personal ethics.

Board Diversity Matrix (as of 12/31/21)	
Total	Total number of hours in 2020 devoted to training on governance policies or procedures: 2,648 hours
Gender	Percentage of employees trained in 2020 on governance policies or procedures: 94%
Director	Percentage of employees trained in 2020 on governance policies or procedures: 94%
Information & Data Security Results	
Demographic	Total number of hours in 2020 devoted to training on data security policies or procedures: 1,432 hours
Asian	Percentage of employees trained during 2020 on data security policies or procedures: 93%
White	Percentage of employees trained during 2020 on data security policies or procedures: 93%
Age Group	Total amount of monetary losses as a result of legal proceedings associated with user privacy: Zero
30 - 50 years	(1) Number of law enforcement requests for user information, (2) number of users whose information was requested, (3) percentage resulting in disclosure: Zero
Over 50 years	(1) Number of law enforcement requests for user information, (2) number of users whose information was requested, (3) percentage resulting in disclosure: Zero

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

FORM 10-K

(Mark one)

- Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**
For the fiscal year ended December 31, 2022
- or
- Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**

For the transition period from _____ to _____

Commission File No. 0-7099

CECO ENVIRONMENTAL CORP.



Delaware
(State or other jurisdiction of
incorporation or organization)
14651 North Dallas Parkway
Suite 500
Dallas, Texas
(Address of principal executive offices)

13-2566064
(I.R.S. Employer
Identification No.)

75254
(Zip Code)

Registrant's telephone number, including area code: (214) 357-6181

Securities registered under Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, par value \$0.01 per share	CECO	The NASDAQ Stock Market LLC

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 such files). Yes No

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

Large Accelerated Filer Accelerated Filer
Non-Accelerated Filer Smaller reporting company
Emerging growth company

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

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

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

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

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

The aggregate market value of voting and non-voting common stock held by non-affiliates of the registrant was \$151.4 million based upon the closing market price and shares of common stock outstanding as of June 30, 2022, the last business day of our most recently completed second fiscal quarter. For the purpose of the foregoing calculation only, all directors and executive officers of the registrant and owners of more than 10% of the registrant's common stock are assumed to be affiliates of the registrant. This determination of affiliate status is not necessarily conclusive for any other purpose.

As of February 28, 2023, the registrant had 34,419,948 shares of common stock, par value \$0.01 per share, outstanding.

Documents Incorporated by Reference

Portions of the definitive Proxy Statement for the 2023 Annual Meeting of Stockholders, which is to be filed with the Securities and Exchange Commission within 120 days of the fiscal year ended December 31, 2022, are incorporated by reference into Part III of this Annual Report to the extent described herein.

CECO Environmental Corp. and Subsidiaries
ANNUAL REPORT ON FORM 10-K
For the year ended December 31, 2022

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K includes forward-looking statements within the meaning of the Securities Act of 1933 and the Securities Exchange Act of 1934 (the “Exchange Act”) which are intended to be covered by the safe harbor for “forward-looking statements” provided by the Private Securities Litigation Reform Act of 1995. Any statements contained in this Annual Report on Form 10-K, other than statements of historical fact, including statements about management’s beliefs and expectations, are forward-looking statements and should be evaluated as such. These statements are made on the basis of management’s views and assumptions regarding future events and business performance. We use words such as “believe,” “expect,” “anticipate,” “intends,” “estimate,” “forecast,” “project,” “will,” “plan,” “should” and similar expressions to identify forward-looking statements. Forward-looking statements involve risks and uncertainties that may cause actual results to differ materially from any future results, performance or achievements expressed or implied by such statements. Potential risks and uncertainties, among others, that could cause actual results to differ materially are discussed under “Part I — Item 1A. Risk Factors” of this Annual Report on Form 10-K and include, but are not limited to:

- the sensitivity of our business to economic and financial market conditions generally and economic conditions in CECO’s service areas;
- dependence on fixed price contracts and the risks associated therewith, including actual costs exceeding estimates and method of accounting for revenue;
- the effect of growth on CECO’s infrastructure, resources and existing sales;
- the ability to expand operations in both new and existing markets;
- the potential for contract delay or cancellation as a result of on-going or worsening supply chain challenges;
- liabilities arising from faulty services or products that could result in significant professional or product liability, warranty or other claims;
- changes in or developments with respect to any litigation or investigation;
- failure to meet timely completion or performance standards that could result in higher cost and reduced profits or, in some cases, losses on projects;
- the potential for fluctuations in prices for manufactured components and raw materials, including as a result of tariffs and surcharges;
- the substantial amount of debt incurred in connection with our strategic transactions and our ability to repay or refinance it or incur additional debt in the future;
- the impact of federal, state or local government regulations;
- our ability to repurchase shares of our common stock and the amounts and timing of repurchases, if any;
- economic and political conditions generally;
- our ability to successfully realize the expected benefits of our restructuring program;
- our ability to successfully integrate acquired businesses and realize the synergies from strategic transactions; and
- unpredictability and severity of catastrophic events, including cybersecurity threats, acts of terrorism or outbreak of war or hostilities or public health crises, as well as management’s response to any of the aforementioned factors.

Many of these risks are beyond management’s ability to control or predict. Should one or more of these risks or uncertainties materialize, or should any related assumptions prove incorrect, actual results may vary in material aspects from those currently anticipated. Investors are cautioned not to place undue reliance on such forward-looking statements as they speak only to our views as of the date the statement is made. Furthermore, the forward-looking statements speak only as of the date they are made. Except as required under the federal securities laws or the rules and regulations of the Securities and Exchange Commission (the “SEC”), we undertake no obligation to update or review any forward-looking statements, whether as a result of new information, future events or otherwise.

PART I

Item 1. Business

General

CECO Environmental Corp. (“CECO”, “we”, “us”, “our” or the “Company”) is a leading environmentally focused, diversified industrial company, serving the broad landscape of industrial air, industrial water and energy transition markets globally providing innovative technology and application expertise. We help companies grow their business with safe, clean, and more efficient solutions that help protect people, the environment and industrial equipment. Our solutions improve air and water quality, optimize emissions management, and increase the energy efficiency for highly engineered applications in power generation, midstream and downstream hydrocarbon processing and transport, electric vehicle production, polysilicon fabrication, semiconductor and electronics, battery production and recycling, specialty metals and steel production, beverage can, and water/wastewater treatment and a wide range of other industrial end markets.

Our customers include some of the largest natural gas processors, transmission and distribution companies, refineries, power generators, industrial manufacturing, engineering and construction companies, semiconductor manufacturers, compressor manufacturers, beverage can manufacturers, metals and minerals, and electric vehicle producers in the world.

We believe our value differentiators include, but are not limited to, our product and solutions performance quality, reliability, durability, on-time delivery and safety, all of which are underpinned by our core capabilities in advanced design and systems engineering, commercial excellence, and operational excellence. We believe these differentiators and core capabilities are critical to maintaining our competitive position. Additionally, we have built a spirit of continuous improvement to ensure we maintain our market leadership position.

With an installed base of operating systems and equipment in excess of \$6 billion, we are targeting to grow a higher share of recurring revenue from aftermarket products and installed base value-added services, which we believe will provide a greater customer retention and loyalty, and increased business resiliency.

Industry Overview

We serve a growing multi-billion dollar global industrial market that is highly fragmented and comprised of many industrial sectors and niche applications. Our legacy sectors include industrial wastewater treatment, industrial ventilation systems and contamination controls and filtration, semiconductor fabrication, electronics manufacturing, baseload and backup power generation, hydrocarbon processing, chemical processing, natural gas processing and transport, automobile and aircraft production, polysilicon production, battery recycling, metals processing and production, and produced water treatment. Emerging sectors and applications include electric vehicle and battery production, desalination water transport, ultra-high purity water treatment for electrolysis and electronics production, naval/marine vessel oily water treatment, aluminum beverage can production, and lightweight, high-strength metals production.

We believe demand for our products and services will continue to be driven by the following factors:

- *Global Focus on the Environment.* Increased demand for efficient solutions and reduced air and water emissions remains at the forefront of sustainable production. As our customers and end markets navigate this changing landscape, we are making production and power generation cleaner, more efficient and flexible, and workplaces safer. Increasingly society, along with government regulation, is calling for companies to commit to the preservation and protection of the environment. We believe that through our air and water quality and emissions control offerings, companies want to work with us to protect people and our planet from the harmful effects of industrial processes.
- *Increasingly Stringent Regulatory Environment.* The adoption of increasingly stringent environmental regulations globally requires businesses to pay strict attention to environmental protection and efficient production processes. The businesses and industries we serve must comply with these various international, federal, state and local government regulations or potentially face substantial fines or be forced to suspend production or alter their production processes. Providing assistance in meeting or exceeding stringent environmental regulations are a principal factor that drives our business.
- *Favorable Investment Climate for Net-zero Technologies.* Our businesses are positively impacted by capital expenditures on technologies to address climate change and improve environmental outcomes.
- *Emerging Market Industrialization.* The rapid expansion of manufacturing in emerging economies increases the demand for our industrial air treatment and pollution controls for newly constructed and upgraded facilities. For investments in

semiconductor and electronics production, sources of ultra-pure water are required as are emission controls and scrubbers. We expect that more rigorous regulations being introduced to protect the workforce, the environment, and the operating equipment will favorably impact demand for our products and solutions.

- *Developed Market Industrial Reshoring.* The industries in which we operate have historically embraced a global supply chain which has provided certain advantages by offshoring select production and services. Today many companies are relocating their global supply chains to resume in-region. We believe the re-shoring of manufacturing operations is a driver of business growth.
- *Expansion and Renewal of Infrastructure.* There is a growing trend to better manage and reduce air and water emissions which our products and solutions equipment will serve. In 2021, the US Congress passed the Infrastructure Investment and Jobs Act with \$550 billion of new federal spending aimed at rebuilding roads and bridges, improving climate resilience, and improving environmental outcomes. As industrial capital expenditures grow, corporations are seeking to make these investments with a smaller environmental impact. This new spending serves as a driver of increased interest for our portfolio of products and solutions.
- *Water Scarcity.* There are increasing risks associated with water quality and water access around the globe. Protecting water resources is crucial for the health and resiliency of our communities, ecosystems and our customers. We expect that more rigorous regulations are being, and will be introduced, to protect water as a natural resource. We are well-positioned to deliver solutions to our customers to meet this growing need.
- *Increased Demand for Electrical Power Generation.* An accelerating shift away from traditional fossil fuel powered electricity generation and transportation towards cleaner and sustainable forms of power generation and mass “electrification” of transportation is underway. Demand for cleaner burning natural gas, renewable natural gas, hydrogen and its derivatives, renewables including solar and wind, and a resurgence in interest in nuclear is growing. In addition, the planned retirements of the coal- and oil-fired plants require greater investments in natural gas-fired and renewables generation. Natural gas-fired power plants have lower initial capital requirements and are more flexible in terms of operations. The transition to hydrogen and other “green” fuels (such as HVO’s, biogas, and green ammonia) are in their infancy but will be part of the energy transition over the next decade. Even though considered “green” fuels, power plants using these fuels will continue to require exhaust emissions control solutions which we provide, as will the production facilities and producers of the lightweight materials, batteries, and electronics required to build and operate the new vehicles being deployed.
- *Expanding Natural Gas Infrastructure.* The International Energy Association projects a pronounced shift in Organization for Economic Cooperation and Development countries for electricity generation away from oil and coal towards natural gas, including liquified natural gas (“LNG”), and renewables. Natural gas, including LNG, continues to be the growth fuel of choice for the electrical power and industrial sectors in many of the world’s regions in primary power generation, and as a complement to renewables as a source of backup and standby power. The pipeline and storage infrastructure required to supply these new users creates increased interest in our products and services.
- *Hydrocarbon Processing.* Hydrocarbon processing involves the production, refining, and processing of hydrocarbons and organic chemicals (petrochemicals) for use in a variety of downstream applications, such as gasoline, aviation fuel, fertilizers, lubricants, polymers, plastics, paints and coatings, and additives that keep industry and our economies operating. In response to increasing global demand for petrochemicals and refined products, companies are producing a wider range of intermediate and final products from new sources, upgrading and expanding existing facilities and process lines, and constructing new production and processing. These new and expanded facilities must comply with stricter environmental regulations, wastewater discharge, and emission controls requirements, and the adaptation of production processes will require new or modified catalyst recovery and regeneration systems which we provide.

These factors, individually or collectively, tend to drive increases in industrial capital spending that are not directly impacted by general economic conditions. In contrast, favorable conditions in the economy generally lead to plant expansions and the construction of new industrial sites. However, in a weak economy, customers tend to lengthen the time from initial inquiry to the purchase order or may elect to defer purchases.

Mission and Strategy

Our mission is to help companies grow their business with safe, clean and more efficient solutions that help protect their people, the environment and their industrial equipment and facilities.

We seek to fulfill this mission by providing leading solutions for niche, engineered applications in industrial air treatment and management, industrial water treatment, and the energy transition. We will continue to leverage our technologies and application expertise for customers around the world.

Our strategy to become a global leader in niche applications in industrial air treatment and management, industrial water treatment, and the energy transition is supported by an operating environment of performance excellence across the Company.

We constantly look for opportunities to apply our technology and expertise to new customers and in new geographies in our existing end markets, and to enter new end markets with our existing set of products and solutions. Acquisitions are a big part of our growth model and we constantly are seeking out value-added, accretive additions to the CECO portfolio aligned with our strategic focus in industrial air, industrial water and the energy transition.

We intend to continue to expand our customer base and end markets and have continued to pursue potential attractive growth opportunities both domestically and internationally. In the past few years, we have expanded our international presence with new sales & engineering hubs in the United Kingdom, Shanghai (China), Singapore, Pune (India), and Dubai.

Business Segments

Our reportable segments continue to be focused on attractive end markets and each segment is aligned to generate profitable growth for the Company with a compelling technology and solution set to benefit customers.

- **Engineered Systems segment:** Our Engineered Systems segment serves the power generation, hydrocarbon processing, water/wastewater treatment, oily water separation and treatment, marine and naval vessels, and midstream oil & gas sectors. We are a key part of helping meet the global demand for environmental and equipment protection solutions with our highly engineered platforms including emissions control, fluid bed cyclones, thermal acoustics, separation & filtration, and dampers & expansion joints.
- **Industrial Process Solutions segment:** Our Industrial Process Solutions segment serves the broad industrial sector with solutions for air pollution and contamination control, fluid handling, and process filtration in applications such as aluminum beverage can production, automobile production, food and beverage processing, semiconductor fabrication, electronics production, steel and aluminum mill processing, wood manufacturing, desalination, and aquaculture markets. For Industrial Air applications, we assist companies maintain clean and safe operations for employees, reduce energy consumption, minimize waste for customers, and ensure they meet regulatory standards for toxic emissions, fumes, volatile organic compounds, and odor elimination through our platforms including duct fabrication & installation, industrial air, and fluid handling.

Competitive Strengths

Leading market position as a complete solution provider. We believe we are a leading provider of critical solutions in industrial air quality, industrial water treatment, and energy transition solutions. The multi-billion dollar global market is highly fragmented with numerous small and regional contracting firms separately supplying engineering services, fabrication, installation, testing and monitoring, products and spare parts. We offer our customers a complete end-to-end solution, including engineering and project management services, procurement and fabrication, construction and installation, aftermarket support, and sale of consumables, which allows our customers to avoid dealing with multiple vendors when managing projects.

Long-standing experience and customer relationships in growing industry. We have serviced the needs of our target markets for over 50 years. Our extensive experience and expertise in providing diversified solutions enhances our overall customer relationships, and provides us with a competitive advantage in our markets relative to other companies in the industry. We believe this is evidenced by strong relationships with many of our world-class customers. We believe no single competitor has the resources to offer a similar portfolio of product and service capabilities. We offer the depth of a large organization, while our lean organizational structure keeps us close to our customers and markets, allowing us to offer rapid and complete solutions in each unique situation.

Diversified equipment and solution portfolio and broad customer base. The global diversity of our offering and footprint and customer base provides us with multiple growth opportunities. We have a diversified customer base across a range of industries. We believe that the diversity of our customers, solutions, and end markets mitigates our risk of a potential fluctuation or downturn in demand from any individual industry or particular customer. We believe we have the resources and capabilities to meet the needs of our customers as they upgrade and expand domestically as well as into new international markets. Once systems have been installed and a relationship has been established with the customer, we are often awarded repetitive service and maintenance business as the customers' processes change and modifications or additions to their systems become necessary.

Experienced management and engineering team. Our business management team has substantial experience in delivering highly-engineered solutions for industrial air quality, industrial water treatment, and energy transition applications. The collective experience of our teams enables us to pursue our strategy, and to successfully execute on our strategic and growth priorities. Our team includes approximately 400 engineers, designers, solution experts, and project managers whose industry experience and technical expertise enables them to have a deep understanding of the solutions that will best suit the needs of our customers. The experience and stability of our senior management, operating and engineering teams have been crucial to our recent growth and to developing and maintaining customer relationships, and increasing our market position.

Innovative solutions. We leverage our engineering and manufacturing expertise, fabrication partner network, and strong customer relationships to develop and deliver new products and solutions to address the identified needs of our customers or a particular end market. We thoroughly analyze each new opportunity by considering projected demand, pricing, and cost to deliver, and only pursue those opportunities that we believe will contribute to sustainable earnings growth. In addition, we seek to continually improve our legacy technologies, solutions, and applications with the aim to maintain competitiveness in our existing customer segments, and to adapt them to new industries and customers.

Disciplined acquisition program with successful integration. We believe that we have demonstrated an ability to successfully acquire and integrate companies with complementary product or service offerings. We will continue to seek and execute additional strategic acquisitions and focus on expanding our solution and product breadth and reach, as well as entering into adjacent customer segments and applications. We believe that the breadth and diversity of our products and services and our ability to deliver full solutions to various end markets provides us with multiple sources of stable growth, relative scale benefits, and a competitive advantage relative to other players in the industry, and we will continue to reinforce this advantage.

Products and Services

We provide a wide range of engineered and configured products and solutions including dampers and diverters, expansion joints, selective catalytic reduction systems, severe-service and industrial cyclones, dust collectors, thermal oxidizers, filtration systems, wet and dry scrubbers, separators and coalescers, water treatment packages, metallic and non-metallic pumps, industrial silencers and fluid handling equipment, and plant engineering services and engineered design build fabrication. Our products and solutions primarily compete on the basis of performance, track record, speed of delivery, quality, price and customer service.

Project Design and Research and Development

Our strategy is to produce and supply, differentiated specialized or configured products and solutions that are often tailored to the specifications of a customer or application. We start by understanding our customers' needs, then by focusing our new product development efforts on those criteria that help protect our shared environment while improving a variety of operational outcomes including, but not limited to, facility uptime, production quality, employee safety, equipment protection and process performance.

We continually collaborate with our customers on projects to ensure the proper solution and customer satisfaction. The project development cycle may follow many different paths depending on the specifics of the job and end market. The cycle can take from one to more than twelve months from concept and design to production but may vary significantly depending on developments that occur during the process, including among others, the emergence of new environmental demands, changes in design specifications and ability to obtain necessary approvals.

Sales, Marketing and Support

Our global commercial strategy is to provide a solutions-based approach for our customers, which may take on the role of single source provider of technology, products and equipment for a particular project. When called upon, this strategy involves expanding our scope of supply by utilizing our portfolio of in-house technologies and those of third-party equipment suppliers, many of which have been long-standing partners evolved from pure supplier roles to value-added business partners. Where we identify a technology that is a critical element or commonly required for a solution, we will consider acquiring such technology to ensure we have the appropriate degree of strategic control. This enables us to leverage existing business with selective alliances of suppliers and

application specific engineering expertise. Our value proposition to our customers is to provide competitively priced, customized solutions that leverage our vast project experience base and design library. Our industry-specific knowledge, accompanied by our product and service offerings, provides valuable benefits for our customers and synergies across our network of partners.

We sell and market our products and services with our own direct sales force, in key regions including the United States, the Netherlands, United Kingdom, Canada, United Arab Emirates, India, China, Korea, and Singapore. Our direct sales and business development teams when appropriate will work in conjunction with outside sales representatives in the North America, South America, Europe, Middle East, Southeast and East Asia, and India regions. We expect to continue expanding our sales and support capabilities and our network of outside sales representatives in key regions domestically and internationally.

We market our offerings to our customers through a variety of channels including, but not limited to, digital, web, social media, email campaigns, individual customer visits, product announcements, brochures, magazine articles, advertisements and cover or article features in trade journals and other publications. We also participate in public relations and promotional events, including industry tradeshows and technical conferences.

Our customer service organization and sales force provides our customers with technical assistance, use and maintenance information as well as other key information regarding their purchase. We also actively provide our customers with access to key information regarding changes and pending changes in environmental regulations as well as new product or service developments. We believe that maintaining a close relationship with our customers and providing them with the support they request improves their level of satisfaction and enables us to foresee their potential future product needs or service demands. Moreover, this approach can lead to sales of annual service and support contracts as well as consumables. Our website also provides our customers with online tools and technical resources.

Quality Assurance

In engineered systems, quality is defined as system performance. We review with our customers, before the contract is signed, the technical specification and the efficiency of the equipment that will be customized to meet their specific needs. We then review these same parameters internally to assure that warranties will be met. Standard project management and production management tools are used to help ensure that all work is done to specification and that project schedules are met. Equipment is tested at the site to ensure it is functioning properly.

Customers

We are not dependent upon any single customer, and no customer contributed 10% or more of our consolidated revenues for 2022.

Suppliers and Subcontractors

We purchase our raw materials and supplies from a variety of global sources. When possible, we directly secure iron and steel sheet and plate products from steel mills, whereas other materials are purchased from a variety of steel service centers. Steel prices have traditionally been volatile, but we typically mitigate the risk of higher prices by including a “surcharge” on our standard products. On contract work, we try to mitigate the risk of higher prices by including the current price in our estimate and generally include price inflation clauses for protection.

Typically, on turnkey projects, we subcontract manufacturing, electrical work, concrete work, controls, conveyors and insulation. We use subcontractors with whom we have good working relationships and review each project at the beginning and on an ongoing basis to help ensure that all work is being done according to our specifications. Subcontractors are generally paid when we are paid by our customers according to the terms of our contract with the customer. Our asset-light business model focuses on effective management of subcontractors and flow of raw and finished materials, which allows us to optimize working capital levels through reduction in certain assets and reduce capital expenditures.

While we believe we have a good relationship with our suppliers and subcontractors, we are currently experiencing shortages of raw materials and inflationary pressures for certain materials and labor. We expect these supply chain challenges and cost impacts to continue for the foreseeable future as markets continue to recover and supply chains further normalize. Although we have secured additional raw materials from existing and alternate suppliers and have taken other mitigating actions to mitigate supply disruptions, we cannot guarantee that we can continue to do so in the future. In this event, our business, results and financial condition could be adversely affected.

Backlog

Backlog (i.e., unfulfilled or remaining performance obligations) represents the sales we expect to recognize for our products and services for which control has not yet transferred to the customer. Backlog was \$311.7 million as of December 31, 2022 as compared to \$213.9 million as of December 31, 2021, an increase of \$97.8 million or 45.7%. Backlog is adjusted on a quarterly basis for fluctuations in foreign currency exchange rates. Substantially all backlog is expected to be delivered within 18 months, with a majority within 12 months. Backlog is not defined by United States generally accepted accounting principles ("GAAP") and our methodology for calculating backlog may not be consistent with methodologies used by other companies.

Competition

The markets we serve are highly fragmented with numerous small and regional participants. We believe no single company competes with us across the full range of our solutions and products. Competition in the markets we serve is based on a number of considerations, including past performance, track record, customer approvals, lead times, technology, applications experience, know-how, reputation, product warranties, service and price. Demand for our product can vary period over period depending on conditions in the markets we serve. We believe our product performance and quality, reliability, durability, on-time delivery, and safety supported by advanced engineering and operational excellence differentiate us from many of our competitors, including those competitors who often offer products at a lower price.

Due to the size and shipping weight of many of our projects, localized manufacturing/fabrication capabilities are very important to our customers. As a result, competition varies widely by region and industry. The market for our engineered products is reasonably competitive and is characterized by technological stability, continuously evolving environmental regulations, and increasing customer requirements. We believe that the additional competitive factors in our markets include:

- performance track record and reputation;
- comprehensive portfolio of solutions;
- brand recognition;
- high design standard;
- quality customer service and support; and
- financial and operational stability.

We believe we compete favorably with respect to these factors.

Government Regulations

We believe our operations are in compliance with applicable environmental laws and regulations. We believe that changes in environmental laws and regulations create opportunity given the nature of our business.

Our business is subject to numerous laws and regulations. While there are not currently regulations proposed or pending that we believe will result in material capital, operating or other costs to the business at this time, such regulations could be proposed and/or passed into law in 2023 or beyond. Other regulations currently in place could be withdrawn and replaced with more stringent requirements in 2023 or beyond. New laws and regulations and the costs of compliance with such new laws and regulations can only be broadly appraised until their implementation becomes more defined through regulatory guidance and enforcement.

Intellectual Property

We rely on a combination of patent, trademark, copyright and trade secret laws, employee and third-party nondisclosure/confidentiality agreements and license agreements to protect our intellectual property. We sell most of our products under a number of registered trade names, brand names and registered trademarks, which we believe are widely recognized in the industry. While we hold patents within a number of our businesses, we do not view our patents to be material to our business.

Commitment to Values and Ethics

At CECO, we act in accordance with our Code of Business Conduct and Ethics ("Code of Conduct"), which sets forth expectations and guidance for employees to make appropriate decisions. Our Code of Conduct covers topics such as anti-corruption, discrimination, harassment, data privacy, appropriate use of company assets, protecting confidential information, and reporting Code

of Conduct violations. The Code of Conduct reflects our commitment to operating in a fair, honest, responsible and ethical manner and also provides direction for reporting complaints in the event of alleged violations of our policies, including through an anonymous helpline. Our executive officers and managers maintain an “open door” policy, and any form of retaliation is strictly prohibited.

Human Capital Management

CECO recognizes that in order to drive innovation and operational excellence, we must identify, attract, retain and motivate world-class talent. As of December 31, 2022, CECO has approximately 1,000 employees, across nine countries. 126 of our US employees are unionized in our Pennsylvania, Tennessee and North Carolina facilities.

Talent, Leadership and People Development

To support personal and professional development, we have strategically committed resources to leadership and management development programs, product knowledge, job skills, and compliance training. In 2022, CECO continued to leverage an online learning platform so our employees can continue developing their skill sets and knowledge. Our learning platform offers over 16,000 courses and certifications ranging from job function to leadership and resource training. As of December 31, 2022, 85% of our employees have engaged with this learning platform and each is spending an average of approximately two hours per month building their knowledge and skills. Additionally, in 2021 we further invested in high performing leaders by partnering with top US Universities including Wharton, Yale, MIT University of CA Berkeley, University of Pennsylvania and more, to build strategic, leadership and operational excellence skills. We also partnered with the Center of Creative Leadership to further reinforce leadership skills by investing in executive level coaching of high performing leaders. We believe this investment in our team members and leaders results in a more knowledgeable and competent workforce today while strengthening our succession plan and leadership bench for the future.

We provide a variety of resources to help our employees grow in their current roles and build new skills to thrive in the workplace of the future. Strategic talent reviews are conducted annually across all business areas. Our Board of Directors ("Board") is updated on the Company's people strategy on an annual basis, which is refined based on business drivers, market factors and key initiatives designed to drive the corporate strategy and business results and meets to review our succession planning strategy and leadership pipeline for key roles, taking into account the Company's long-term strategy.

Health and Safety

At CECO, the health and safety of our employees is one of our highest priorities. We believe that all injuries, occupational illnesses and incidents are preventable, and we are committed to operating with a zero-incident culture. Through our environmental, health and safety program we implement policies and training programs, as well as perform self-audits to ensure our colleagues leave the workplace safely every day. To better understand employee safety at the site level, we have safety committees and safety scorecards to share best practices between sites.

We currently share scorecard information monthly to foster visibility, accountability and commitment across our workplace, communicating and celebrating successful results across the enterprise. In addition to lagging indicators, such as injury performance, the scorecards highlight leading indicators such as safety observations and near-misses, as well as other proactive actions taken at each site to ensure worker safety. For the year ended December 31, 2022, CECO's domestic Total Recordable Incident Rate ("TRIR") was 1.1% as compared to our benchmark industry average TRIR of 4.1%.

Diversity, Equity, and an Inclusive Culture

At CECO we believe a diverse and inclusive workforce is critical to inspiring innovative thinking, creative problem-solving, performance, and results, so we cultivate an environment where team members feel valued, engaged, and inspired to give their best. The unique characteristics that shape each individual help inform our decisions as a company, and this mindset allows CECO to realize new opportunities and add value to our customers, partners, and stockholders.

As part of our efforts to expand CECO's diverse workforce, we:

- initiated and implemented recruitment efforts to attract and build a more diverse workforce, including expanding career opportunity postings on career websites to diverse job boards, as well as search engines that aggregate and display job openings by employers, including those dedicated to diverse candidates;
- are developing a comprehensive Diversity, Equity and Inclusive roadmap to align with our operational structure.

CECO's commitment to expanding our diverse workforce and enhancing our inclusive culture is driven by our recognition that a workplace that is reflective of our global customer base establishes a firm foundation to drive creativity and innovation, which lead to problem solving, development, performance, and business success.

Executive Officers of CECO

The following are the executive officers of the Company as of February 28, 2023. All officers serve for a one year term and until their successors are elected and qualified.

Todd Gleason (52) has served as a director and Chief Executive Officer since July 2020. Prior to joining the Company, Mr. Gleason most recently served, from April 2015 to July 2020, as President and Chief Executive Officer of Scientific Analytics Inc., a predictive analytic technologies and services company. Prior to that position, Mr. Gleason served from June 2007 to March 2015 in a number of senior officer and executive positions for Pentair plc, a water treatment company. During his tenure with Pentair, Mr. Gleason served as Senior Vice President and Corporate Officer from January 2013 to March 2015, President, Integration and Standardization from January 2010 to January 2013, and Vice President, Global Growth and Investor Relations from June 2007 to January 2010. Before joining Pentair, Mr. Gleason served as Vice President, Strategy and Investor Relations for American Standard Companies Inc. (later renamed to Trane Inc. prior to its acquisition by Ingersoll-Rand Company Limited), a global, diversified manufacturing company, and in a number of different roles (including as Chief Financial Officer, Honeywell Process Solutions) at Honeywell International Inc., a diversified technology and manufacturing company. Mr. Gleason holds a Masters of Science degrees in Management and Public Policy from Carnegie Mellon University and a Bachelors of Arts in International Studies and History from Wesleyan University.

Peter Johansson (58) has served as SVP, Chief Financial and Strategy Officer since August 2022. Prior to joining the Company, Mr. Johansson had more than 35 years of diversified industrial business experience with Accudyne Industries, IDEX Corporation, ITT Corporation, American Standard Companies (Trane Technologies, WABCO), and Honeywell. He has led complex organizations through transformational growth, and brings perspectives and capabilities around financial analysis, capital market programs and leading concepts in strategy formulation and deployment, business development programs and operational effectiveness. Mr. Johansson holds a Masters of Business Administration from the Anderson Graduate School of Management at UCLA, a Masters of Science degree in Mechanical Engineering from California State University-Fullerton, and a Bachelors of Science degree in Mechanical Engineering from Southern Methodist University in Dallas, Texas.

Ramesh Nuggihalli (57) has served as Chief Operating Officer since April 2021. Prior to joining the Company, Mr. Nuggihalli held the Chief Operating Officer role for NovaTech, LLC, a private industrial automation company, from July 2018 to November 2019. Prior to that, Mr. Nuggihalli was the President and Managing Director of Xylem Asia, a provider of premium field, portable, online and laboratory analytical instruments and software serving the water sector. Before Xylem, he was the Managing Director of Pentair Middle East based out of Dubai, UAE, serving the energy sector. Mr. Nuggihalli has more than 20 years of experience working in more than 25 countries managing complex international businesses in emerging markets. Mr. Nuggihalli has held executive leadership roles at Tyco International, a security systems company, Ametek, a global manufacturer of electronic instruments and electromechanical devices, General Electric, Babcock & Wilcox, an American renewable environmental and thermal energy technologies and service provider and SNC-Lavalin, a Canadian company based in Montreal that provides engineering, procurement, and construction services to various industries, including mining and metallurgy, oil and gas, environment and water, infrastructure, and clean power. Mr. Nuggihalli holds a Master of Business Administration from Wilfred Laurier University in Canada, a Master of Engineering degree from McGill University in Canada and a Bachelor's degree in Engineering from the University of Mysore, India.

Lynn Watkins-Asiyanbi (48) has served as SVP, Chief Administrative and Legal Officer, and Corporate Secretary since August 2022. Ms. Watkins-Asiyanbi previously served as Senior Vice President, General Counsel and Corporate Secretary since joining the Company in June 2022. Ms. Watkins-Asiyanbi brings more than 25 years of industrial business experience, with global industrial companies such as John Bean Technologies Corporation, W.W. Grainger, Inc., U.S. Foods, Inc., Mars, Inc. and General Mills. Lynn holds a joint J.D. and MBA from Northwestern University's Pritzker School of Law and the Kellogg School of Management and a bachelor's degree in Chemical Engineering and Economics from the University of Wisconsin-Madison.

Paul Gohr (41) has served as Chief Accounting Officer since May 2017. Mr. Gohr previously served as Vice President of Financial Reporting since joining the Company in September 2014. From 2004 to 2014, Mr. Gohr served in various roles of increasing responsibility within Grant Thornton LLP, a global public accounting firm, most recently as a Senior Manager of Audit Services. While at Grant Thornton LLP, Mr. Gohr served a broad base of both public and private companies with international operations, many of which were acquisitive in nature. Mr. Gohr is a Certified Public Accountant. Mr. Gohr holds a Masters of Accountancy degree from Miami University and a Bachelor's degree in Business, Accountancy from Miami University.

Available Information

We use the Investor Relations section of our website, www.cecoenviro.com, as a channel for routine distribution of important information, including news releases, investor presentations and financial information. We post filings as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC, including our annual, quarterly, and current reports on Forms 10-K, 10-Q, and 8-K; proxy statements; and any amendments to those reports or statements. All such postings and filings are available on our website free of charge. The SEC also maintains a website, www.sec.gov, that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. The content on any website referred to in this Annual Report on Form 10-K is not incorporated by reference into this Annual Report on Form 10-K unless expressly noted.

Item 1A. Risk Factors

An investment in our securities involves a high degree of risk. You should carefully consider the risk factors described below, together with the other information included in this Annual Report on Form 10-K, before you decide to invest in our securities. The risks described below are the material risks of which we are currently aware; however, they may not be the only risks that we may face. Additional risks and uncertainties not currently known to us or that we currently view as immaterial may also impair our business. Although the risks are organized by headings, and each risk is discussed separately, many are interrelated. If any of these risks develop into actual events, it could materially and adversely affect our business, financial condition, results of operations and cash flows, and the trading price of your shares could decline and you may lose all or part of your investment.

Risks Related to Our Business and Industry

Our business may be adversely affected by global economic conditions.

A national or global economic downturn or credit crisis may have a significant negative impact on our financial condition, future results of operations and cash flows. Specific risk factors related to these overall economic and credit conditions include the following:

- customers or potential customers may reduce or delay their procurement or new product development;
- key suppliers may have difficulties resulting in delays for our material purchases;
- vendors, suppliers and other third parties may fail to perform their contractual obligations; and
- customers may become insolvent and/or unable to obtain credit to finance purchases of our products and services.

These risk factors could reduce our product sales, increase our operating costs, impact our ability to collect customer receivables, lengthen our cash conversion cycle and increase our need for cash, which would ultimately decrease our profitability and negatively impact our financial condition. They could also limit our ability to expand through acquisitions due to the tightening of the credit markets.

Our dependence upon fixed-price contracts could adversely affect our operating results.

The majority of our projects are currently performed on a fixed-price basis, while a limited number of projects are currently performed on a time and materials basis. Under a fixed-price contract, we agree on the price that we will receive for the entire project, based upon a defined scope, which includes specific assumptions and project criteria. If our estimates of the costs to complete the project are below the actual costs that we incur, our margins will decrease, or we may incur a loss. The revenue, cost and gross profit realized on a fixed-price contract will often vary from the estimated amounts because of unforeseen conditions or changes in job conditions and variations in labor and equipment productivity over the term of the contract. While our fixed-price contracts are typically not individually material to our operating results, if we are unsuccessful in mitigating these risks, we may realize gross profits that are different from those originally estimated and incur reduced profitability or losses on projects. Depending on the size of a project, these variations from estimated contract performance could have a significant effect on our operating results. In general, turnkey contracts to be performed on a fixed-price basis involve an increased risk of significant variations. Generally, our contracts and projects vary in length, depending on the size and complexity of the project, project owner demands and other factors. The foregoing risks are exacerbated for projects with longer-term durations and the inherent difficulties in estimating costs and of the interrelationship of the integrated services to be provided under these contracts whereby unanticipated costs or delays in performing part of the contract can have compounding effects by increasing costs of performing other parts of the contract.

Accounting for contract revenue may result in material adjustments that would adversely affect our financial condition and results of operations.

We derive a significant portion of our revenues from fixed price contracts. We recognize revenue as performance obligations are satisfied and the customer obtains control of the products and services. A significant amount of our revenue is recognized over a period of time as we perform under the contract because control of the work in process transfers continuously to the customer. For performance obligations to deliver products with continuous transfer of control to the customer, revenue is recognized based on the extent of progress towards completion of the performance obligation. Progress is measured based on the ratio of costs incurred to date to the total estimated costs to complete the performance obligation. For these contracts, the cost-to-cost measure best depicts the continuous transfer of goods or services to the customer.

Contract revenue and total direct cost estimates are reviewed and revised periodically as the work progresses and as change orders are approved, and adjustments are reflected in contract revenue in the period when these estimates are revised. These estimates are based

on management's reasonable assumptions and our historical experience, and are only estimates. Variation of actual results from these assumptions, which are outside the control of management and can differ from our historical experience could be material. To the extent that these adjustments result in an increase, a reduction or the elimination of previously reported contract revenue, we would recognize a credit or a charge against current earnings, which could be material.

Our inability to deliver our backlog on time could affect our future sales and profitability, and our relationships with our customers.

Our backlog was \$311.7 million at December 31, 2022 and \$213.9 million at December 31, 2021. Our ability to meet customer delivery schedules for our backlog is dependent on a number of factors including, but not limited to, access to the raw materials required for production, an adequately trained and capable workforce, project engineering expertise for certain large projects, sufficient internal manufacturing plant capacity, available subcontractors and appropriate planning and scheduling of manufacturing resources. Our failure to deliver in accordance with customer expectations may result in damage to existing customer relationships and result in the loss of future business. Failure to deliver backlog in accordance with expectations could negatively impact our financial performance and cause adverse changes in the market price of our common stock.

Volatility of oil and natural gas prices can adversely affect demand for our products and services.

Volatility in oil and natural gas prices can impact our customers' activity levels and spending for our products and services. Current energy prices are important contributors to cash flow for our customers and their ability to fund capital expenditures. Lower oil and natural gas prices generally lead to decreased spending by our customers. While higher oil and natural gas prices generally lead to increased spending by our customers, sustained high energy prices can be an impediment to economic growth, and can therefore negatively impact spending by our customers. Our customers also take into account the volatility of energy prices and other risk factors by requiring higher returns for individual projects if there is a higher perceived risk. Any of these factors could affect the demand for oil and natural gas and could have a material effect on our results of operations.

Increasing costs for manufactured components, raw materials, transportation, health care and energy prices may adversely affect our profitability.

We use a broad range of manufactured components and raw materials in our products, including raw steel, steel-related components, resin, filtration media and equipment such as fans and motors. Materials, wages and subcontracting costs comprise the largest components of our total costs. The current economic environment has resulted, and may continue to result, in price volatility and inflation of these costs. Further increases in the price of these items could further materially increase our operating costs and materially adversely affect our profit margins. Similarly, transportation, steel and health care costs have risen steadily over the past few years and represent an increasing burden for us. Although we try to contain these costs whenever possible, and although we try to pass along increased costs in the form of price increases to our customers, we may be unsuccessful in doing so, and even when successful, the timing of such price increases may lag significantly behind our incurrence of higher costs.

Our financial performance may vary significantly from period to period.

Our annual revenues and earnings have varied in the past and are likely to vary in the future. Our contracts generally stipulate customer-specific delivery terms and may have contract cycles of a year or more, which subjects these contracts to many factors beyond our control. In addition, contracts that are significantly larger in size than our typical contracts tend to intensify their impact on our annual operating results. Furthermore, as a significant portion of our operating costs are fixed, an unanticipated decrease in our revenues, a delay or cancellation of orders in backlog, or a decrease in the demand for our products, may have a significant impact on our annual operating results. Therefore, our annual operating results may be subject to significant variations and our operating performance in one period may not be indicative of our future performance.

Customers may cancel or delay projects. As a result, our backlog may not be indicative of our future revenue.

Customers may cancel or delay projects for reasons beyond our control. Our orders normally contain cancellation provisions that permit us to recover our costs, and, for most contracts, a portion of our anticipated profit in the event a customer cancels an order. If a customer elects to cancel an order, we may not realize the full amount of revenues included in our backlog. If projects are delayed, the timing of our revenues could be affected and projects may remain in our backlog for extended periods of time. Revenue recognition occurs over long periods of time and is subject to unanticipated delays. If we receive relatively large orders in any given quarter, fluctuations in the levels of our quarterly backlog can result because the backlog in that quarter may reach levels that may not be sustained in subsequent quarters. As a result, our backlog may not be indicative of our future revenues. With rare exceptions, we are not issued contracts until a customer is ready to start work on a project. Thus, it is our experience that the only relationship between the length of a project and the possibility that a project may be cancelled is simply the fact that there is more time involved. For

example, in a year-long project as opposed to a three-month project, more time is available for the customer to experience a softening in its business, which may cause the customer to cancel a project.

We face significant competition in the markets we serve.

All of the product and solution categories in which we compete are highly fragmented and competitive. We compete in industrial markets against a number of local, regional and national manufacturers and suppliers in each of our product or service lines, many of which have been in existence longer than us and some of which have substantially greater financial resources than we do. Our products primarily compete on the basis of performance, quality, reliability, lead time, on-time delivery, and safety supported by advanced engineering and operational excellence. We must also be responsive to any technological developments and related changing customer requirements. Any failure by us to compete effectively in the markets we serve could have a material adverse effect on our financial condition, results of operations and cash flows.

We may incur material costs as a result of existing or future product liability claims, or other claims and litigation that could adversely affect our financial condition, results of operations and cash flows; and our insurance coverage may not cover all claims or may be insufficient to cover the claims.

Despite our quality assurance measures, we may be exposed to product liability claims, other claims and litigation in the event that the use of our products results, or is alleged to result, in bodily injury and/or property damage or our products actually or allegedly fail to perform as expected. Such claims may also be accompanied by fraud and deceptive trade practices claims. While we maintain insurance coverage with respect to certain product liability and other claims, we may not be able to obtain such insurance on acceptable terms in the future, if at all, and any such insurance may not provide adequate coverage against product liability and other claims. Furthermore, our insurance may not cover damages from breach of contract by us or based on alleged fraud or deceptive trade practices. Any future damages that are not covered by insurance or are in excess of policy limits could have a material adverse effect on our financial condition, results of operations and cash flows. In addition, product liability and other claims can be expensive to defend and can divert the attention of management and other personnel for significant periods of time, regardless of the ultimate outcome.

An unsuccessful defense of a product liability or other claim could have an adverse effect on our financial condition, results of operations and cash flows. Even if we are successful in defending against a claim relating to our products, claims of this nature could cause our customers to lose confidence in our products and us.

Liability to customers under warranties may adversely affect our reputation, our ability to obtain future business and our results of operations.

We provide certain warranties as to the proper operation and conformance to specifications of the products we manufacture or produce. Failure of our products to operate properly or to meet specifications may increase our costs by requiring additional engineering resources and services, replacement of parts and equipment or monetary reimbursement to customers. We have in the past received warranty claims, are currently subject to warranty claims, and we expect to continue to receive warranty claims in the future. To the extent that we incur substantial warranty claims in any period, our reputation, our ability to obtain future business and our results of operations could be adversely affected.

Risks Related to our Business Model and Capital Structure

Our gross profit may be affected by shifts in our product mix.

Certain of our products have higher gross profit margins than others. Consequently, changes in the product mix of our sales from quarter-to-quarter or from year-to-year can have a significant impact on our reported gross profit margins. Certain of our products also have a much higher internally manufactured cost component. Therefore, changes from quarter-to-quarter or from year-to-year can have a significant impact on our reported gross profit margins. In addition, contracts with a higher percentage of subcontracted work or equipment purchases may result in lower gross profit margins.

Our manufacturing operations are dependent on third-party suppliers.

Although we are not dependent on any one supplier, we are dependent on the ability of our third-party suppliers to supply our raw materials, as well as certain specific component parts and sub-assemblies. The third-party suppliers upon which we depend may default on their obligations to us due to bankruptcy, insolvency, lack of liquidity, adverse economic conditions, operational failure, fraud, loss of key personnel, health-related shutdowns, or other reasons. We cannot assure you that our third-party suppliers will dedicate sufficient resources to meet our scheduled delivery requirements or that our suppliers will have sufficient resources to satisfy

our requirements during any period of sustained demand. Failure of suppliers to supply, or delays in supplying, our raw materials or certain components, or allocations in the supply of certain high demand raw components, for any reason, including, without limitation, disruptions in our suppliers' due to cybersecurity incidents, terrorist activity, public health crises (such as COVID-19), fires or other natural disasters could materially adversely affect our operations and ability to meet our own delivery schedules on a timely and competitive basis. Additionally, our third-party suppliers may provide us with raw materials or component parts that fail to meet our expectations or the expectations of our customers, which could subject us to product liability claims, other claims and litigation.

Our use of subcontractors could potentially harm our profitability and business reputation.

Occasionally we act as a prime contractor in some of the projects we undertake. In our capacity as lead provider, and when acting as a prime contractor, we perform a portion of the work on our projects with our own resources and typically subcontract activities such as manufacturing, electrical work, concrete work, insulation, conveyors and controls. In our industry, the lead contractor is normally responsible for the performance of the entire contract, including subcontract work. Thus, when acting as a prime contractor, we are subject to risk associated with the failure of one or more subcontractors to perform as anticipated.

We employ subcontractors at various locations around the world to meet our customers' needs in a timely manner, meet local content requirements and reduce costs. Subcontractors generally perform the majority of our manufacturing for international customers. We also utilize subcontractors in North America. The use of subcontractors decreases our control over the performance of these functions and could result in project delays, escalated costs and substandard quality. These risks could adversely affect our profitability and business reputation. In addition, many of our competitors, who have greater financial resources and greater bargaining power than we have, use the same subcontractors that we use and could potentially influence our ability to hire these subcontractors. If we were to lose relationships with key subcontractors, our business could be adversely impacted.

A significant portion of our accounts receivable are related to larger contracts, which increases our exposure to credit risk.

Significant portions of our sales are to customers who place large orders for custom products and whose activities are related to the power generation and oil & gas industries. As a result, our exposure to credit risk is affected to some degree by conditions within these industries and governmental and or political conditions. We frequently attempt to reduce our exposure to credit risk by requiring progress or milestone payments and letters of credit as well as closely monitoring the credit worthiness of our customers. However, the continuing economic climate and other unanticipated events that affect our customers could have a materially adverse impact on our operating results.

Changes in billing terms can increase our exposure to working capital and credit risk.

Our products are generally sold under contracts that allow us to bill upon the completion of certain agreed upon milestones or upon actual shipment of the product, and certain contracts include a retention provision. We attempt to negotiate progress-billing milestones on all large contracts to help us manage the working capital and credit risk associated with these large contracts. Consequently, shifts in the billing terms of the contracts in our backlog from period to period can increase our requirement for working capital and can increase our exposure to credit risk.

Currency fluctuations may reduce profits on our foreign sales or increase our costs, either of which could adversely affect our financial results.

Given that approximately 35% of our 2022 revenues are outside the United States, we are subject to the impact of fluctuations in foreign currency exchange rates. Although our financial results are reported in U.S. dollars, a portion of our sales and operating costs are realized in foreign currencies. Our sales and profitability are impacted by the movement of the U.S. dollar against foreign currencies in the countries in which we generate sales and conduct operations. Long-term fluctuations in relative currency values could have an adverse effect on our operations and financial conditions.

If our goodwill or indefinite lived intangibles become impaired, we may be required to recognize charges that would adversely impact our results of operations.

As of December 31, 2022, goodwill and indefinite lived intangibles were \$192.7 million, or 38.2%, of our total assets. Goodwill and indefinite lived intangible assets are not amortized, but instead are subject to annual impairment evaluations (or more frequently if circumstances require). Major factors that influence our evaluations are estimates for future revenue and expenses associated with the specific intangible asset or the reporting unit in which the goodwill resides. This is the most sensitive of our estimates related to our evaluations. Other factors considered in our evaluations include assumptions as to the business climate, industry and economic conditions. These assumptions are subjective and different estimates could have a significant impact on the results of our analyses. While management, based on current forecasts and outlooks, believes that the assumptions and estimates are reasonable, we can make no assurances that future actual operating results will be realized as planned and that there will not be material impairment charges as a result. In particular, an economic downturn could have a material adverse impact on our customers thereby forcing them to reduce or curtail doing business with us and such a result may materially affect the amount of cash flow generated by our future operations. Any write-down of goodwill or intangible assets resulting from future periodic evaluations could adversely materially impact our results of operations.

We may incur costs as a result of certain restructuring activities, which may negatively impact our financial results, and we may not achieve some or all of the expected benefits of our restructuring plans.

We are continuously seeking the most cost-effective means and structure to serve our customers, protect our stockholders and respond to changes in our markets. From time to time, we may engage in restructuring activities in an effort to improve cost competitiveness and profitability. We may not achieve the desired or anticipated benefits from these restructuring activities. As a result, restructuring costs may vary significantly from year to year depending on the scope of such activities. Such restructuring costs and expenses could adversely impact our financial results.

We are party to asbestos-containing product litigation that could adversely affect our financial condition, results of operations and cash flows.

Our subsidiary, Met-Pro, along with numerous other third parties, has been named as a defendant in asbestos-related lawsuits filed against a large number of industrial companies including, in particular, those in the pump and fluid handling industries. In management's opinion, the complaints typically have been vague, general and speculative, alleging that Met-Pro, along with the numerous other defendants, sold unidentified asbestos-containing products and engaged in other related actions that caused injuries (including death) and loss to the plaintiffs. The Company's insurers have hired attorneys who, together with the Company, are vigorously defending these cases. The Company believes that its insurance coverage is adequate for the cases currently pending against the Company and for the foreseeable future, assuming a continuation of the current volume, nature of cases and settlement amounts. However, the Company has no control over the number and nature of cases that are filed against it, nor as to the financial health of its insurers or their position as to coverage. The Company also presently believes that none of the pending cases will have a material adverse impact upon the Company's results of operations, liquidity or financial condition.

See Note 12 to the Consolidated Financial Statements contained in Part II, Item 8 of this Annual Report on Form 10-K for information regarding the asbestos-related litigation in which we are involved.

We have \$112.7 million of indebtedness as of December 31, 2022, and incurrence of additional indebtedness could adversely affect our ability to operate our business, remain in compliance with debt covenants, make payments on our debt and limit our growth.

Our outstanding indebtedness could have important consequences for investors, including the following:

- it may be more difficult for us to satisfy our obligations with respect to the agreement governing our Credit Facility (as defined in Note 8 to the Consolidated Financial Statements contained in Part II, Item 8 of this Annual Report on Form 10-K), and any failure to comply with the obligations of any of the agreements governing any additional indebtedness, including financial and other restrictive covenants, could result in an event of default under such agreements;
- the covenants contained in our debt agreements, including our Credit Facility, limit our ability to borrow money in the future for acquisitions, capital expenditures or to meet our operating expenses or other general corporate obligations;
- the amount of our interest expense may increase because a substantial portion of our borrowings is at variable rates of interest, which, if interest rates increase, could result in higher interest expense;
- we may need to use a portion of our cash flows to pay interest on our debt, which will reduce the amount of money we have for operations, working capital, capital expenditures, expansion, acquisitions or general corporate or other business activities;

- we may have a higher level of debt than some of our competitors, which could put us at a competitive disadvantage;
- we may be more vulnerable to economic downturns and adverse developments in our industry or the economy in general; and
- our debt level could limit our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate.

Our ability to meet our expenses and debt obligations will depend on our future performance, which will be affected by financial, business, economic, regulatory and other factors. We will not be able to control many of these factors. We cannot be certain that our earnings will be sufficient to allow us to pay the principal and interest on our existing or future debt and meet our other obligations. If we do not have enough money to service our existing or future debt, we may be required to refinance all or part of our existing or future debt, sell assets, borrow more money or raise equity. We may not be able to refinance our existing or future debt, sell assets, borrow more money or raise equity on terms acceptable to us, if at all.

Our ability to execute our growth strategies may be limited by our ability to secure and retain additional financing on terms reasonably acceptable to us or at all. Certain of our competitors are larger companies that may have greater access to capital, and therefore may have a competitive advantage over us should our access to capital be limited.

We might be unable to protect our intellectual property rights and our products could infringe the intellectual property rights of others, which could expose us to costly disputes.

Although we believe that our products do not infringe patents or violate the proprietary rights of others, it is possible that our existing patent rights may not be valid or that infringement of existing or future patents or proprietary rights may occur. In the event our products infringe patents or proprietary rights of others, we may be required to modify the design of our products or obtain a license for certain technology. We cannot guarantee that we will be able to do so in a timely manner, upon acceptable terms and conditions, or at all. Failure to do any of the foregoing could have a material adverse effect upon our business. Moreover, if our products infringe patents or proprietary rights of others, we could, under certain circumstances, become liable for damages, which also could have a material adverse effect on our business.

Risks related to our pension plan may adversely impact our results of operations and cash flow.

Significant changes in actual investment return on pension assets, discount rates and other factors may adversely affect our results of operations and pension plan contributions in future periods. GAAP requires that we calculate the income or expense of our plan using actuarial valuations. These valuations reflect assumptions about financial markets and interest rates. We establish the discount rate used to determine the present value of the projected and accumulated benefit obligation at the end of each year based upon the available market rates for high quality, fixed-income investments. An increase in the discount rate would increase future pension expense and, conversely, a decrease in the discount rate would decrease future pension expense. Funding requirements for our pension plan may become more significant. The ultimate amounts to be contributed are dependent upon, among other things, interest rates, underlying asset returns and the impact of legislative or regulatory changes related to pension funding obligations.

We may be subject to substantial withdrawal liability assessments in the future related to multiemployer pension plans to which certain of our subsidiaries make contributions pursuant to collective bargaining agreements.

Under applicable federal law, any employer contributing to a multiemployer pension plan that completely ceases participating in the plan while the plan is underfunded is subject to payment of such employer's assessed share of the aggregate unfunded vested benefits of the plan. In certain circumstances, an employer can be assessed a withdrawal liability for a partial withdrawal from a multiemployer pension plan. If any of these adverse events were to occur in the future, it could result in a substantial withdrawal liability assessment that could have a material adverse effect on our business, financial condition, results of operations or cash flows.

We have made and may make future acquisitions or divestitures, which involve numerous risks that could impact our financial condition, results of operations and cash flows.

Our operating strategy has involved expanding or contracting our scope of products and services through selective acquisitions or divestitures and the formation or elimination of new business units that are then integrated or separated into or out of our family of turnkey system providers. We have acquired other businesses, product or service lines, assets or technologies that are complementary to our business. We may be unable to find or consummate future acquisitions at acceptable prices and terms. We continually evaluate potential acquisition opportunities in the ordinary course of business.

Although we conduct what we believe to be a prudent level of investigation regarding the operating and financial condition of the businesses, product or service lines, assets or technologies we purchase, an unavoidable level of risk remains regarding their actual operating and financial condition. Until we actually assume operating control of these businesses, product or service lines, assets or technologies, we may not be able to ascertain their actual value or understand potential liabilities. This is particularly true with respect to acquisitions outside the United States.

In addition, acquisitions of businesses may require additional debt or equity financing, resulting in additional leverage or dilution of ownership. Our Credit Facility contains certain covenants that limit, or which may have the effect of limiting, among other things, acquisitions, capital expenditures, the sale of assets and the incurrence of additional indebtedness.

Societal responses to climate change could adversely affect our business and performance, including indirectly through impacts on our customers.

Concerns over the long-term impacts of climate change have led and will continue to lead to governmental efforts around the world to mitigate those impacts. Consumers and businesses also may change their behavior as a result of these concerns. We and our customers will need to respond to new laws and regulations as well as consumer and business preferences resulting from climate change concerns. We and our customers may face cost increases, asset value reductions and operating process changes. The impact on our customers will likely vary depending on their specific attributes, including reliance on or role in carbon intensive activities. Among the impacts to us could be a drop in demand for our products and services, particularly in oil & gas industries. In addition, we could face reductions in our creditworthiness or in the value of our assets securing loans. Our efforts to take these risks into account in making business decisions, including by increasing our business with climate-friendly companies, may not be effective in protecting us from the negative impact of new laws and regulations or changes in consumer or business behavior.

Global climate change and related emphasis on environmental, social and governance ("ESG") matters by various stakeholders could negatively affect our business.

Customer, investor and employee expectations relating to ESG have been rapidly evolving and increasing. In addition, government organizations are enhancing or advancing legal and regulatory requirements specific to ESG matters. The heightened stakeholder focus on ESG issues related to our business requires the continuous monitoring of various and evolving laws, regulations, standards and expectations and the associated reporting requirements. A failure to adequately meet stakeholder expectations may result in noncompliance, the loss of business, reputational impacts, diluted market valuation, an inability to attract customers and an inability to attract and retain top talent. In addition, our adoption of certain standards or mandated compliance to certain requirements could necessitate additional investments that could impact our profitability.

Climate changes, such as extreme weather conditions, create financial risk to our business. Global physical climate changes, including unseasonable weather conditions, could result in reduced demand or product obsolescence for certain of our customers' products and/or price modifications for our customers' products and the resources needed to produce them. This could in turn put pressure on our manufacturing costs and result in reduced profit margin associated with certain of our customer programs, or loss of customer programs that we may not be able to replace.

Risks Related to Human Capital Management

We may not be able to attract and retain qualified employees.

Our future success depends upon the continued service of our executive officers and other key management and technical personnel, and on our ability to continue to identify, attract, retain and motivate them. Implementing our business strategy requires specialized engineering and other talent, as our revenues are highly dependent on technological and product innovations. The market for employees in our industry is extremely competitive, and competitors for talent, particularly engineering talent, increasingly attempt to hire, and to varying degrees have been successful in hiring, our employees, including by establishing local offices near our headquarters. If we are unable to attract and retain qualified employees, our business may be harmed.

Work stoppages or similar difficulties could significantly disrupt our operations.

As of December 31, 2022, approximately 200 of our approximately 1,000 employees are represented by international or independent labor unions under various union contracts that expire from May 1, 2023 to November 12, 2025. It is possible that our workforce will become more unionized in the future. Although we consider our employee relations to generally be good, our existing labor agreements may not prevent a strike or work stoppage at one or more of our facilities, including due to the effects of COVID-19, may have a material adverse effect on our business. Unionization activities could also increase our costs, which could have an adverse effect on our profitability.

Additionally, a work stoppage at one of our suppliers could adversely affect our operations if an alternative source of supply were not readily available. Work stoppages by employees of our customers also could result in reduced demand for our products.

Information Technology and Cybersecurity Risks

Our dependence on information systems and the failure of such systems, could significantly disrupt our business and negatively affect our financial condition, results of operations and cash flows.

We are highly dependent on information systems that are increasingly operated by third parties and as a result we have a limited ability to ensure their continued operation. We rely on information technology systems, networks and infrastructure in managing our day-to-day operations. In the event of systems failure or interruption, including those related to force majeure, telecommunications failures, criminal acts, including hardware or software break-ins or extortion attempts, or viruses, or other cybersecurity incidents, we will have limited ability to affect the timing and success of systems restoration and any resulting interruption in our ability to manage and operate our business could have a material adverse effect on our operating results.

Increased information technology cybersecurity threats and more sophisticated and targeted computer crime could pose a risk to our systems, networks, and products.

Increased global information technology cybersecurity threats and more sophisticated and targeted computer crime pose a risk to the security of our systems and networks and the confidentiality, availability and integrity of our data and communications. While we attempt to mitigate these risks by employing a number of measures, including employee training, comprehensive monitoring of our networks and systems, and maintenance of backup and protective systems, our systems, networks and products remain potentially vulnerable to advanced persistent threats. Depending on their nature and scope, such threats could potentially lead to the compromise of confidential information and communications, improper use of our systems and networks, manipulation and destruction of data, defective products, production downtimes and operational disruptions, which in turn could adversely affect our reputation, competitiveness and results of operations. We have cybersecurity insurance related to a breach event covering expenses for notification, credit monitoring, investigation, crisis management, public relations and legal advice. However, damage and claims arising from such incidents may not be covered or exceed the amount of any insurance available or may result in increased cybersecurity and other insurance premiums. In response to an increased reliance on our information technology systems, we have taken proactive measures to strengthen our information technology systems, including completion of a National Institute of Standards and Technology ("NIST") assessment, upgraded security patches across all servers, development of best-in-class hack protection service, implementation of recurring company-wide security training and enablement of advanced security for our major information systems. Management provides the Audit Committee with regular cybersecurity program updates including cybersecurity posture, risk management activities, and emerging risk.

Furthermore, the Company may have access to sensitive, confidential, or personal data or information that may be subject to privacy and security laws, regulations, or other contractually-imposed controls. Despite our use of reasonable and appropriate controls, material security breaches, theft, misplaced, lost or corrupted data, programming, or employee errors and/or malfeasance could lead to the compromise or improper use of such sensitive, confidential, or personal data or information, resulting in possible negative consequences, such as fines, ransom demands, penalties, loss of reputation, competitiveness or customers, or other negative consequences resulting in adverse impacts to our results of operations or financial condition.

Regulatory Compliance and International Operations Risks

Our business can be significantly affected by changes in regulatory standards.

The markets that the Company serves are characterized by competitively imposed process standards and regulatory requirements, each of which influences the demand for our products and services. Changes in legislative, regulatory or industrial requirements may render certain of our products and processes obsolete. Conversely, these changes may present new business opportunities for us. Acceptance of new products and services may also be affected by the adoption of new government regulations requiring stricter standards. Our ability to anticipate changes in regulatory standards and to respond with new and enhanced products on a timely basis will be a significant factor in our ability to grow and to remain competitive. We cannot guarantee that we will be able to achieve the technological advances that may be necessary for us to remain competitive or that certain of our products or services will not become obsolete.

Changes in current environmental legislation and enforcement could have an adverse impact on the sale of our environmental control systems and products and on our financial condition, results of operations and cash flows.

Our business is primarily driven by capital spending, clean air rules, plant upgrades by our customers to comply with laws and regulations governing the discharge of pollutants into the environment or otherwise relating to the protection of the environment or human health. These laws include, but are not limited to, United States federal statutes such as the Resource Conservation and Recovery Act of 1976, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, the Clean Water Act, the Clean Air Act, the Clean Air Interstate Rule, and the regulations implementing these statutes, as well as similar laws and regulations at state and local levels and in other countries. These United States laws and regulations may change and other countries may not adopt similar laws and regulations. Our business may be adversely impacted to the extent that environmental regulations are repealed, amended, implementation dates are delayed, or to the extent that regulatory authorities reduce enforcement.

Our operations outside of the United States are subject to political, investment and local business risks.

For the year ended December 31, 2022, approximately 35% of our total revenue was derived from products or services ultimately delivered or provided to end users outside the United States. As part of our operating strategy, we intend to expand our international operations through internal growth and selected acquisitions. Operations outside of the United States, particularly in emerging markets, are subject to a variety of risks that are different from or are in addition to the risks we face within the United States. Among others, these risks include: (i) local, economic, political and social conditions, including potential hyperinflationary conditions and political instability in certain countries; (ii) tax-related risks, including the imposition of taxes and the lack of beneficial treaties, that result in a higher effective tax rate for us; (iii) imposition of limitations on the remittance of dividends and payments by foreign subsidiaries; (iv) difficulties in enforcing agreements and collecting receivables through certain foreign local systems; (v) domestic and foreign customs, tariffs and quotas or other trade barriers; (vi) risk of nationalization of private enterprises by foreign governments; (vii) managing and obtaining support and distribution channels for overseas operations; (viii) hiring and retaining qualified management personnel for our overseas operations; and (ix) the results of new trade agreements and changes in membership to international coalitions or unions.

We are also exposed to risks relating to U.S. policy with respect to companies doing business in foreign jurisdictions. Changes in laws or policies governing the terms of foreign trade, in particular increased trade restrictions, tariffs or taxes on import from countries where we procure or manufacture products, such as China, could have a material adverse effect on our business and results of operations. For instance, the U.S. and Chinese governments have imposed a series of significant incremental retaliatory tariffs to certain imported goods. Given the uncertainty regarding the duration of the imposed tariffs, as well as the potential for additional tariffs by the U.S., China or other countries, as well as other changes in tax policy, trade regulations or trade agreements, and the Company's ability to implement strategies to mitigate the impact of changes in tax policy, tariffs or other trade regulations, our exposure to the risks described above could have a material adverse effect on our business and results of operations.

In addition, compliance with foreign and domestic legal and regulatory requirements, including import, export, defense regulations and foreign exchange controls and anti-corruption laws, such as the Foreign Corrupt Practices Act, the United Kingdom's Bribery Act, the European Union's General Data Protection Regulations and similar laws of other jurisdictions, could adversely impact our ability to compete against companies in such jurisdictions. Moreover, the violation of such laws or regulations, by us or our representatives, could result in severe penalties including monetary fines, criminal proceedings and suspension of export privileges. We operate in many parts of the world that have experienced governmental corruption to some degree and, in certain circumstances, strict compliance with anti-bribery laws may conflict with local customs and practices. We cannot assure you that our internal controls and procedures will always protect us from reckless or criminal acts committed by our employees or agents. If we are found to be liable for such violations, we could suffer from criminal or civil penalties or other sanctions, including loss of export privileges or authorization needed to conduct aspects of our international business, which could have a material adverse effect on our business.

The occurrence of one or more of the foregoing factors could have a material adverse effect on our international operations or upon our financial condition, results of operations and cash flows.

Changes in laws or regulations or the manner of their interpretation or enforcement could adversely impact our financial performance and restrict our ability to operate our business or execute our strategies.

New laws or regulations, or changes in existing laws or regulations, or the manner of their interpretation or enforcement, could increase our cost of doing business and restrict our ability to operate our business or execute our strategies. In particular, there is continued uncertainty with respect to United States trade policies, treaties, government regulations and tariffs. Any changes the Biden administration makes to United States administrative policy could result in changes to existing trade agreements, greater restrictions on free trade generally and significant increases in tariffs on goods imported into the United States, particularly tariffs on products manufactured in Mexico and China, among other possible changes. A trade war or other governmental action related to tariffs or

international trade agreements, and any resulting negative sentiments towards the United States as a result thereof, would likely have an adverse effect on our international operations or upon our business, financial condition, results of operations and cash flows.

Risks Related to Our Common Stock

The market price of our common stock may be volatile or may decline regardless of our operating performance and investors may not be able to resell shares they purchase at their purchase price.

The stock market has experienced and may in the future experience volatility that has often been unrelated to the operating performance of particular companies. The market price of our common stock has experienced, and may continue to experience, substantial volatility. During 2022, the sales price of our common stock on the NASDAQ ranged from \$4.09 to \$12.89 per share. We expect our common stock to continue to be subject to fluctuations. Broad market and industry factors may adversely affect the market price of our common stock, regardless of our actual operating performance. Factors that could cause fluctuation in the common stock price may include, among other things:

- actual or anticipated variations in operating results;
- adverse general economic conditions, including, but not limited to, withdrawals of investments in the stock markets generally or a tightening of credit available to potential acquirers of businesses, that result in lower average prices being paid for public company shares and lower valuations being placed on businesses;
- other domestic and international macroeconomic factors unrelated to our performance;
- health epidemics and other outbreaks;
- our failure to meet the expectations of the investment community;
- industry trends and the business success of our customers;
- loss of key customers;
- announcements of technological advances by us or our competitors;
- current events affecting the political and economic environment in the United States;
- conditions or trends in our industry, including demand for our products and services, technological advances and governmental regulations;
- litigation or other proceedings involving or affecting us; and
- additions or departures of our key personnel.

The realization of any of these risks and other factors beyond our control could cause the market price of our common stock to decline significantly.

We are not currently paying dividends and cannot make assurances that we will pay dividends on our common stock and our indebtedness could limit our ability to pay dividends.

The timing, declaration, amount and payment of future dividends to our stockholders fall within the discretion of our Board of Directors and will depend on many factors, including our financial condition, results of operations and capital requirements, as well as applicable legal or regulatory constraints, industry practice and other business considerations that our Board of Directors considers relevant. We have not paid a cash dividend on our common stock in any of the years ended December 31, 2022, 2021 or 2020 and currently intend to retain future earnings, if any, to finance the operations, growth and development of our business into the foreseeable future.

Our ability to issue preferred stock could adversely affect the rights of holders of our common stock.

Our certificate of incorporation authorizes us to issue up to 10,000 shares of preferred stock in one or more series on terms that may be determined at the time of issuance by our Board of Directors. Accordingly, we may issue shares of any series of preferred stock that would rank senior to our common stock as to voting or dividend rights or rights upon our liquidation, dissolution or winding up.

Certain provisions in our charter documents have anti-takeover effects.

Certain provisions of our certificate of incorporation and bylaws may have the effect of delaying, deferring or preventing a change in control of us. Such provisions, including those limiting who may call special stockholders' meetings, together with the possible issuance of our preferred stock without stockholder approval, may make it more difficult for other persons, without the approval of our Board of Directors, to make a tender offer or otherwise acquire substantial amounts of our common stock or to launch other takeover attempts that a stockholder might consider to be in such stockholder's best interest.

General Risk Factors

Failure to maintain adequate internal controls could adversely affect our business.

Under Section 404 of the Sarbanes-Oxley Act of 2002, we are required to include in each of our Annual Reports on Form 10-K a report containing our management's assessment of the effectiveness of our internal control over financial reporting and an attestation report of our independent auditor. These laws, rules and regulations continue to evolve and could become increasingly stringent in the future. We have undertaken actions to enhance our ability to comply with the requirements of the Sarbanes-Oxley Act of 2002, including, but not limited to, the engagement of consultants, the documentation of existing controls and the implementation of new controls or modification of existing controls as deemed appropriate.

We continue to devote substantial time and resources to the documentation and testing of our controls, and to plan for and the implementation of remedial efforts in those instances where remediation is indicated. If we fail to maintain the adequacy of our internal controls, including remediating any material weaknesses or deficiencies in our internal controls, as such standards are modified, supplemented or amended in the future, we could be subject to regulatory actions, civil or criminal penalties or stockholder litigation. In addition, failure to maintain adequate internal controls could result in financial statements that do not accurately reflect our financial condition, results of operations and cash flows. We believe that the out-of-pocket costs, the diversion of management's attention from running our day-to-day operations and operational changes caused by the need to comply with the requirements of Section 404 of the Sarbanes-Oxley Act of 2002 will continue to be significant.

There are inherent limitations in all internal control systems over financial reporting, and misstatements due to error or fraud may occur and not be detected.

While we continue to take action to ensure compliance with the internal control, disclosure control and other requirements of the Sarbanes-Oxley Act of 2002 and the rules and regulations promulgated thereunder by the SEC, there are inherent limitations in our ability to control all circumstances. Our management, including our Chief Executive Officer and Chief Financial and Strategy Officer, do not expect that our internal controls and disclosure controls can prevent all errors and all frauds. A control system, no matter how well conceived and operated, can provide only reasonable assurance that the objectives of the control system are met. In addition, the design of a control system must reflect the fact that there are resource constraints and the benefit of controls must be evaluated in relation to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple error or mistake. Further, controls can be circumvented by individual acts of some persons, by collusion of two or more persons or by management override of the controls. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, a control may be inadequate because of changes in conditions or the degree of compliance with the policies or procedures may deteriorate. Because of inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

If we are not able to maintain the adequacy of our internal control over financial reporting, including any failure to implement required new or improved controls, or if we experience difficulties in their implementation, our business, financial condition and operating results could be harmed. We can give no assurances that any additional material weaknesses will not arise in the future due to our failure to implement and maintain adequate internal control over financial reporting.

Item 1B. Unresolved Staff Comments

Not applicable.

Item 2. Properties

The Company has 30 principal operating facilities across twelve states and nine countries. The Company's executive offices are located in Dallas, Texas. We maintain our facilities in good operating condition, and we believe they are suitable and adequate for the purposes for which they are intended to conduct business. Our current capacity, with limited capital additions, is expected to be sufficient to meet production requirements for the near future. It is anticipated that most leases coming due in the near future will be renewed at expiration. The property we own is subject to collateral mortgages to secure the amounts owed under the Credit Facility. Information on the number and location of principal operating facilities by segment was as follows as of December 31, 2022.

Segment	Owned	Leased	Location of Facilities	
			States	Countries
Engineered Systems Segment	1	15	Arizona, California, Connecticut, New York, Ohio, Texas	United States, The Netherlands, Canada, India, United Arab Emirates, Singapore, United Kingdom, People's Republic of China, South Korea
Industrial Process Solutions Segment	1	11	California, Illinois, Indiana, Michigan, North Carolina, Pennsylvania, Tennessee	United States, United Kingdom, The Netherlands, People's Republic of China
Corporate	—	2	Ohio, Texas	United States
	<u>2</u>	<u>28</u>		

Item 3. Legal Proceedings

See Note 12 to the Consolidated Financial Statements contained in Part II, Item 8 of this Annual Report on Form 10-K for information regarding legal proceedings in which we are involved.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

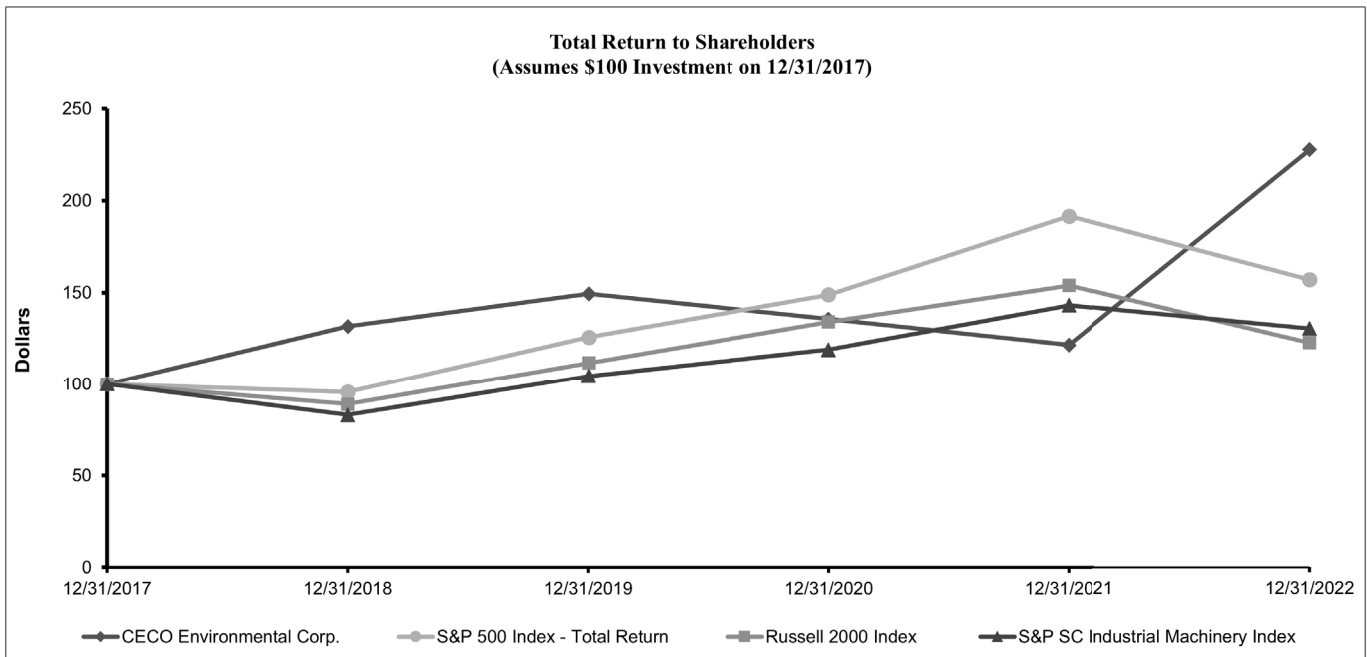
Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

Our common stock is traded on The Nasdaq Global Select Market under the symbol “CECO.”

Performance Graph

The following graph sets forth the cumulative total return to CECO’s stockholders during the five years ended December 31, 2022, as well as the following indices: Russell 2000 Index, Standard and Poor’s (“S&P”) 600 Small Cap Industrial Machinery Index, and S&P 500 Index. The following graph assumes \$100 was invested on December 31, 2017, including the reinvestment of dividends, in each category.



Dividends

The timing, declaration, amount and payment of future dividends to our stockholders fall within the discretion of our Board of Directors and will depend on many factors, including our financial condition, results of operations and capital requirements, as well as applicable legal or regulatory constraints, industry practice and other business considerations that our Board of Directors considers relevant. We have not paid a cash dividend on our common stock in any of the years ended December 31, 2022, 2021 or 2020 and currently intend to retain future earnings, if any, to finance the operations, growth and development of our business into the foreseeable future, or for other uses such as the continuation of our share repurchase program. Payment of dividends is also subject to the continuing compliance with our financial covenants under our Credit Facility.

Holders

The approximate number of registered stockholders of record of our common stock as of February 28, 2023 was 259, although there is a larger number of beneficial owners.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

The following table provides information about our purchases of our equity securities for the quarter ended December 31, 2022.

Period (amounts in thousands, except per share data)	Issuer's Purchases of Equity Securities			Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs
	Total Number of Shares Purchased ¹	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	
October 1, 2022 - October 31, 2022	51,257	\$ 9.79	51,257	\$ 13,000
November 1, 2022 - November 30, 2022	—	—	—	13,000
December 1, 2022 - December 31, 2022	—	—	—	13,000
Total	<u>51,257</u>	<u>\$ 9.79</u>	<u>51,257</u>	

(1) On May 10, 2022, the Board of Directors authorized a \$20.0 million share repurchase program as described within Note 9 to the Consolidated Financial Statements. The program expires on April 30, 2025.

Recent Sales of Unregistered Securities

Not applicable.

Item 6. [Reserved]

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

Management's discussion and analysis ("MD&A") should be read in conjunction with the consolidated financial statements and accompanying notes included in Item 8 of this Annual Report on Form 10-K, which include additional information about our accounting policies, practices and the transactions underlying our financial results. The preparation of our consolidated financial statements in conformity with GAAP requires us to make estimates and assumptions that affect the reported amounts in our consolidated financial statements and the accompanying notes including various claims and contingencies related to lawsuits, taxes, environmental and other matters arising during the normal course of business. We apply our best judgment, our knowledge of existing facts and circumstances and actions that we may undertake in the future in determining the estimates that affect our consolidated financial statements. We evaluate our estimates on an ongoing basis using our historical experience, as well as other factors we believe appropriate under the circumstances, such as current economic conditions, and adjust or revise our estimates as circumstances change. As future events and their effects cannot be determined with precision, actual results may differ from these estimates.

Overview

Business Overview

CECO is a leading environmentally focused, diversified industrial company, serving the broad landscape of industrial air, industrial water and energy transition markets globally providing innovative technology and application expertise. We help companies grow their business with safe, clean, and more efficient solutions that help protect people, the environment and industrial equipment. Our solutions improve air and water quality, optimize emissions management, and increase the energy and process efficiency for highly engineered applications in power generation, midstream and downstream hydrocarbon processing and transport, chemical processing, electric vehicle production, polysilicon fabrication, semiconductor and electronics production, battery production and recycling, specialty metals, aluminum and steel production, beverage can manufacturing, and industrial and produced water and wastewater treatment, and a wide range of other industrial end markets.

Industry Trends and Corporate Strategy

We are a global corporation with worldwide operations. As a global business, our operations are affected by worldwide, regional and industry-specific economic factors, wherever we operate or do business. Our geographic and industry diversity, and the breadth of our product and services portfolio, have helped mitigate the impact of any one industry or the economy of any single country on our consolidated operating results.

We believe growth for our products and services is driven by the increase in demand for air quality and water treatment solutions, the energy transition, a shift towards cleaner sources of fuel such as natural gas, hydrogen, nuclear, and renewable sources, and increased awareness of our customers about corporate social responsibility and interest to procure equipment and solutions that protects employees, the environment and their industrial equipment.

With a shift to cleaner, more environmentally responsible power generation, power providers and industrial power consumers are building new facilities that use cleaner fuels. In developed markets, natural gas is the largest source of electricity generation. We supply product offerings throughout the entire natural gas value chain and believe expansion will drive growth within our Engineered Systems segment for our gas separation & filtration, pressure products, acoustical equipment, water treatment solutions and DeNOx SCR systems for natural-gas-fired power plants. Increases in global natural gas, installed miles of new pipeline, including future CO₂ and hydrogen pipelines, and liquified natural gas ("LNG") demand and supply all stand to drive the need for our products.

We also believe there is a growing demand to control and reduce air and water emissions from industrial facilities for which our pollution control equipment will serve. In 2021, the US Congress passed the Infrastructure Investment and Jobs Act with \$550 billion of new federal spending aimed at rebuilding roads and bridges, climate resilience, and other environmental initiatives. Similar investments are being made in many other countries in which we do business. As industrial capital expenditures grow, corporations are seeking to do so with a smaller environmental impact. These regulatory and economic tailwinds coupled with shareholder pressure on companies to improve their sustainability and reduce their global carbon footprint serve as catalysts for a growing set of opportunities for our portfolio of equipment and solutions.

We continue to focus on increasing revenues and profitability in developing markets, where environmental awareness and associated regulatory standards are increasing, while continuing to strengthen and expand our product offerings and channels in our domestic market of the United States. Our enterprise strategy consists of a combined operational strategy and capital allocation strategy.

Our operational strategy is implemented through our technology and application-based platforms aligned around target customers and end markets where our solutions are particularly valuable. Core elements of our operational strategy are commercial and operational excellence, margin expansion, recurring revenue growth, cash flow generation, product management, and project management execution.

Our capital allocation strategy supports the growth and value creation generated by our operational strategy. We will focus our capital deployment on building out our leading industrial air solutions portfolio, advancing our emerging industrial water treatment position, and supporting our customers as they make the transition to cleaner more sustainable forms of energy, while also shifting our portfolio mix towards businesses with more recurring revenue and more predictable cash flows, strong secular growth trends and less cyclicality.

Market Pressures

The senior management team monitors and manages the Company's ability to operate effectively as the result of market pressures, including lingering impacts of the coronavirus pandemic. In particular, we are currently experiencing shortages of raw materials and inflationary pressures for certain materials and labor. We expect these supply chain challenges and cost impacts to continue for the foreseeable future as markets recover. Although we have secured additional raw materials from existing and alternate suppliers and have taken other mitigating actions to mitigate supply disruptions, we cannot guarantee that we can continue to do so in the future. In this event, our business, results and financial condition could be adversely affected.

Operations Overview

We operate our platforms serving their respective niche end markets. Our platforms are structured to win in their target markets with a core focus on understanding customer needs and providing best-in-class solutions. Our business model provides scalable efficiencies enabling us to serve our customers with a variety of products that we typically classify into three categories: make-to-order, configure-to-order, and engineer-to-order. For our project-based platforms, we use an asset light business model leveraging third-party subcontract fabrication partners in a global network to execute for our customers world-wide. Our platforms are focused on sales, application engineering, product management, project management, and supply chain execution for our customers.

Our operations management team has distinct industry expertise coupled with strong leadership skills resulting in a customer-first mindset across the business. Our operations management team works closely with our Chief Executive Officer and Chief Operating Officer on global fulfillment strategies, operational excellence, resource allocation, and employee development.

Within our segments we have monthly business reviews to ensure we are serving customers, achieving our operating plan, and executing on strategic growth initiatives. These reviews include, but are not limited to pipeline reviews, quotation reviews, project management reviews, financial performance, manufacturing scorecards, safety, and customer feedback. In these reviews we focus on metrics such as quality, customer satisfaction, on-time-delivery, lead-times, price, inflation, project margins, backlog, and above all, safety.

In support of the platforms, centralized teams provide back-office functions for scale, efficiency, and compliance. These key functions include: accounting, treasury, tax, payroll, benefits management, legal, information technology, marketing, and internal control over financial reporting. We have excellent collaboration between our platforms and our centralized service teams ensuring optimal efficiency and alignment on growth and improvement initiatives.

Our reportable segments are:

- **Engineered Systems segment:** Our Engineered Systems segment serves the power generation, hydrocarbon processing, water/wastewater treatment, oily water separation and treatment, marine and naval vessels, and midstream oil & gas sectors. We are a key part of helping meet the global demand for environmental and equipment protection solutions with our highly engineered platforms including emissions control, fluid bed cyclones, thermal acoustics, separation & filtration, and dampers & expansion joints.
- **Industrial Solutions segment:** Our Industrial Process Solutions segment serves the broad industrial sector with solutions for air pollution and contamination control, fluid handling, and process filtration in applications such as aluminum beverage can production, automobile production, food and beverage processing, semiconductor fabrication, electronics production, steel and aluminum mill processing, wood manufacturing, desalination, and aquaculture markets. For Industrial Air applications, we assist companies maintain clean and safe operations for employees, reduce energy consumption, minimize waste for

customers, and ensure they meet regulatory standards for toxic emissions, fumes, volatile organic compounds, and odor elimination through our platforms including duct fabrication & installation, industrial air, and fluid handling.

Our contracts are obtained either through competitive bidding or as a result of negotiations with our customers. Contract terms offered by us are generally dependent on the complexity and risk of the project as well as the resources that will be required to complete the project. Our focus is on increasing our operating margins as well as our gross margin percentage, which translates into stronger operating results.

Our cost of sales is principally driven by a number of factors, including material and subcontract prices and labor cost and availability. Changes in these factors may have a material impact on our overall gross profit margins.

We break down costs of sales into five categories. They are:

- Subcontracts—Electrical work, concrete work, subcomponents and other subcontracts necessary to produce our products;
- Labor—Our direct labor both in the shop and in the field;
- Material—Raw material that we buy to build our products;
- Equipment—Fans, motors, control panels and other equipment necessary for turnkey systems; and
- Factory overhead—Costs of facilities and supervision wages necessary to produce our products.

In general, subcontracts are the highest percentage of costs and also the most flexible followed by labor, material, and equipment. Due to the project nature and global orientation of several of our platforms, leveraging subcontract fabrication partners close to our customers increases our ability to meet customer delivery expectations at market competitive pricing. In periods where orders are infrequent, we do not have to maintain the fixed cost of a manufacturing plant. Across our various product lines, the relative relationships of these cost categories change and cause variations in gross margin percentage. Material and labor costs can increase fast, which also reduces gross margin percentage. As material cost inflation occurs, the Company seeks to pass this cost onto our customers as price increases.

Selling and administrative expense principally includes sales and engineering payroll and related fringes, advertising and marketing expenditures as well as all corporate and administrative functions and other costs that support our operations. The majority of these expenses are fixed. An advantage of our asset light model is that as revenue grows, we have significant operating leverage on our fixed selling and administrative cost structure.

Note Regarding Use of Non-GAAP Financial Measures

The Company's consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP"). These GAAP financial statements include certain charges the Company believes are not indicative of its ongoing operational performance.

As a result, the Company provides financial information in this MD&A that was not prepared in accordance with GAAP and should not be considered as an alternative to the information prepared in accordance with GAAP. The Company provides this supplemental non-GAAP financial information, which the Company's management utilizes to evaluate its ongoing financial performance, and which the Company believes provides greater transparency to investors as supplemental information to its GAAP results.

The Company has provided the non-GAAP financial measures including non-GAAP operating income, non-GAAP operating margin, and non-GAAP net income as a result of the adjustment for items that the Company believes are not indicative of its ongoing operations. These items include charges associated with the Company's acquisitions, divestitures and the items described below in "Consolidated Results." The Company believes that evaluation of its financial performance compared with prior and future periods can be enhanced by a presentation of results that exclude the impact of these items. The Company has incurred substantial expense and generated substantial income associated with acquisitions and divestitures. While the Company cannot predict the exact timing or amounts of such charges, it does expect to treat these charges as special items in its future presentation of non-GAAP results.

Results of Operations

Consolidated Results

Our consolidated statements of income for the years ended December 31, 2022, 2021 and 2020 are as follows:

(dollars in millions)	Year ended December 31,		
	2022	2021	2020
Net sales	\$ 422.6	\$ 324.1	\$ 316.0
Cost of goods sold	294.4	223.2	210.9
Gross profit	\$ 128.2	\$ 100.9	\$ 105.1
<i>Percent of sales</i>	30.3%	31.1%	33.3%
Selling and administrative expenses	\$ 93.4	\$ 81.8	\$ 76.9
<i>Percent of sales</i>	22.1%	25.2%	24.3%
Amortization and earnout expenses	6.8	7.8	8.8
Acquisition and integration expenses	4.5	0.8	1.4
Executive transition expenses	1.2	—	1.5
Restructuring expenses	0.1	0.6	2.3
Intangible asset impairment	—	—	0.9
Operating income	\$ 22.2	\$ 9.9	\$ 13.3
<i>Percent of sales</i>	5.3%	3.1%	4.2%

Non-GAAP Measures

To compare operating performance between the years ended December 31, 2022, 2021 and 2020, the Company has adjusted GAAP operating income to exclude (1) amortization of intangible assets, earnout and retention expenses, (2) restructuring expenses primarily relating to severance, facility exits, and associated legal expenses, (3) acquisition and integration expenses, which include legal, accounting, and other expenses, (4) executive transition expenses, including severance for the Company's former executives, fees and expenses incurred in the search, for and hiring, of new executives and (5) intangible asset impairment. See "Note Regarding Use of Non-GAAP Financial Measures" above. The following tables present the reconciliation of GAAP operating income and GAAP operating margin to non-GAAP operating income and non-GAAP operating margin, and GAAP net income to non-GAAP net income.

(dollars in millions)	Year Ended December 31,		
	2022	2021	2020
Operating income as reported in accordance with GAAP	\$ 22.2	\$ 9.9	\$ 13.3
<i>Operating margin in accordance with GAAP</i>	5.3%	3.1%	4.2%
Amortization and earnout expenses	6.8	7.8	8.8
Acquisition and integration expenses	4.5	0.8	1.4
Executive transition expenses	1.2	—	1.5
Restructuring expenses	0.1	0.6	2.3
Intangible asset impairment	—	—	0.9
Non-GAAP operating income	\$ 34.8	\$ 19.1	\$ 28.2
<i>Non-GAAP operating margin</i>	8.2%	5.9%	8.9%

(dollars in millions)	Year Ended December 31,		
	2022	2021	2020
Net income as reported in accordance with GAAP	\$ 17.4	\$ 1.4	\$ 8.2
Amortization and earnout expenses	6.8	7.8	8.8
Acquisition and integration expenses	4.5	0.8	1.4
Executive transition expenses	1.2	—	1.5
Restructuring expenses	0.1	0.6	2.3
Intangible asset impairment	—	—	0.9
Foreign currency remeasurement	(1.3)	2.0	0.3
Tax (benefit) expense of adjustments	(2.8)	(2.8)	(3.9)
Non-GAAP net income	\$ 25.9	\$ 9.8	\$ 19.5
<i>Non-GAAP net income as a percentage of sales</i>	6.1%	3.0%	6.2%

Comparison of the years ended December 31, 2022 and 2021

Consolidated net sales in 2022 were \$422.6 million compared with \$324.1 million in 2021, an increase of \$98.5 million. The increase is broad-based, led by increases of \$23.0 million in our thermal acoustics technologies, \$22.2 million across our entire industrial process solutions platforms, \$17.8 million in our emissions management technologies, \$14.4 million in our dampers and expansion joint products, and \$6.9 million in engineered cyclone systems. Approximately 80.9%, or \$79.7 million, of the increase in net sales is attributable to organic revenue growth, while \$18.8 million is attributable to current year acquisitions.

Gross profit increased by \$27.3 million, or 27.1%, to \$128.2 million in 2022 compared with \$100.9 million in 2021. The increase in gross profit is primarily attributable to the increase in sales volume as described above. Gross profit as a percentage of sales decreased to 30.3% in 2022 compared with 31.1% in 2021 due to inflation, supply chain challenges, and lower project margin mix executed during 2022, partially offset by price increases. We continue to experience shortages of raw materials and inflationary pressures for certain materials and labor. We expect these supply chain challenges and cost impacts to continue for the foreseeable future as markets recover. Although we have secured additional raw materials from existing and alternate suppliers and have taken other mitigating actions to mitigate supply disruptions, such as implementing price increases and applying material surcharges, we cannot guarantee that we can continue to do so in the future. In this event, our business, results and financial condition could be adversely affected.

Orders booked were \$526.6 million in 2022 compared with \$360.8 million in 2021. This 46% increase is attributable to increases of \$66.8 million in our separation and filtration technologies, \$53.9 million in our emissions management technologies, \$22.0 million in industrial air control technologies and \$21.4 million in our thermal acoustics technologies. Of the \$165.8 million increase in orders, \$143.2 million, or 86.4%, is attributable to organic growth while \$22.6 million is attributable to current year acquisitions.

Selling and administrative expenses were \$93.4 million in 2022 compared with \$81.8 million in 2021. The increase is primarily attributed to acquisitions during 2022, as well as increased headcount in order to support our revenue growth. Selling and administrative expenses as a percentage of sales were 22.1% in 2022 compared with 25.2% in 2021. The decrease in percentage is primarily attributable to gaining operating leverage on increased organic revenues.

Amortization and earnout expense was \$6.8 million in 2022 and \$7.8 million in 2021. The decrease in expense is primarily attributable to a decrease of \$1.3 million in earnout expense, partially offset by a \$0.3 million increase in definite lived asset amortization. See Note 7 to the Consolidated Financial Statements for further discussion on earnout expenses.

Acquisitions and integration expenses related to various merger and acquisition diligence activities, which include legal, accounting and banking expenses, were \$4.5 million in 2022, as compared with \$0.8 million in 2021. The increase is due to an increase in acquisition activity (including General Rubber LLC, Compass Water Solutions, Inc., Western Air Ducts Limited and DS21 Co., Ltd. as described in Note 14 to the Consolidated Financial Statements) during 2022.

Operating income for 2022 was \$22.2 million, an increase of \$12.3 million from \$9.9 million in 2021. Operating income as a percentage of sales for 2022 was 5.3% compared with 3.1% for 2021. The increase in operating income is primarily attributable to increases in net organic sales and gaining operating leverage.

Non-GAAP operating income was \$34.8 million in 2022 and \$19.1 million in 2021. The increase in non-GAAP operating income is primarily attributable to the increase in net organic sales. Non-GAAP operating income as a percentage of sales for 2022 was 8.2% compared with 5.9% for 2021.

Other income for 2022 was \$6.9 million, an increase of \$9.1 million from \$2.2 million other expense in 2021. The increase in other income was primarily attributable to net foreign currency transaction gains in the current year based on changes in exchange rates at our foreign subsidiaries.

Interest expense increased to \$5.4 million in 2022 from \$3.0 million in 2021. The increase in interest expense is primarily due to increased debt balances to fund current year acquisitions.

Income tax expense was \$5.4 million and \$2.7 million in 2022 and 2021, respectively. The effective tax rate for 2022 was 22.9% compared with 57.6% in 2021. Income tax expense and the effective tax rate for 2022 were affected by certain permanent differences, including state income taxes, non-deductible incentive stock-based compensation, and differences in tax rates among the jurisdictions in which we operate.

Comparison of the years ended December 31, 2021 and 2020

See the Management Discussion and Analysis section of our Annual Report on Form 10-K for the year ended December 31, 2021 for a discussion of our consolidated results of operations for the year ended December 31, 2021 compared to the year ended December 31, 2020, which information is incorporated by reference herein.

Business Segments

The Company's operations are organized and reviewed by management along its product lines and end markets that the segment serves and are presented in two reportable segments. The results of the segments are reviewed through the "Income from operations" line on the Consolidated Statements of Income. The amounts presented in the Net Sales table below and in the following comments regarding our net sales at the reportable business segment level exclude both intra-segment and inter-segment net sales. The Income from Operations table and corresponding comments regarding operating income (loss) at the reportable segment level include both intra-segment and inter-segment operating income.

	2022	2021	2020
Net Sales (less intra-, inter-segment sales)			
(table only in thousands)			
Engineered Systems Segment	\$ 263,224	\$ 186,926	\$ 205,494
Industrial Process Solutions Segment	159,403	137,214	110,517
Total net sales	<u>\$ 422,627</u>	<u>\$ 324,140</u>	<u>\$ 316,011</u>

	2022	2021	2020
Income from Operations			
(table only in thousands)			
Engineered Systems segment	\$ 36,200	\$ 25,770	\$ 34,170
Industrial Process Solutions segment	22,705	15,054	7,220
Corporate and Other (1)	(36,744)	(30,967)	(28,044)
Total income from operations	<u>\$ 22,161</u>	<u>\$ 9,857</u>	<u>\$ 13,346</u>

- (1) Includes corporate compensation, professional services, information technology, and other general, administrative corporate expenses. This figure excludes earnout expenses / income, which are recorded in the segment in which the expense / income occurs.

Comparison of the years ended December 31, 2022 and 2021

Engineered Systems segment

Our Engineered Systems segment net sales increased \$76.3 million to \$263.2 million in 2022 compared with \$186.9 million in 2021, an increase of 40.8%. The increase is broad-based, led by increases of \$23.0 million in our thermal acoustics technologies, \$17.8 million in our emissions management technologies, \$14.4 million in our dampers and expansion joint products, and \$6.9 million in engineered cyclone systems. Approximately 77.3%, or \$59.0 million, of the increase in net sales is attributable to organic revenue growth, while \$17.3 million is attributable to current year acquisitions.

Operating income for the Engineered Systems segment increased \$10.4 million to \$36.2 million for 2022 compared with \$25.8 million in 2021, an increase of 40.3%. The increase in operating income is primarily attributable to higher gross profit related to increased sales of \$76.3 million.

Industrial Process Solutions segment

Our Industrial Process Solutions segment net sales increased \$22.2 million to \$159.4 million in 2022 compared with \$137.2 million in 2021, an increase of 16.2%. The increase is primarily attributable to increases across all products serving industrial air end markets. Approximately 93.2%, or \$20.7 million, of the increase in net sales is attributable to organic revenue growth, while \$1.5 million is attributable to current year acquisitions.

Operating income increased \$7.6 million to \$22.7 million for 2022 compared with \$15.1 million in 2021. The increase is primarily attributable to higher gross profit driven by increased net sales and a \$1.1 million decrease in earnout expense, partially offset by a \$2.9 million increase in selling, general and administrative expenses.

Corporate and Other segment

Operating expense for the Corporate and Other segment increased \$5.7 million to \$36.7 million for 2022 compared with \$31.0 million for 2021. The increase is primarily attributable to inflationary increases in wages and services, and executive transition expenses of \$1.2 million, partially offset by a \$2.5 million favorable insurance settlement received in the first quarter of 2022.

Comparison of the years ended December 31, 2021 and 2020

See the Management Discussion and Analysis section of our Annual Report on Form 10-K for the year ended December 31, 2021 for a discussion of business segment results of operations for the year ended December 31, 2021 compared to the year ended December 31, 2020, which information is incorporated by reference herein.

Liquidity and Capital Resources

When we undertake large jobs, our working capital objective is to make these projects self-funding. We work to achieve this by obtaining initial down payments, progress billing contracts, when possible, utilizing extended payment terms from material suppliers, and paying sub-contractors after payment from our customers, which is an industry practice. Our investment in net working capital is funded by cash flow from operations and by our revolving line of credit.

At December 31, 2022, the Company had working capital of \$94.0 million, compared with \$72.3 million at December 31, 2021. The ratio of current assets to current liabilities was 1.64 to 1.00 at December 31, 2022 as compared with a ratio of 1.62 to 1.00 at December 31, 2021.

At December 31, 2022 and 2021, cash and cash equivalents totaled \$45.5 million and \$29.9 million, respectively. As of December 31, 2022 and 2021, \$31.7 million and \$24.8 million, respectively, of our cash and cash equivalents were held by non-U.S. subsidiaries, as well as being denominated in foreign currencies.

Debt consisted of the following:

(table only in thousands)	December 31,	
	2022	2021
Outstanding borrowings under Credit Facility		
Term loan payable in quarterly principal installments of \$550 through September 2023, \$825 through September 2025 and \$1,100 thereafter with balance due upon maturity in December 2026.		
– Term loan	\$ 41,309	\$ 43,511
– Revolving Credit Loan	61,300	22,000
Total outstanding borrowings under the Credit Facility	102,609	65,511
Outstanding borrowings under the joint venture term debt	10,083	—
Unamortized debt discount	(1,488)	(1,731)
Total outstanding borrowings	111,204	63,780
Less: current portion	(3,579)	(2,203)
Total debt, less current portion	<u>\$ 107,625</u>	<u>\$ 61,577</u>

In 2022, the Company made repayments of \$2.2 million on the term loan and \$0.9 million on the joint venture term debt, and net borrowings on the revolving credit line of \$39.3 million.

Credit Facility

The Company's outstanding borrowings in the United States consist of a senior secured term loan and a senior secured revolver loan with sub-facilities for letters of credit, swing-line loans and multi-currency loans (collectively, the "Credit Facility").

Under the terms of the Credit Facility, the Company is required to maintain certain financial covenants, including the maintenance of a Consolidated Net Leverage Ratio (as defined in the Credit Facility). Through September 30, 2023, the maximum Consolidated Net Leverage Ratio is 3.75, after which time it will decrease to 3.50 until the end of the term of the Credit Facility.

As of December 31, 2022 and 2021, the Company was in compliance with all related financial and other restrictive covenants under the Credit Facility.

Joint Venture Debt

On March 7, 2022, the Company's Effox-Flextor-Mader, Inc. joint venture ("EFM JV") entered into a loan agreement secured by the assets of the EFM JV in the aggregate principal amount of \$11.0 million for the acquisition of General Rubber, LLC ("GRC"), as further described in Note 14 to the Consolidated Financial Statements.

Foreign Debt

In addition, the Company has a number of bank guarantee facilities and bilateral lines of credit in various foreign countries currently supported by cash, letters of credit or pledged assets and collateral under the Credit Facility. The Credit Facility allows letters of credit and bank guarantee issuances of up to \$65.0 million from the bilateral lines of credit secured by pledged assets and collateral under the Credit Facility.

See Note 8 to the Consolidated Financial Statements for further information on the Company's debt facilities.

Total unused credit availability under our Credit Facility and other non-U.S. credit facilities and agreements, exclusive of any potential asset base limitations, is as follows:

	December 31,	
	2022	2021
(dollars in millions)		
Credit Facility, revolving loans	\$ 140.0	\$ 140.0
Draw down	(61.3)	(22.0)
Letters of credit open	(18.9)	(14.5)
Total unused credit availability	<u>\$ 59.8</u>	<u>\$ 103.5</u>
Amount available based on borrowing limitations	<u>\$ 59.8</u>	<u>\$ 45.9</u>

Overview of Cash Flows and Liquidity

(dollars in thousands)	For the year ended December 31,		
	2022	2021	2020
Total operating cash flow provided by operating activities	\$ 29,649	\$ 13,298	\$ 4,421
Net cash used in investing activities	(48,257)	(2,083)	(9,235)
Net cash provided by (used in) financing activities	38,176	(15,556)	3,724
Effect of exchange rate changes on cash and cash equivalents	(4,978)	(1,475)	1,943
Net increase (decrease) in cash, cash equivalents and restricted cash	<u>\$ 14,590</u>	<u>\$ (5,816)</u>	<u>\$ 853</u>

Operating Activities

In 2022, \$29.6 million of cash was provided by operating activities compared with \$13.3 million provided by operating activities in 2021, an increase of \$16.3 million. Cash flow from operating activities in 2022 had a favorable impact year-over-year primarily due to increases in net earnings, partially offset by increases in net working capital.

In 2021, \$13.2 million of cash was provided by operating activities compared with \$4.4 million in 2020, an increase of \$8.8 million. Cash flow from operating activities in 2021 had a favorable impact year-over-year primarily due to certain improvements in net working capital, partially offset by decreases in net earnings.

Investing Activities

In 2022, \$48.3 million of cash was used in investing activities, which consisted of \$44.9 for current year acquisitions and \$3.4 million for acquisition of property and equipment.

In 2021, \$2.1 million of cash was used in investing activities, which consisted of \$2.6 million for acquisition of property and equipment, offset by \$0.5 million of proceeds from the disposal of assets held for sale.

Financing Activities

Financing activities in 2022 provided cash of \$38.2 million, which consisted primarily of \$39.3 million net borrowings on our revolving credit line and \$11.0 million borrowings of joint venture term debt, both of which were used to finance current year acquisitions. These were partially offset by \$3.1 million paydown of our term debt, \$7.0 million for the repurchase and retirement of our common stock, \$1.4 million in distributions to non-controlling interest, and \$0.6 million in payments on our capital leases.

Financing activities in 2021 used cash of \$15.6 million, which consisted primarily of \$5.7 million net payments on our revolving credit line, \$2.7 million paydown of our term debt, \$5.0 million for the repurchase and retirement of our common stock, \$0.8 million in deferred financing fees paid, \$0.8 million in earnout payments, and \$0.6 million in payments on our capital leases.

Our primary sources of liquidity are cash generated from operations and borrowing availability under the Credit Facility. We believe that cash flows from operating activities, together with our existing cash and borrowings available under our Credit Facility, will be sufficient for at least the next twelve months to fund our current anticipated uses of cash. After that, our ability to fund these expected uses of cash and to comply with the financial covenants under our debt agreements will depend on the results of future operations, performance and cash flow. Our ability to fund these expected uses from the results of future operations will be subject to prevailing economic conditions and to financial, business, regulatory, legislative and other factors, many of which are beyond our control.

Our material cash requirements included (i) debt repayments under with respect to our Credit Facility and joint venture term debt, (ii) interest expense, (iii) purchase obligations for costs associated with uncompleted sales contracts, (iv) operating and capital lease obligations and (v) contingent liabilities related to acquisitions, including earnout liabilities and retention payments.

We are party to many contractual obligations involving commitments to make payments to third parties, and such commitments require a material amount of cash. The following table summarizes the Company's material cash requirements from known contractual obligations as of December 31, 2022:

(dollars in thousands)	Payments Due by Period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Term Loan Debt, including joint venture debt	\$ 51,392	\$ 3,579	\$ 10,093	\$ 37,720	\$ —
Revolving Credit Loan	61,300	—	—	61,300	—
Interest expense (estimated)	25,438	7,508	14,145	3,785	—
Purchase obligations (1)	131,225	131,225	—	—	—
Operating lease obligations	12,861	3,405	5,354	2,211	1,891
Capital lease obligations	7,316	907	1,868	1,944	2,597
Liabilities related to acquisitions (2)	2,700	1,200	1,500	—	—
Totals	<u>\$ 292,232</u>	<u>\$ 147,824</u>	<u>\$ 32,960</u>	<u>\$ 106,960</u>	<u>\$ 4,488</u>

- (1) Primarily consists of purchase obligations for costs associated with uncompleted sales contracts.
(2) Includes notes payable and expected earnout liability.

Critical Accounting Policies and Estimates

Our consolidated financial statements are prepared in conformity with GAAP. The preparation of these financial statements requires the use of estimates, judgments, and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the periods presented. We believe that, of our significant accounting policies, the following accounting policies involve a higher degree of judgments, estimates, and complexity.

Use of Estimates

Preparation of the consolidated financial statements in accordance with GAAP requires management to make estimates and assumptions affecting the reported amounts of assets, liabilities, revenues and expenses and related contingent liabilities. On an on-going basis, we evaluate our estimates, including those related to revenues, bad debts, warranties, share based compensation, income taxes, goodwill and intangible asset valuation, and contingencies and litigation. We base our estimates on historical experience and on various other assumptions that we believe are reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or conditions.

Revenue Recognition

A substantial portion of our revenue is derived from fixed-price contracts. We account for a contract after it has been approved by all parties to the arrangement, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable.

We recognize revenue as performance obligations are satisfied and the customer obtains control of the products and services. A significant amount of our revenue is recognized over a period of time as we perform under the contract because control of the work in process transfers continuously to the customer. For performance obligations to deliver products with continuous transfer of control to the customer, revenue is recognized based on the extent of progress towards completion of the performance obligation. Progress is measured based on the ratio of costs incurred to date to the total estimated costs to complete the performance obligation. For these contracts, the cost-to-cost measure best depicts the continuous transfer of goods or services to the customer.

The judgments and estimates involved include management's ability to accurately estimate the contracts' progress to completion at each financial reporting period. In addition, certain contracts are highly dependent on the work of contractors and other subcontractors participating in a project, over which we have no or limited control, and their performance on such project could have an adverse effect on the profitability of our contracts. Delays resulting from these contractors and subcontractors, changes in the scope of the project, weather, and labor availability also can have an effect on a contract's profitability. Changes to job performance, job conditions, and estimated profitability may result in revisions to contract revenue and costs and are recognized in the period in which the revisions are made.

Provisions for estimated losses on uncompleted contracts are made in the period in which such losses are determined. No provision for estimated losses on uncompleted contracts was needed at December 31, 2022, 2021 and 2020.

Inventories

The Company's inventories are valued at the lower of cost or net realizable value using the first-in, first-out inventory costing method. Inventory quantities are regularly reviewed and provisions for excess or obsolete inventory are recorded primarily based on the Company's forecast of future demand and market conditions. Significant unanticipated changes to the Company's forecasts could require a change in the provision for excess or obsolete inventory.

Long-lived assets

Property, plant and equipment and finite life intangible assets are reviewed whenever events or changes in circumstances occur that indicate possible impairment. If events or changes in circumstances occur that indicate possible impairment, our impairment review is based on an undiscounted cash flow analysis at the lowest level at which cash flows of the long-lived assets are largely independent of other groups of our assets and liabilities. This analysis requires management judgment with respect to changes in technology, the continued success of product lines, and future volume, revenue and expense growth rates. We conduct annual reviews for idle and underutilized equipment, and review business plans for possible impairment. Impairment occurs when the carrying value of the assets exceeds the future undiscounted cash flows expected to be earned by the use of the asset or asset group. When impairment is indicated, the estimated future cash flows are then discounted to determine the estimated fair value of the asset or asset group and an impairment charge is recorded for the difference between the carrying value and the estimated fair value.

Additionally, we also evaluate the remaining useful life each reporting period to determine whether events and circumstances warrant a revision to the remaining period of depreciation or amortization. If the estimate of a long-lived asset's remaining useful life is changed, the remaining carrying amount of the asset is amortized prospectively over that revised remaining useful life.

The Company completes an annual (or more often if circumstances require) impairment assessment of its indefinite life intangible assets. As a part of its annual assessment, typically, the Company first qualitatively assesses whether current events or changes in circumstances lead to a determination that it is more likely than not (defined as a likelihood of more than 50 percent) that the fair value of an asset is less than its carrying amount. If there is a qualitative determination that the fair value of a particular asset is more likely than not greater than its carrying value, we do not need to proceed to the quantitative estimated fair value test for that asset. If this qualitative assessment indicates a more likely than not potential that the asset may be impaired, the estimated fair value is determined by the relief from royalty method. If the estimated fair value of an asset is less than its carrying value, an impairment charge is recorded for the amount by which the carrying value of the asset exceeds its estimated fair value.

During 2022 and 2021, our annual impairment test indicated no impairment of our indefinite-lived tradenames. Accordingly, we recognized no impairment charges in our financial results for the years ended December 31, 2022 and 2021, respectively. For additional information on impairment testing results, see Note 6 to the Consolidated Financial Statements.

Goodwill

The Company completes an annual (or more often if circumstances require) goodwill impairment assessment on October 1 on a reporting unit level, at or below the operating segment level. As a part of its annual assessment, the Company first qualitatively assesses whether current events or changes in circumstances lead to a determination that it is more likely than not (defined as a likelihood of more than 50 percent) that the fair value of a reporting unit is less than its carrying amount. If there is a qualitative determination that the fair value of a particular reporting unit is more likely than not greater than its carrying value, the Company does not need to quantitatively test for goodwill impairment for that reporting unit. If this qualitative assessment indicates a more likely than not potential that the asset may be impaired, the estimated fair value is calculated using a weighting of the income method and the market method. If the estimated fair value of a reporting unit is less than its carrying value, an impairment charge is recorded.

The Company bases its measurement of the fair value of a reporting unit using a 50/50 weighting of the income method and the market method. The income method is based on a discounted future cash flow approach that uses the significant assumptions of projected revenue, projected operational profit, terminal growth rates, and the cost of capital. Projected revenue, projected operational profit and terminal growth rates are significant assumptions because they are three primary drivers of the projected cash flows in the discounted future cash flow approach. Cost of capital is a significant assumption as it is the discount rate used to calculate the current fair value of those projected cash flows. The market method is based on financial multiples of comparable companies and applies a control premium. Significant estimates in the market approach include identifying similar companies with comparable business factors such as size, growth, profitability, risk and return on investment and assessing comparable revenue and operating income multiples in estimating the fair value of a reporting unit. Based on the analysis, the resultant estimated fair value of all of the reporting units exceeded their carrying value as of December 31, 2022. For additional information on goodwill impairment testing results, see Note 6 to the Consolidated Financial Statements.

Income Taxes

Income taxes are determined using the asset and liability method of accounting for income taxes in accordance with Financial Accounting Standards Board (“FASB”), Accounting Standards Codification (“ASC”) Topic 740, “Income Taxes”. Income tax expense includes federal, state and foreign income taxes.

Deferred income taxes are provided using the asset and liability method whereby deferred tax assets are recognized for deductible temporary differences and operating loss and tax credit carry-forwards and deferred tax liabilities are recognized for taxable temporary differences. Temporary differences are the differences between the reported amounts of assets and liabilities and their tax bases and are measured using enacted tax rates expected to apply to taxable income in the year in which those temporary differences are expected to be recovered or settled. Deferred tax assets and liabilities are adjusted for the effects of changes in tax laws and rates on the date of enactment. Tax credits and other incentives reduce income tax expense in the year the credits are claimed.

Management must assess the need to accrue or disclose uncertain tax positions for proposed potential adjustments from various federal, state and foreign tax authorities who regularly audit the Company in the normal course of business. In making these assessments, management must often analyze complex tax laws of multiple jurisdictions, including many foreign jurisdictions. The accounting guidance prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. The Company records the related interest expense and penalties, if any, as tax expense in the tax provision.

Management must assess the realizability of the Company’s deferred tax assets. In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities (including the impact of available carryback and carry forward periods), projected future taxable income, and tax-planning strategies in making this assessment. The amount of the deferred tax assets considered realizable, however, could be reduced in the near term if estimates of future taxable income during the carryforward period are reduced.

The Company has made an accounting policy election to record the U.S. income tax effect of future global intangible low-taxed income (“GILTI”) inclusions in the period in which they arise, rather than establishing deferred taxes with respect to the expected future tax liabilities associated with future GILTI inclusion.

Certain of the Company’s undistributed earnings of its foreign subsidiaries are not permanently reinvested. A liability has been recorded for the deferred taxes on such undistributed foreign earnings. The amount is attributable primarily to the foreign withholding taxes that would become payable should the Company repatriate cash held in its foreign operations.

Other significant accounting policies

Other significant accounting policies, not involving the same level of uncertainties as those discussed above, are nevertheless important to an understanding of our financial statements. See Note 1 to the Consolidated Financial Statements, Summary of Significant Accounting Policies, which discusses accounting policies that must be selected by us when there are acceptable alternatives.

New Accounting Pronouncements

For information regarding recent accounting pronouncements, see Note 1 to the Consolidated Financial Statements included in this annual report on Form 10-K.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to certain market risks, primarily changes in interest rates. Market risk is the potential loss arising from adverse changes in market rates and prices, such as foreign currency exchange and interest rates. For the Company, these exposures are primarily related to changes in interest rates. The amount of interest expense may increase because a substantial portion of our borrowings is at variable rates of interest, which, if interest rates increase, could result in higher interest expense. We do not currently hold any derivatives or other financial instruments purely for trading or speculative purposes.

The carrying value of the Company's total long-term debt and current maturities of long-term debt at December 31, 2022 was \$112.7 million. Market risk was estimated as the potential decrease (increase) in future earnings and cash flows resulting from a hypothetical 10% increase (decrease) in the Company's estimated weighted average borrowing rate at December 31, 2022. Most of the interest on the Company's debt is indexed to SOFR market rates. The estimated annual impact of a hypothetical 10% change in the estimated weighted average borrowing rate at December 31, 2022 is \$0.8 million.

The Company has wholly-owned subsidiaries in several countries, including in the Netherlands, Canada, the People's Republic of China, United Kingdom, Singapore, India, United Arab Emirates and South Korea. In the past, we have not hedged our foreign currency exposure. Future changes in exchange rates may positively or negatively impact our revenues, operating expenses and earnings. Transaction gains (losses) included in "Other income (expense), net" line of the Consolidated Statements of Income were \$6.3 million, \$(3.1) million and \$1.3 million in 2022, 2021 and 2020, respectively.

Item 8. Financial Statements and Supplementary Data

The Consolidated Financial Statements of CECO Environmental Corp. and subsidiaries for the years ended December 31, 2022, 2021 and 2020 and other data are included in this report following the signature page of this report and incorporated into this Item 8 by reference:

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

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

Disclosure controls and procedures (as defined in Rule 13a-15(e) and 15d-15(e) under the Exchange Act) are controls and other procedures that are designed to provide reasonable assurance that information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and made known to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

In connection with the preparation of this Annual Report on Form 10-K, our management, with the participation of our Chief Executive Officer and Chief Financial Officer, carried out an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures as of December 31, 2022. Based on that evaluation, our management, including our Chief Executive Officer and Chief Financial Officer, concluded that our disclosure controls and procedures were effective as of December 31, 2022.

The management of the Company does not expect that its disclosure controls and procedures will prevent all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur due to simple errors or mistakes. The design of any system of controls is based in part upon certain assumptions regarding the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions.

Management's Report on Internal Control over Financial Reporting

The management of the Company is responsible for the preparation and accuracy of the financial statements and other information included in this report. Under the supervision and with the participation of management, including the Company's Chief Executive Officer and Chief Financial Officer, the Company conducted an evaluation of the effectiveness of internal control over financial reporting as of December 31, 2022, based on the criteria set forth in Internal Control – Integrated Framework (2013) (the "Framework") issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). Based on this assessment, management concluded that, as of December 31, 2022, its internal control over financial reporting was effective based on the Framework.

There are inherent limitations on the effectiveness of any system of internal controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective internal controls and procedures can only provide reasonable assurance of achieving their control objectives.

Item 9A includes the audit report of BDO USA, LLP on the Company's internal control over financial reporting as of December 31, 2022.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting (as defined in Rule 13a-15(f) of the Exchange Act) during the fiscal quarter ended December 31, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Report of Independent Registered Public Accounting Firm

Shareholders and Board of Directors
CECO Environmental Corp. and Subsidiaries
Dallas, Texas

Opinion on Internal Control over Financial Reporting

We have audited CECO Environmental Corp. and Subsidiaries' (the "Company's") internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (the "COSO criteria"). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets of the Company as of December 31, 2022 and 2021, the related consolidated statements of income and comprehensive income, shareholders' equity and accumulated other comprehensive loss, and cash flows for each of the three years in the period ended December 31, 2022, and the related notes and our report dated March 6, 2023, expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible 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 Item 9A, Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit of internal control over financial reporting in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit 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 audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

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 (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) 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 (3) 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.

/s/ BDO USA, LLP

Cincinnati, Ohio
March 6, 2023

Item 9B. Other Information

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information called for by this Item 10 of Part III of Form 10-K is incorporated by reference to the information set forth in our definitive proxy statement relating to our 2023 Annual Meeting of Stockholders to be filed pursuant to Regulation 14A under the Exchange Act within 120 days from December 31, 2022 (the "Proxy Statement"). Reference is also made to the information appearing in Item 1 of Part I of this Annual Report on Form 10-K under the caption "Business— Executive Officers of CECO."

Item 11. Executive Compensation

The information called for by this Item 11 of Part III of Form 10-K is incorporated by reference to the Proxy Statement.

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

The information called for by this Item 12 of Part III of Form 10-K will be incorporated by reference to the Proxy Statement.

Securities Authorized for Issuance Under Equity Compensation Plans

EQUITY COMPENSATION PLAN INFORMATION

December 31, 2022	(a)	(b)	(c)
Plan Category	Number of securities to be issued upon exercise of outstanding options and rights	Weighted-average exercise price of outstanding options and rights, compensation plans	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
Equity compensation plans approved by security holders			
2007 Equity Incentive Plan ¹	225,000	\$ 12.57	—
2017 Equity and Incentive Plan ²	405,469	\$ —	—
2021 Equity and Incentive Plan ³	723,283	\$ —	2,063,083
2020 Employee Stock Purchase Plan ⁴	—	\$ —	1,203,992
Equity compensation plans not approved by security holders ⁵	1,262,276	\$ 10.65	—
Total	2,616,028		3,267,075

- (1) The 2007 Equity Incentive Plan ("2007 Plan") was replaced with the 2017 Equity and Incentive Plan ("2017 Plan") and no further grants will be made under the 2007 Plan. The 2007 Plan remains in effect solely for the continued administration of the awards currently outstanding under the 2007 Plan.
- (2) The 2017 Equity and Incentive Plan was replaced with the 2021 Equity and Incentive Plan and no further grants will be made under the 2017 Plan. The 2017 Plan remains in effect solely for the continued administration of the awards currently outstanding under the 2017 Plan.
- (3) The 2021 Equity and Incentive Plan was approved by our stockholders on May 25, 2021. We have reserved 2.6 million shares of our common stock for issuance under our 2021 Equity Incentive Plan.
- (4) The Employee Stock Purchase Plan was approved by our stockholders on June 11, 2020.
- (5) On July 6, 2020, in connection with Mr. Gleason's appointment as the Company's Chief Executive Officer, the Company granted Mr. Gleason 0.1 million restricted stock units, 0.3 million in nonqualified stock options granted at market value, and approximately 0.9 million in premium-priced nonqualified stock options with an exercise price equal to two times market value. Mr. Gleason's restricted stock units and option grants were approved by the Board of Directors of the Company. See Note 9 to the Consolidated Financial Statements for additional information on Mr. Gleason's inducement grants.

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

The information called for by this Item 13 of Part III of Form 10-K is incorporated by reference to the Proxy Statement.

Item 14. Principal Accounting Fees and Services

The information called for by this Item 14 of Part III of Form 10-K is incorporated by reference to the Proxy Statement.

PART IV

Item 15. Exhibits and Financial Statement Schedules

1. Financial statements are set forth in this report following the signature page of this report.
2. Financial statement schedules are omitted because they are not applicable or because the required information is shown in the financial statements or in the notes thereto.
3. Exhibit Index. The exhibits listed below, as part of Form 10-K, are numbered in conformity with the numbering used in Item 601 of Regulation S-K and relate to SEC File No. 0-07099, unless otherwise indicated.

Exhibit Number

- | | |
|-------|---|
| 3.1 | Certificate of Incorporation (incorporated by reference to Exhibit 3(i) to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2001) |
| 3.2 | Amended and Restated Bylaws (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the SEC on December 13, 2017) |
| 4.1 | Description of Securities (incorporated by reference to Exhibit 4.1 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2019) |
| ^10.1 | Summary term sheet governing arrangement of consulting services provided by Icarus Investment Corp. (incorporated by reference to Exhibit 10.1 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2018) |
| ^10.2 | Summary term sheet governing arrangement of consulting services provided by JMP Fam Holdings Inc. to the Company (incorporated by reference to Exhibit 10.7 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2018) |
| ^10.3 | Form of Director and Officer Indemnification Agreement (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on May 16, 2016) |
| ^10.4 | Executive Employment Agreement, effective as of January 9, 2017, by and between the Company and Matthew Eckl (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed with the SEC on May 10, 2017) |
| ^10.5 | Employment Agreement, effective as of July 6, 2020, by and between CECO Environmental Corp. and Todd Gleason (Incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 4, 2020) |
| ^10.6 | Nonqualified Stock Option Inducement Award Agreement, by and between CECO Environmental Corp. and Todd Gleason, dated as of July 6, 2020 (incorporated by reference to Exhibit 4.3 to the Registrant's Registration Statement on Form S-8 (Commission File No. 333-239707) filed on July 6, 2020) |
| ^10.7 | Nonqualified Premium Stock Option Inducement Award Agreement, by and between CECO Environmental Corp. and Todd Gleason, dated as of July 6, 2020 (incorporated by reference to Exhibit 4.4 to the Registrant's Registration Statement on Form S-8 (Commission File No. 333-239707) filed on July 6, 2020) |
| ^10.8 | Restricted Stock Units Inducement Award Agreement, by and between CECO Environmental Corp. and Todd Gleason, dated as of July 6, 2020 (incorporated by reference to Exhibit 4.5 to the Registrant's Registration Statement on Form S-8 (Commission File No. 333-239707) filed on July 6, 2020) |
| ^10.9 | Second Amended and Restated CECO Environmental Corp. 2007 Equity Incentive Plan (incorporated by reference to Exhibit 10.6 to the Company's Current Report on Form 8-K filed with the SEC on September 3, 2015) |

- ^10.10 Form of Incentive Stock Option Agreement under the Second Amended and Restated CECO Environmental Corp. 2007 Equity Incentive Plan (incorporated by reference to Exhibit 10.12 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2010)
- ^10.11 Form of Non-Statutory Stock Option Agreement under the Second Amended and Restated CECO Environmental Corp. 2007 Equity Incentive Plan (incorporated by reference to Exhibit 10.13 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2010)
- ^10.12 CECO Environmental Corp. 2017 Equity and Incentive Compensation Plan (incorporated by reference to Exhibit 4.3 to the Company's Registration Statement on Form S-8 (Registration No. 333-218030) filed on May 16, 2017)
- ^10.13 Form of Incentive Stock Option Agreement under the CECO Environmental Corp. 2017 Equity and Incentive Compensation Plan (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed with the SEC on August 9, 2017)
- ^10.14 Form of Nonqualified Stock Option Agreement under the CECO Environmental Corp. 2017 Equity and Incentive Compensation Plan (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed with the SEC on August 9, 2017)
- ^10.15 Form of Restricted Stock Units Agreement for Directors under the CECO Environmental Corp. 2017 Equity and Incentive Compensation Plan (incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q filed with the SEC on August 9, 2017)
- ^10.16 Form of Restricted Stock Units Agreement for Employees under the CECO Environmental Corp. 2017 Equity and Incentive Compensation Plan (incorporated by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q filed with the SEC on August 9, 2017)
- ^10.17 CECO Environmental Corp. 2020 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on June 16, 2020)
- ^10.18 CECO Environmental Corp. 2021 Equity and Incentive Compensation Plan (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on May 27, 2021)
- ^10.19 Form of Restricted Stock Units Agreement for Directors under the CECO Environmental Corp. 2021 Equity and Incentive Compensation Plan (incorporated by reference to Exhibit 10.19 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2021)
- ^10.20 Form of Restricted Stock Units Agreement for Employees under the CECO Environmental Corp. 2021 Equity and Incentive Compensation Plan (incorporated by reference to Exhibit 10.20 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2021)
- ^10.21 CECO Environmental Corp. Executive Change in Control Severance Plan (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 8, 2021)
- ^10.22 Separation Agreement, dated as of September 30, 2022, by and between CECO Environmental Corp. and Matthew Eckl (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 7, 2022)
- †10.23 Second Amended and Restated Credit Agreement, dated as of June 11, 2019, among the Company and certain of its subsidiaries, the Lenders party thereto, and Bank of America, N.A. (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on June 12, 2019)
- †10.24 Amendment No. 1 to Second Amended and Restated Credit Agreement, dated as of June 11, 2019, among the Company and certain of its subsidiaries, the lenders party thereto and Bank of America, N.A. (incorporated by reference to Exhibit 10.23 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2021)

- *†10.25 Amendment No. 2 to Second Amended and Restated Credit Agreement, dated as of December 17, 2021, among the Company and certain of its subsidiaries, the lenders party thereto and Bank of America, N.A.
- *^10.26 Form of Restricted Stock Units Agreement for Employees under the CECO Environmental Corp. 2021 Equity and Incentive Compensation Plan
- *^10.27 Form of Restricted Stock Units Agreement for Directors under the CECO Environmental Corp. 2021 Equity and Incentive Compensation Plan
- *21 Subsidiaries of the Company
- *23.1 Consent of BDO USA, LLP
- *31.1 Rule 13(a)/15d-14(a) Certification by Chief Executive Officer
- *31.2 Rule 13(a)/15d-14(a) Certification by Chief Financial Officer
- *32.1 Certification of Chief Executive Officer (18 U.S. Section 1350)
- *32.2 Certification of Chief Financial Officer (18 U.S. Section 1350)
- *101.INS Inline XBRL Instance Document
- *101.SCH Inline XBRL Taxonomy Extension Schema Document
- *101.CAL Inline XBRL Taxonomy Extension Calculation Linkbase Document
- *101.DEF Inline XBRL Taxonomy Extension Definition Linkbase Document
- *101.LAB Inline XBRL Taxonomy Extension Label Linkbase Document
- *101.PRE Inline XBRL Taxonomy Extension Presentation Linkbase Document
- *104 Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).

* Filed or furnished herewith

^ Management contracts or compensation plans or arrangement

† Schedules and exhibits have been omitted pursuant to Item 601(a)(5) of Regulation S-K. The Company hereby undertakes to furnish on a supplemental basis a copy of any omitted schedule or exhibit upon request by the Securities and Exchange Commission.

Item 16. Form 10-K Summary

Not applicable.

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.

CECO ENVIRONMENTAL CORP.

By: /S/ PETER JOHANSSON
Peter Johansson
Chief Financial and Strategy Officer
March 6, 2023

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:

Principal Executive Officer:

/S/ TODD GLEASON March 6, 2023
Todd Gleason
Chief Executive Officer and Director

Principal Financial Officer:

/S/ PETER JOHANSSON March 6, 2023
Peter Johansson
Chief Financial and Strategy Officer

Principal Accounting Officer:

/S/ PAUL GOHR March 6, 2023
Paul Gohr
Chief Accounting Officer

Directors:

/S/ JASON DEZWIREK March 6, 2023
Jason DeZwirek
Chairman of the Board and Director

/S/ ROBERT E. KNOWLING JR. March 6, 2023
Robert E. Knowling Jr.
Director

/S/ DAVID B. LINER March 6, 2023
David B. Liner
Director

/S/ CLAUDIO A. MANNARINO March 6, 2023
Claudio A. Mannarino
Director

/S/ MUNISH NANDA March 6, 2023
Munish Nanda
Director

/S/ VALERIE GENTILE SACHS March 6, 2023
Valerie Gentile Sachs
Director

/S/ RICHARD F. WALLMAN March 6, 2023
Richard F. Wallman
Director

Report of Independent Registered Public Accounting Firm

Shareholders and Board of Directors
CECO Environmental Corp. and Subsidiaries
Dallas, Texas

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of CECO Environmental Corp. and Subsidiaries (the “Company”) as of December 31, 2022 and 2021, the related consolidated statements of income and comprehensive income, shareholders’ equity and accumulated other comprehensive loss, and cash flows for each of the three years in the period ended December 31, 2022, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the Company’s internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”) and our report dated March 6, 2023 expressed an unqualified opinion thereon.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the 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 audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the 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. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing separate opinions on the critical audit matter or on the accounts or disclosures to which it relates.

Over Time Revenue Recognition Using the Cost-to-Cost Input Approach

As described in Note 1 to the Company’s consolidated financial statements, the Company derives a significant portion of its revenues from fixed-price contracts within the Engineered Systems and Industrial Process Solutions segments. The revenue for such contracts is recognized over a period of time based on the ratio of contract costs incurred to date compared to total estimated costs. Under this method, the Company must continually assess the total estimated costs and progress toward completion for each contract. Changes in these estimates can have a material impact on the amount of revenue and gross profit recognized each period.

We identified the accuracy of revenue recognized over time as a critical audit matter. The determination of estimated cost and progress to completion requires management to make significant estimates and assumptions, which includes an analysis of total estimated labor, material and subcontract costs, historical experience, current performance to date and the conditions to complete each contract. This analysis requires significant management judgment, which affects the amount of revenue recognized by the Company.

Auditing these complex judgments and assumptions involves especially challenging auditor judgment due to the nature and extent of audit evidence available and effort required to address these matters.

The primary procedures we performed to address this critical audit matter included:

- Testing the design and operating effectiveness of internal controls relating to the determination of estimated costs to complete a project including the monthly review of open over time projects and review of estimated cost calculations to complete open projects. These controls include the review of the reasonableness of the assumptions used and the appropriateness of methodologies used to determine costs to complete.
- Testing the completeness, existence, and accuracy of estimated project cost calculations for a sample of contracts by validating the underlying project data and assumptions used as inputs through the inspection of relevant source documents including project plans or budgets and activity reports, invoices of costs incurred to date, results of recent similar historical projects, other third-party subcontractor support, inquiry of project managers, and confirmations.
- Performing a retrospective review on a sample basis of estimated project costs to actual project costs for completed contracts and investigating variances outside of predetermined thresholds through the inspection of relevant source documents.

/s/ BDO USA, LLP

We have served as the Company's auditor since 2008.

Cincinnati, Ohio

March 6, 2023

CECO ENVIRONMENTAL CORP. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(dollars in thousands, except share data)	December 31,	
	2022	2021
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 45,522	\$ 29,902
Restricted cash	1,063	2,093
Accounts receivable, net	83,086	74,991
Costs and estimated earnings in excess of billings on uncompleted contracts	71,016	51,429
Inventories, net	26,526	17,052
Prepaid expenses and other current assets	12,174	10,760
Prepaid income taxes	1,271	2,784
Total current assets	240,658	189,011
Property, plant and equipment, net	20,828	15,948
Right-of-use assets from operating leases	11,373	10,893
Goodwill	183,197	161,183
Intangible assets – finite life, net	35,251	25,841
Intangible assets – indefinite life	9,508	9,629
Deferred income taxes	829	505
Deferred charges and other assets	3,077	3,187
Total assets	\$ 504,721	\$ 416,197
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Current portion of debt	\$ 3,579	\$ 2,203
Accounts payable and accrued expenses	107,198	84,081
Billings in excess of costs and estimated earnings on uncompleted contracts	32,716	28,908
Income taxes payable	3,207	1,493
Total current liabilities	146,700	116,685
Other liabilities	15,129	14,826
Debt, less current portion	107,625	61,577
Deferred income tax liability, net	8,666	8,390
Operating lease liabilities	8,453	8,762
Total liabilities	286,573	210,240
Commitments and contingencies (See Note 12)		
Shareholders' equity:		
Preferred stock, \$.01 par value; 10,000 shares authorized, none issued	—	—
Common stock, \$.01 par value; 100,000,000 shares authorized, 34,381,668 and 35,028,197 shares issued and outstanding at December 31, 2022 and 2021, respectively	344	350
Capital in excess of par value	250,174	252,989
Accumulated loss	(19,298)	(36,715)
Accumulated other comprehensive loss	(17,996)	(12,070)
Total CECO shareholders' equity	213,224	204,554
Noncontrolling interest	4,924	1,403
Total shareholders' equity	218,148	205,957
Total liabilities and shareholders' equity	\$ 504,721	\$ 416,197

The notes to consolidated financial statements are an integral part of the above statements.

CECO ENVIRONMENTAL CORP. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME

(dollars in thousands, except share and per share data)	Year Ended December 31,		
	2022	2021	2020
Net sales	\$ 422,627	\$ 324,140	\$ 316,011
Cost of sales	294,402	223,218	210,883
Gross profit	128,225	100,922	105,128
Selling and administrative expenses	93,473	81,797	76,926
Amortization and earnout expenses	6,809	7,789	8,799
Acquisition and integration expenses	4,546	818	1,354
Executive transition expenses	1,161	29	1,522
Restructuring expenses	75	632	2,331
Intangible asset impairment	—	—	850
Income from operations	22,161	9,857	13,346
Other income (expense), net	6,947	(2,231)	2,033
Interest expense	(5,419)	(2,952)	(3,535)
Income before income taxes	23,689	4,674	11,844
Income tax expense	5,426	2,691	3,672
Net income	18,263	1,983	8,172
Noncontrolling interest	(846)	(557)	39
Net income attributable to CECO Environmental Corp.	<u>\$ 17,417</u>	<u>\$ 1,426</u>	<u>\$ 8,211</u>
Income per share:			
Basic	\$ 0.50	\$ 0.04	\$ 0.23
Diluted	\$ 0.50	\$ 0.04	\$ 0.23
Weighted average number of common shares outstanding:			
Basic	<u>34,672,007</u>	<u>35,345,785</u>	<u>35,289,616</u>
Diluted	<u>35,005,159</u>	<u>35,594,779</u>	<u>35,520,670</u>

The notes to consolidated financial statements are an integral part of the above statements.

CECO ENVIRONMENTAL CORP. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(dollars in thousands)	Year Ended December 31,		
	2022	2021	2020
Net income	\$ 18,263	\$ 1,983	\$ 8,172
Other comprehensive income (loss), net of tax:			
Translation (loss) income	(5,635)	(538)	2,256
Minimum pension liability adjustment	(291)	2,964	(2,247)
Comprehensive income	\$ 12,337	\$ 4,409	\$ 8,181

The notes to consolidated financial statements are an integral part of the above statements.

CECO ENVIRONMENTAL CORP. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

(in thousands)	Common Stock			Capital in	Accumulated		Treasury Stock		Noncontrolling	Total
	Shares	Amount	par value	excess of	Loss	Loss	Shares	Amount	Interest	Shareholders'
										Equity
Balance January 1, 2020	35,275	\$ 353	\$ 253,869	\$	(46,344)	\$ (14,505)	(138)	\$ (356)	\$ -	\$ 193,017
Net income for the year ended December 31, 2020	-	-	-	-	8,211	-	-	-	(39)	8,172
Restricted stock units issued	230	2	(331)	-	(8)	-	-	-	-	(337)
Share based compensation earned	-	-	1,758	-	-	-	-	-	-	1,758
Adjustment for minimum pension liability, net of tax of \$802	-	-	-	-	-	(2,247)	-	-	-	(2,247)
Translation gain	-	-	-	-	-	2,256	-	-	-	2,256
Noncontrolling interest acquired (See Note 14)	-	-	-	-	-	-	-	-	992	992
Balance December 31, 2020	35,505	\$ 355	\$ 255,296	\$	(38,141)	\$ (14,496)	(138)	\$ (356)	\$ 953	\$ 203,611
Net income for the year ended December 31, 2021	-	-	-	-	1,426	-	-	-	557	1,983
Exercise of stock options	2	-	13	-	-	-	-	-	-	13
Restricted stock units issued	263	3	(517)	-	-	-	-	-	-	(514)
Share based compensation earned	39	-	3,558	-	-	-	-	-	-	3,558
Common stock repurchase and retirement (See Note 9)	(781)	(8)	(5,361)	-	-	-	138	356	-	(5,013)
Adjustment for minimum pension liability, net of tax of \$866	-	-	-	-	-	2,964	-	-	-	2,964
Translation loss	-	-	-	-	-	(538)	-	-	-	(538)
Noncontrolling interest distribution	-	-	-	-	-	-	-	-	(107)	(107)
Balance December 31, 2021	35,028	\$ 350	\$ 252,989	\$	(36,715)	\$ (12,070)	-	\$ -	\$ 1,403	\$ 205,957
Net income for the year ended December 31, 2022	-	-	-	-	17,417	-	-	-	846	18,263
Exercise of stock options	43	-	377	-	-	-	-	-	-	377
Restricted stock units issued	286	3	(443)	-	-	-	-	-	-	(440)
Share based compensation earned	57	1	4,261	-	-	-	-	-	-	4,262
Common stock repurchase and retirement (See Note 9)	(1,032)	(10)	(7,010)	-	-	-	-	-	-	(7,020)
Adjustment for minimum pension liability, net of tax of \$97	-	-	-	-	-	(291)	-	-	-	(291)
Translation loss	-	-	-	-	-	(5,635)	-	-	-	(5,635)
Noncontrolling interest distribution	-	-	-	-	-	-	-	-	(1,425)	(1,425)
Fair value of noncontrolling interest equity issued (See Note 14)	-	-	-	-	-	-	-	-	4,100	4,100
Balance December 31, 2022	34,382	\$ 344	\$ 250,174	\$	(19,298)	\$ (17,996)	-	\$ -	\$ 4,924	\$ 218,148

The notes to consolidated financial statements are an integral part of the above statements.

CECO ENVIRONMENTAL CORP. AND SUBSIDIARIES
ACCUMULATED OTHER COMPREHENSIVE LOSS

(dollars in thousands)	Translation loss	Minimum pension liability adjustment	Accumulated other comprehensive loss
January 1, 2020	\$ (8,076)	\$ (6,429)	\$ (14,505)
2020 activity	2,256	(2,247)	9
Balance December 31, 2020	(5,820)	(8,676)	(14,496)
2021 activity	(538)	2,964	2,426
Balance December 31, 2021	(6,358)	(5,712)	(12,070)
2022 activity	(5,635)	(291)	(5,926)
Balance December 31, 2022	<u>\$ (11,993)</u>	<u>\$ (6,003)</u>	<u>\$ (17,996)</u>

The notes to consolidated financial statements are an integral part of the above statements.

CECO ENVIRONMENTAL CORP. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

(dollars in thousands)	Year Ended December 31,		
	2022	2021	2020
Cash flows from operating activities:			
Net income	\$ 18,263	\$ 1,983	\$ 8,172
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	10,614	9,853	9,921
Unrealized foreign currency (gain) loss	(1,284)	2,047	346
Impairment of intangible assets	—	—	850
Fair value adjustments to earnout liabilities	(229)	704	1,193
Earnout payments	(1,007)	(587)	—
Loss (gain) on sale of property and equipment	10	(83)	63
Amortization of debt discount	371	404	415
Share based compensation expense	3,895	3,335	1,758
Bad debt expense	1,340	688	928
Inventory reserve expense	140	82	494
Deferred income tax (benefit) expense	(39)	—	1,038
Changes in operating assets and liabilities, net of acquisitions:			
Accounts receivable	(6,751)	(13,165)	8,367
Cost and estimated earnings of billings on uncompleted contracts	(16,851)	(7,007)	(9,561)
Inventories	(6,023)	(203)	4,366
Prepaid expenses and other current assets	37	5,911	(962)
Deferred charges and other assets	2,478	300	(4,095)
Accounts payable and accrued expenses	22,536	440	336
Billings in excess of costs and estimated earnings on uncompleted contracts	4,405	8,431	(17,635)
Income taxes payable	1,424	1,047	460
Other liabilities	(3,680)	(882)	(2,033)
Net cash provided by operating activities	29,649	13,298	4,421
Cash flows from investing activities:			
Acquisitions of property and equipment	(3,376)	(2,616)	(3,945)
Net proceeds from sale of assets	19	533	605
Cash paid for acquisitions, net of cash acquired	(44,900)	—	(5,895)
Net cash used in investing activities	(48,257)	(2,083)	(9,235)
Cash flows from financing activities:			
Borrowings on revolving credit lines	75,200	51,400	96,000
Repayments on revolving credit lines	(35,900)	(57,100)	(86,800)
Borrowings of long-term debt	11,000	—	—
Repayments of long-term debt	(3,120)	(2,738)	(5,009)
Repayments of notes payable	(500)	—	—
Deferred financing fees paid	(130)	(801)	—
Payments on capital leases and sale-leaseback financing liability	(600)	(603)	(467)
Earnout payments	—	(823)	—
Proceeds from employee stock purchase plan and exercise of stock options	671	230	—
Distributions to non-controlling interest	(1,425)	(107)	—
Common stock repurchases	(7,020)	(5,014)	—
Net cash provided by (used in) financing activities	38,176	(15,556)	3,724
Effect of exchange rate changes on cash and cash equivalents	(4,978)	(1,475)	1,943
Net increase (decrease) in cash, cash equivalents and restricted cash	14,590	(5,816)	853
Cash, cash equivalents and restricted cash at beginning of year	31,995	37,811	36,958
Cash, cash equivalents and restricted cash at end of year	\$ 46,585	\$ 31,995	\$ 37,811
Cash paid (received) during the period for:			
Interest	\$ 5,007	\$ 2,146	\$ 3,172
Income taxes	\$ 5,378	\$ (2,570)	\$ 2,156

The notes to consolidated financial statements are an integral part of the above statements.

CECO ENVIRONMENTAL CORP. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
For the Years Ended December 31, 2022, 2021 and 2020

1. Nature of Business and Summary of Significant Accounting Policies

Nature of business—CECO Environmental Corp. and its consolidated subsidiaries (“CECO,” the “Company,” “we,” “us,” or “our”) is a leading environmentally focused, diversified industrial company, serving the broad landscape of industrial air, industrial water and energy transition markets globally providing innovative technology and application expertise. CECO helps companies grow their business with safe, clean, and more efficient solutions that help protect people, the environment and industrial equipment. CECO solutions improve air and water quality, optimize emissions management, and increase the energy and process efficiency for highly engineered applications in power generation, midstream and downstream hydrocarbon processing and transport, chemical processing, electric vehicle production, polysilicon fabrication, semiconductor and electronics production, battery production and recycling, specialty metals, aluminum and steel production, beverage can manufacturing, and industrial and produced water and wastewater treatment, and a wide range of other industrial end markets.

Principles of consolidation—The consolidated financial statements include the Company and its controlled subsidiaries. All intercompany balances and transactions have been eliminated.

Unless indicated, all balances within tables are in thousands except per share amounts.

Use of estimates—The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America (“GAAP”) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash equivalents—The Company considers all highly liquid investments with original maturities of three months or less to be cash equivalents. At December 31, 2022 and 2021, Restricted Cash is cash in support of letters of credit issued by various foreign subsidiaries of the Company. The Company occasionally enters into letters of credit with durations in excess of one year.

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported within the Consolidated Statements of Cash Flows.

	December 31,	
	2022	2021
Cash and cash equivalents	\$ 45,522	\$ 29,902
Restricted cash	1,063	2,093
Total cash, cash equivalents and restricted cash	\$ 46,585	\$ 31,995

Accounts receivable—Receivables are generally uncollateralized customer obligations due under normal terms requiring payment generally within 30 days from the invoice date unless otherwise determined by specific contract terms, generally due to retainage provisions. The Company’s estimate of the allowance for credit losses for trade receivables is primarily determined based upon the length of time that the receivables are past due and management estimates of probable losses based upon an analysis of prior collection experience, specific account risks and economic conditions. Accounts are deemed uncollectible based on past account experience and the current financial condition of the account.

Inventories—The Company’s inventory is valued at the lower of cost or net realizable value, using the first-in, first-out inventory costing method. Inventory quantities are regularly reviewed and provisions for excess or obsolete inventory are recorded based on the Company’s forecast of future demand and market conditions. Significant unanticipated changes to the Company’s forecasts could require a change in the provision for excess or obsolete inventory.

Property, plant and equipment—Property, plant and equipment are carried at the cost of acquisition or construction and depreciated over the estimated useful lives of the assets. Depreciation and amortization are provided using the straight-line method in amounts sufficient to amortize the cost of the assets over their estimated useful lives (buildings and improvements—generally five to 40 years; machinery and equipment—generally two to 15 years). Upon sale or disposal of property, plant and equipment, the applicable amounts of asset cost and accumulated depreciation are removed from the accounts, and the net amount, less any proceeds from sale, is recorded in income.

Intangible assets—Indefinite life intangible assets are comprised of tradenames, while finite life intangible assets are comprised of technology, customer lists, and tradenames. Finite life intangible assets are amortized on a straight line or accelerated basis over their estimated useful lives of seven to 10 years for technology, five to 20 years for customer lists, and 10 years for tradenames.

Long-lived assets—Property, plant and equipment and finite life intangible assets are reviewed whenever events or changes in circumstances occur that indicate possible impairment. If events or changes in circumstances occur that indicate possible impairment, the impairment review is based on an undiscounted cash flow analysis at the lowest level at which cash flows of the long-lived assets are largely independent of other groups of assets and liabilities. This analysis requires management judgment with respect to changes in technology, the continued success of product lines, and future volume, revenue and expense growth rates. The Company conducts annual reviews for idle and underutilized equipment, and review business plans for possible impairment. Impairment occurs when the carrying value of the assets exceeds the future undiscounted cash flows expected to be earned by the use of the asset or asset group. When impairment is indicated, the estimated future cash flows are then discounted to determine the estimated fair value of the asset or asset group and an impairment charge is recorded for the difference between the carrying value and the estimated fair value.

Additionally, the Company evaluates the remaining useful life each reporting period to determine whether events and circumstances warrant a revision to the remaining period of depreciation or amortization. If the estimate of a long-lived asset's remaining useful life is changed, the remaining carrying amount of the asset is amortized prospectively over that revised remaining useful life.

The Company completes an annual (or more often if circumstances require) impairment assessment on October 1 of its indefinite life intangible assets. As a part of its annual assessment, typically, the Company first qualitatively assesses whether current events or changes in circumstances lead to a determination that it is more likely than not (defined as a likelihood of more than 50 percent) that the fair value of an asset is less than its carrying amount. If there is a qualitative determination that the fair value of a particular asset is more likely than not greater than its carrying value, the Company does not need to proceed to the quantitative estimated fair value test for that asset. If this qualitative assessment indicates a more likely than not potential that the asset may be impaired, the estimated fair value is determined by the relief from royalty method. If the estimated fair value of an asset is less than its carrying value, an impairment charge is recorded for the amount by which the carrying value of the asset exceeds its estimated fair value.

Goodwill—The Company completes an annual (or more often if circumstances require) impairment assessment on October 1 of its goodwill on a reporting unit level, at or below the operating segment level. As a part of its annual assessment, the Company first qualitatively assesses whether current events or changes in circumstances lead to a determination that it is more likely than not (defined as a likelihood of more than 50 percent) that the fair value of a reporting unit is less than its carrying amount. If there is a qualitative determination that the fair value of a particular reporting unit is more likely than not greater than its carrying value, the Company does not need to quantitatively test for goodwill impairment for that reporting unit. If this qualitative assessment indicates a more likely than not potential that the asset may be impaired, the estimated fair value is determined using a weighting of the income method and the market method. If the estimated fair value of a reporting unit is less than its carrying value, an impairment charge is recorded.

Deferred financing costs—Deferred financing costs are amortized to interest expense over the life of the related loan. In fiscal 2021, the Company entered into Amendment No.2 to the Second Amended and Restated Credit Agreement (the "Credit Facility"). The Credit Facility amended the Company's existing Amendment No. 1 to Second Amended and Restated Agreement. In connection with the Credit Facility, the Company incurred \$0.8 million in customary closing fees in 2021 that were capitalized and classified as a debt discount (see Note 8 for further details on the Credit Facility). Amortization expense was \$0.4 million, \$0.4 million and \$0.4 million for 2022, 2021 and 2020, respectively. As of December 31, 2022, and 2021, remaining capitalized deferred financing costs of \$1.5 million and \$1.7 million, respectively, are included as a discount to debt in the accompanying Consolidated Balance Sheets.

Revenue recognition—A significant portion of the Company's revenue is derived from fixed-price contracts. The Company accounts for a contract after it has been approved by all parties to the arrangement, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable.

For each contract, the Company assesses the goods and services promised to a customer and identify a performance obligation for each distinct promised good or service. The typical life of contracts is generally less than 12 months and each contract generally contains only one performance obligation, to provide goods or services to the customer. The Company determines the transaction price for each contract based on the consideration the Company expect to receive for the products or services being provided under the contract.

The Company recognizes revenue as performance obligations are satisfied and the customer obtains control of the products and services. A significant amount of the Company's revenue is recognized over a period of time as the Company performs under the contract because control of the work in process transfers continuously to the customer. For performance obligations to deliver products with continuous transfer of control to the customer, revenue is recognized based on the extent of progress towards

completion of the performance obligation. Progress is measured based on the ratio of costs incurred to date to the total estimated costs to complete the performance obligation. For these contracts, the cost-to-cost measure best depicts the continuous transfer of goods or services to the customer. Annual revenue recognized over a period of time is approximately 70% of total revenue.

For contracts where the duration is short, total contract revenue is insignificant, or control does not continuously transfer to the customer, revenues are recognized at the point in time control passes to the customer, which occurs generally upon shipment of product. Annual revenue recognized at a point in time is approximately 30% of total revenue.

Progress payments are generally made over the duration of the contract. Shipping and handling activities after control of the products has transferred to the customer are considered fulfillment activities. Sales taxes are recorded on a net basis.

Contract Assets and Contract Liabilities — Contract assets consist of costs and earnings in excess of billings, costs incurred for contracts recognized at a point in time, and retainage. Costs and earnings in excess of billings represent the estimated value of unbilled work for contracts with performance obligations recognized over time and are separately classified as current assets in the Consolidated Balance Sheets. Costs incurred for contracts recognized at a point in time are classified within inventories as work-in-process. Retainage represents a portion of the contract billings that have been billed, but for which the contract allows the customer to retain a portion of the billed amount until final settlement. Retainage is not considered to be a significant financing component because the intent is to protect the customer. Retainage is classified within accounts receivable and deferred charges and other assets depending on when it is due. Almost all of the Company's contract assets are classified as current assets in the Consolidated Balance Sheets.

Billings in excess of costs and estimated earnings on uncompleted contracts are current liabilities, which relate to fixed-price contracts recognized over time, and represents payments in advance of performing the related contract work. Billings in excess of costs and estimated earnings on uncompleted contracts is not considered to be a significant financing component because it is generally used to meet working capital demands that can be higher in the early stages of a contract. Contract liabilities, classified in accounts payable and accrued expenses in the Consolidated Balance Sheets, include advance payments received from customers for which revenue has not been recognized for contracts where revenue is recognized at a point in time. Contract liabilities are reduced when the associated revenue from the contract is recognized, which is generally within one year.

The revenue streams within the Company are consistent with those disclosed for the Company's reportable segments. See Note 15 to the Consolidated Financial Statements for additional information on product offerings and segments.

Provisions for estimated losses on uncompleted contracts are made in the period in which such losses are determined. Changes to job performance, job conditions, and estimated profitability may result in revisions to contract revenue and costs and are recognized in the period in which the revisions are made. There was no provision for estimated losses on uncompleted contracts at December 31, 2022 and 2021.

Cost of sales—Cost of sales amounts include materials, subcontract costs, direct labor and associated benefits, inbound freight charges, purchasing and receiving, inspection, warehousing, and depreciation.

Claims—Change orders arise when the scope of the original project is modified for any of a variety of reasons. The Company will negotiate the extent of the modifications, its expected costs and recovery with the customer. Costs related to change orders are added to the expected total cost of the project. In cases where contract revenues are assured beyond a reasonable doubt to be increased in excess of the expected costs of the change order, incremental profit also is recognized on the contract. Such assurance is generally only achieved when the customer approves in writing the scope and pricing of the change order. Change orders that are in dispute are effectively handled as claims.

Claims are amounts in excess of the agreed contract price that the Company seeks to collect from customers or others for customer-caused delays, errors in specifications and designs, contract terminations, change orders in dispute or unapproved as to both scope and price. Costs attributable to claims are treated as contract costs as incurred.

The Company recognizes certain significant claims for recovery of incurred costs when it is probable that the claim will result in additional contract revenue and when the amount of the claim can be reliably estimated. When the customer or other parties agree in writing to the amount of the claim to be recovered by the Company, the amount of the claim becomes contractual and is accounted for as an increase in the contract's total estimated revenue and estimated cost. As actual costs are incurred and revenues are recognized over time, a corresponding percentage of the revised total estimated profit will therefore be recognized.

Should it become probable that the claim will not result in additional contract revenue, the Company removes the related contract revenues from its previous estimate of total revenues, which effectively reduces the estimated profit margin on the job and negatively impacts profit for the period.

Pre-contract costs—Pre-contract costs are not significant and are primarily internal costs. As most of the Company's contracts are one year or less, the Company expenses all pre-contract costs as incurred regardless of whether or not the bids are successful. A majority of the Company's business is obtained through a bidding process and this activity is on-going with multiple bids in process at any one time. These costs consist primarily of engineering, sales and project manager wages, fringes and general corporate overhead and it is deemed impractical to track activities related to any one specific contract.

Selling and administrative expenses—Selling and administrative expenses on the Consolidated Statements of Income include sales and administrative wages and associated benefits, selling and office expenses, professional fees, bad debt expense and depreciation. Selling and administrative expenses are charged to expense as incurred.

Acquisition and integration expenses—Acquisition and integration expenses on the Consolidated Statements of Income are related to acquisition activities, which include, legal, accounting, and other expenses.

Amortization and earnout expenses—Amortization and earnout expenses on the Consolidated Statements of Income include amortization of intangible assets, and changes to earnout and contingent compensation amounts related to acquisitions.

Restructuring expenses—Restructuring expenses on the Consolidated Statements of Income include expenses related to an ongoing restructuring program to reduce operating costs in the future. Within restructuring expenses are charges related to severance, facility exit, legal and property, plant and equipment impairment. The Company's policy is to recognize restructuring expenses in accordance with the accounting rules related to exit or disposal activities.

Executive transition expenses—Executive transition expenses on the Consolidated Statements of Income include expenses related to the severance for the Company's former executives, as well as fees and expenses incurred in the search for, and hiring of, new executives.

Product Warranties—The Company's warranty reserve is to cover the products sold. The warranty accrual is based on historical claims information. The warranty reserve is reviewed and adjusted as necessary on a quarterly basis and is presented within Note 7.

Research and Development—Although not technically defined as research and development, a significant amount of time, effort and expense is devoted to (a) custom engineering which qualifies products for specific customer applications, (b) developing proprietary process technology and (c) partnering with customers to develop new products.

Income taxes - Income taxes are determined using the asset and liability method of accounting for income taxes in accordance with Financial Accounting Standards Board ("FASB"), Accounting Standards Codification ("ASC") Topic 740, "Income Taxes". Income tax expense includes federal, state and foreign income taxes.

Deferred income taxes are provided using the asset and liability method whereby deferred tax assets are recognized for deductible temporary differences and operating loss and tax credit carry-forwards and deferred tax liabilities are recognized for taxable temporary differences. Temporary differences are the differences between the reported amounts of assets and liabilities and their tax bases and are measured using enacted tax rates expected to apply to taxable income in the year in which those temporary differences are expected to be recovered or settled. Deferred tax assets and liabilities are adjusted for the effects of changes in tax laws and rates on the date of enactment. Tax credits and other incentives reduce income tax expense in the year the credits are claimed.

Management must assess the need to accrue or disclose uncertain tax positions for proposed potential adjustments from various federal, state and foreign tax authorities who regularly audit the Company in the normal course of business. In making these assessments, management must often analyze complex tax laws of multiple jurisdictions, including many foreign jurisdictions. The accounting guidance prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. The Company records the related interest expense and penalties, if any, as tax expense in the tax provision.

Management must assess the realizability of the Company's deferred tax assets. In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities (including the impact of available carryback and carry forward periods), projected future taxable income, and tax-planning strategies in making this

assessment. The amount of the deferred tax assets considered realizable, however, could be reduced in the near term if estimates of future taxable income during the carryforward period are reduced.

The Company has made an accounting policy election to record the U.S. income tax effect of future global intangible low-taxed income (“GILTI”) inclusions in the period in which they arise, rather than establishing deferred taxes with respect to the expected future tax liabilities associated with future GILTI inclusion.

Certain of the Company’s undistributed earnings of its foreign subsidiaries are not permanently reinvested. A liability has been recorded for the deferred taxes on such undistributed foreign earnings. The amount is attributable primarily to the foreign withholding taxes that would become payable should the Company repatriate cash held in its foreign operations.

Earnings per share—The following table reconciles the numerators and denominators used to calculate basic and diluted earnings per share for 2022, 2021 and 2020.

	For the Year Ended December 31		
	2022	2021	2020
(table only in thousands)			
Numerator (for basic and diluted earnings per share)			
Net income attributable to CECO Environmental Corp.	\$ 17,417	\$ 1,426	\$ 8,211
Denominator			
Basic weighted-average shares outstanding	34,672	35,346	35,290
Common stock equivalents arising from stock options and restricted stock awards	333	249	231
Diluted weighted-average shares outstanding	35,005	35,595	35,521

Options and unvested restricted stock units are included in the computation of diluted earnings per share using the treasury stock method. For 2022, 2021 and 2020, outstanding options and unvested restricted stock units of 1.1 million, 1.8 million and 1.0 million, respectively, were excluded from the computation of diluted earnings per share due to their having an anti-dilutive effect.

Once a restricted stock award vests, it is included in the computation of weighted average shares outstanding for purposes of basic and diluted earnings per share.

Foreign Currency Translation—The functional currencies of the Company’s foreign subsidiaries are their local currencies and their books and records are maintained in the local currency. The assets and liabilities of these foreign subsidiaries are translated into United States Dollars (“USD”) based on the end-of period exchange rates and the resultant translation adjustments are reported in Accumulated Other Comprehensive Loss in Shareholders’ equity on the Consolidated Balance Sheets.

Income and expenses are translated into USD at average exchange rates in effect during the period.

Transactions denominated in other than the local currency are remeasured into the local currency and the resulting exchange gains or losses are included in “Other income (expense), net” line of the Consolidated Statements of Income. Transaction gains (losses) were \$6.3 million, \$(3.1) million and \$1.3 million in 2022, 2021 and 2020, respectively.

Accounting Standards Adopted in 2022

None.

Accounting Standards to be Adopted

In October 2021, the FASB issued ASU 2021-08, Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers, which addresses how an acquirer should recognize and measure revenue contracts acquired in a business combination. The ASU is effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years. The Company is currently evaluating the impact the adoption of the standard will have on the Company’s financial position and/or results of operations.

2. Financial Instruments

The Company's financial instruments consist primarily of cash and cash equivalents, receivables and certain other assets, and accounts payable, which approximate fair value at December 31, 2022 and 2021, due to their short-term nature or variable, market-driven interest rates.

The fair value of the debt issued under the Credit Facility and joint venture term loan was \$112.7 million and \$65.5 million at December 31, 2022 and 2021, respectively. The fair value was determined considering market conditions, credit worthiness and the current terms of debt, which is considered Level 2 on the fair value hierarchy.

At December 31, 2022 and 2021, the Company had cash and cash equivalents of \$45.5 million and \$29.9 million, respectively, of which \$31.7 million and \$24.8 million, respectively, was held outside of the United States, principally in the Netherlands, United Kingdom, China, and Canada.

Concentrations of credit risk

Financial instruments that potentially subject us to credit risk consist principally of cash and cash equivalents, and accounts receivable. The Company maintains cash and cash equivalents with various major financial institutions. The Company performs periodic evaluations of the financial institutions in which its cash is invested. Concentrations of credit risk with respect to trade and contract receivables are limited due to the large number of customers and various geographic areas. Additionally, the Company performs ongoing credit evaluations of its customers' financial condition.

3. Accounts Receivable

Accounts receivable consisted of the following:

(table only in thousands)	December 31,	
	2022	2021
Contract receivables	\$ 71,363	\$ 65,932
Trade receivables	15,943	12,537
Allowance for credit losses	(4,220)	(3,478)
Total accounts receivable	<u>\$ 83,086</u>	<u>\$ 74,991</u>

Balances billed, but not paid by customers under retainage provisions in contracts, amounted to approximately \$1.6 million and \$1.8 million at December 31, 2022 and 2021, respectively. Retainage receivables on contracts in progress are generally collected within a year or two subsequent to contract completion, and are recorded in either accounts receivable, net or deferred charges and other assets within the Consolidated Balance Sheets depending on timing of expected collection.

Provision for credit losses was \$1.3 million, \$0.7 million and \$0.9 million during 2022, 2021 and 2020, respectively, while accounts charged to the allowance were \$0.6 million, \$0.3 million and \$0.4 million during 2022, 2021 and 2020, respectively.

4. Inventories

Inventories consisted of the following:

(table only in thousands)	December 31,	
	2022	2021
Raw materials	\$ 19,774	\$ 13,405
Work in process	7,183	5,147
Finished goods	2,436	674
Obsolescence allowance	(2,867)	(2,174)
Total inventories	<u>\$ 26,526</u>	<u>\$ 17,052</u>

Amounts credited to the allowance for obsolete inventory and charged to cost of sales amounted to \$0.1 million, \$0.1 million and \$0.5 million during 2022, 2021 and 2020, respectively. Items charged to the allowance for inventory write-offs were zero, \$0.9 million and \$0.1 million, during 2022, 2021 and 2020, respectively.

5. Property, Plant and Equipment

Property, plant and equipment consisted of the following:

(table only in thousands)	December 31,	
	2022	2021
Land, building and improvements	\$ 11,986	\$ 7,524
Machinery and equipment	33,521	29,306
Property, plant and equipment, gross	45,507	36,830
Less accumulated depreciation	(24,679)	(20,882)
Property, plant and equipment, net	<u>\$ 20,828</u>	<u>\$ 15,948</u>

Depreciation expense was \$3.6 million, \$3.2 million and \$2.5 million for 2022, 2021 and 2020, respectively.

6. Goodwill and Intangible Assets

(table only in thousands)	Engineered Systems segment	Industrial Process Solutions segment	Totals
	Balance of goodwill at December 31, 2020	\$ 99,785	\$ 62,035
Foreign currency translation	(482)	(155)	(637)
Balance of goodwill at December 31, 2021	99,303	61,880	161,183
Acquisitions	15,968	7,344	23,312
Foreign currency translation	(525)	(773)	(1,298)
Balance of goodwill at December 31, 2022	<u>\$ 114,746</u>	<u>\$ 68,451</u>	<u>\$ 183,197</u>

As of December 31, 2022 and 2021, the Company has an aggregate amount of goodwill acquired of \$243.9 million and \$221.9 million, respectively, and an aggregate amount of impairment losses of \$60.7 million which was recognized in 2017.

The Company's indefinite lived intangible assets as of December 31, 2022 and 2021 consisted of the following:

(table only in thousands)	Tradenames	
	2022	2021
Balance beginning of year	\$ 9,629	\$ 12,937
Transfer to finite life classification	—	(3,150)
Foreign currency adjustments	(121)	(158)
Balance end of year	<u>\$ 9,508</u>	<u>\$ 9,629</u>

During 2021, the Company reassessed the useful lives of certain tradenames and determined that \$3.2 million of tradenames would have useful lives of 10 years versus indefinite.

The Company completes an annual (or more often if circumstances require) impairment assessment of its goodwill and indefinite life intangible assets on October 1 at the reporting unit level.

The Company bases its measurement of the fair value of a reporting unit using a 50/50 weighting of the income method and the market method. The income method is based on a discounted future cash flow approach that uses the significant assumptions of projected revenue, projected operational profit, terminal growth rates, and the cost of capital. Projected revenue and operational profit, and terminal growth rates were determined to be significant assumptions because they are three primary drivers of the projected cash flows in the discounted future cash flow approach. Cost of capital was also determined to be a significant assumption as it is the discount rate used to calculate the current fair value of those projected cash flows. The market method is based on financial multiples of comparable companies and applies a control premium. Significant estimates in the market approach include identifying similar companies with comparable business factors such as size, growth, profitability, risk and return on investment and assessing comparable revenue and operating income multiples in estimating the fair value of a reporting unit. Based on this analysis, the estimated fair value of all of the Company's reporting units exceeded their carrying value as of October 1, 2022. There was no goodwill impairment in 2022, 2021 and 2020.

The Company also performed an impairment analysis for all indefinite life intangible assets, which consists of tradenames, as of October 1, 2022. The Company based its measurement of the fair value of the indefinite life intangible assets utilizing the relief from royalty method. The significant assumptions used under the relief from royalty method are projected revenue, royalty rates, terminal

growth rates, and the cost of capital. Projected revenue, royalty rates and terminal growth rates were determined to be significant assumptions because they are three primary drivers of the projected royalty cash flows in the relief from royalty method. Cost of capital was also determined to be a significant assumption as it is the discount rate used to calculate the current fair value of those projected royalty cash flows. Changes in any of the significant assumptions used can materially affect the expected cash flows, and such impacts can result in material non-cash impairment charges. Under this approach, the estimated fair value of the indefinite life intangible assets exceeded their carrying value for segments as of the testing date. Accordingly, the Company recognized no impairment charges in its financial results for the years ended December 31, 2022 and 2021. In 2020, the Company recognized impairment charges of \$0.9 million.

As described above, the fair value measurement methods used in the Company's goodwill and indefinite life intangible assets impairment analyses utilizes a number of significant unobservable inputs or Level 3 assumptions. These assumptions include, among others, projections of the Company's future operating results, the implied fair value of these assets using an income approach by preparing a discounted cash flow analysis and other subjective assumptions.

The Company's finite lived intangible assets consisted of the following:

(table only in thousands) Intangible assets – finite life	December 31,			
	2022		2021	
	Cost	Accum. Amort.	Cost	Accum. Amort.
Technology	\$ 14,457	\$ 13,729	\$ 14,457	\$ 13,704
Customer lists	85,719	57,540	73,199	53,970
Tradenames	11,604	3,768	9,728	2,745
Foreign currency adjustments	(1,864)	(372)	(2,149)	(1,025)
Total finite life intangible assets	<u>\$ 109,916</u>	<u>\$ 74,665</u>	<u>\$ 95,235</u>	<u>\$ 69,394</u>

Amortization expense of finite life intangible assets was \$7.0 million, \$6.7 million and \$7.4 million for 2022, 2021 and 2020, respectively. Amortization over the next five years for finite life intangibles is \$6.6 million in 2023, \$5.9 million in 2024, \$4.9 million in 2025, \$3.5 million in 2026, and \$3.4 million in 2027.

7. Accounts Payable and Accrued Expenses

Accounts payable and accrued expense consisted of the following:

(table only in thousands)	December 31,	
	2022	2021
Trade accounts payable, including amounts due to subcontractors	\$ 73,407	\$ 56,242
Compensation and related benefits	9,577	6,065
Accrued warranty	3,691	3,074
Contract liability	4,516	4,405
Short-term operating lease liability	3,228	2,414
Other	12,779	11,881
Total accounts payable and accrued expenses	<u>\$ 107,198</u>	<u>\$ 84,081</u>

The activity in the Company's current portion of earnout liability is recorded in Accounts payable and accrued expenses on its Consolidated Balance Sheets, consisted of the following:

(table only in thousands)	December 31,	
	2022	2021
Earnout accrued at beginning of year	\$ 1,037	\$ 1,743
Fair value of earnout at acquisition date	1,429	—
Fair value adjustment	(229)	704
Payments and other	(1,037)	(1,410)
Earnout accrued at end of year	<u>\$ 1,200</u>	<u>\$ 1,037</u>

As additional consideration in the acquisition of Compass Water Solutions, Inc. ("Compass"), the former owners of Compass are entitled to earn-out payments based upon specified financial results through April 30, 2023. Based on projections at the acquisition date of May 3, 2022, the Company estimated the fair value of the earnout to be \$1.4 million. During the year ended December 31, 2022 the Company decreased the earnout by \$0.2 million based on the estimated fair value at December 31, 2022. The fair value adjustment is recorded in "Amortization and earnout expenses" on the Consolidated Statement of Income.

As additional consideration in the acquisition of Environmental Integrated Solution (“EIS”), the former owners were entitled to earnout payments based upon a multiple of specified financial results through December 31, 2021. During 2021, the Company increased the earnout by \$0.7 million based on the estimated fair value at December 31, 2021. The fair value adjustment is recorded in “Amortization and earnout expenses” on the Consolidated Statements of Income. The change in fair value was a result of EIS performing above initial acquisition operational expectations. Earnout payments of \$1.0 million and \$1.4 million were paid during the years ended December 31, 2022 and 2021, respectively.

8. Senior debt

Debt consisted of the following:

(table only in thousands)	December 31,	
	2022	2021
Outstanding borrowings under Credit Facility (defined below)		
Term loan payable in quarterly principal installments of \$550 through September 2023, \$825 through September 2025 and \$1,100 thereafter with balance due upon maturity in December 2026.		
– Term loan	\$ 41,309	\$ 43,511
– Revolving Credit Loan	61,300	22,000
Total outstanding borrowings under Credit Facility	102,609	65,511
Outstanding borrowings under the joint venture term debt	10,083	—
Unamortized debt discount	(1,488)	(1,731)
Total outstanding borrowings	111,204	63,780
Less: current portion	(3,579)	(2,203)
Total debt, less current portion	\$ 107,625	\$ 61,577

Scheduled principal payments under the Credit Facility and joint venture term debt are \$3.6 million in 2023, \$4.9 million in 2024, \$5.2 million in 2025, \$95.1 million in 2026, and \$3.9 million in 2027.

Credit Facility

On December 17, 2021, the Company entered into Amendment No. 2 to the Second Amended and Restated Credit Agreement (the “Credit Facility”). The Credit Facility amended and restated the Company’s prior credit agreement. Pursuant to the Credit Facility, the lenders provided a term loan in the aggregate principal amount of \$44.1 million and a senior secured revolving credit commitment up to an aggregate principal amount of \$140.0 million. This revolving credit commitment allows the Company the ability to borrow loans denominated in different currencies. Additionally, the Credit Facility extended the maturity date to December 17, 2026, replaces LIBOR interest with Secured Overnight Financing Rate (“SOFR”) interest for USD loans, Sterling Overnight Interbank Average Rate (“SONIA”) for GBP loans, and Canadian Dollar Offered Rate (“CDOR”) for CAD loans, and redefined certain financial covenants.

As of December 31, 2022 and 2021, \$18.9 million and \$14.5 million of letters of credit were outstanding, respectively. Total unused credit availability under the Company’s senior secured term loan and senior secured revolver loan with sub-facilities for letters of credit, swing-line loans and senior secured multi-currency loans was \$59.8 million and \$45.9 million at December 31, 2022 and 2021, respectively. Revolving loans may be borrowed, repaid and reborrowed until December 17, 2026, at which time all outstanding balances of the Credit Facility must be repaid.

At the Company’s option, revolving loans and the term loans accrue interest at a per annum rate based on (a) either the highest of (i) the federal funds rate plus 0.5%, or (ii) the Agent’s prime lending rate, (b) Daily Simple SOFR plus the Daily Simple SOFR Adjustment of 0.11448% plus 1.0%, (c) 1.0%, plus a margin ranging from 1.75% to 2.75% depending on the Company’s Consolidated Leverage Ratio, or (d) a one/three/six-month Term SOFR Rate (as defined in the Credit Agreement) plus the Term SOFR Adjustment ranging from 0.11% to 0.43% plus 1.75% to 2.75% depending on the Company’s Consolidated Leverage Ratio. Interest on swing line loans is the Base Rate.

Interest on Base Rate loans is payable quarterly in arrears on the last day of each calendar quarter and at maturity. Interest on Term SOFR rate loans is payable on the last date of each applicable Interest Period (as defined in the agreement), but in no event less than once every three months and at maturity. The weighted average stated interest rate on outstanding borrowings was 6.75% and 2.54% at December 31, 2022 and 2021, respectively.

Under the terms of the Credit Facility, the Company is required to maintain certain financial covenants, including the maintenance of a Consolidated Net Leverage Ratio (as defined in the Credit Facility). Through September 30, 2023, the maximum Consolidated Net Leverage Ratio is 3.75, after which time it will decrease to 3.50 until the end of the term of the Credit Facility.

The Company has granted a security interest in substantially all of its assets to secure its obligations pursuant to the Credit Facility. The Company's obligations under the Credit Facility are guaranteed by the Company's U.S. subsidiaries and such guaranty obligations are secured by a security interest on substantially all the assets of such subsidiaries, including certain real property. The Company's obligations under the Credit Agreement may also be guaranteed by the Company's material foreign subsidiaries to the extent no adverse tax consequences would result to the Company.

In connection with the Credit Facility, the Company paid \$0.8 million in customary closing fees during 2021 that were deferred and classified as a debt discount, as a result of the Credit Facility being accounted for as a debt modification.

As of December 31, 2022 and 2021, the Company was in compliance with all related financial and other restrictive covenants under the Credit Facility.

Joint Venture Debt

On March 7, 2022, the Company's Effox-Flexor-Mader, Inc. joint venture ("EFM JV") entered into a loan agreement secured by the assets of the EFM JV in the aggregate principal amount of \$11.0 million for the acquisition of General Rubber, LLC ("GRC"), as further described in Note 14. As of December 31, 2022, \$10.0 million was outstanding under the loan. Principal will be paid back to the lender monthly with the final installment due by February 27, 2027. Interest is accrued at the per annum rate based on EFM JV's choice of the 1/3/6 month Term SOFR rate plus 3.25%, with a floor rate of 3.75%. Interest is paid monthly on the last day of each month. The interest rate at December 31, 2022 was 6.60%. As of December 31, 2022, the EFM JV was in compliance with all related financial and other restrictive covenants under this loan agreement. This loan balance does not impact the Company's borrowing capacity or the financial covenants under the Credit Facility.

Foreign Debt

The Company has a number of bank guarantee facilities and bilateral lines of credit in various foreign countries currently supported by cash, letters of credit or pledged assets and collateral under the Credit Facility. The Credit Facility allows letters of credit and bank guarantee issuances of up to \$65.0 million from the bilateral lines of credit secured by pledged assets and collateral under the Credit Facility. As of December 31, 2022, \$30.4 million in bank guarantees were outstanding. In addition, a subsidiary of the Company located in the Netherlands has a Euro-denominated bank guarantee agreement secured by local assets under which \$0.6 million in bank guarantees were outstanding as of December 31, 2022. As of December 31, 2022, the borrowers of these facilities and agreements were in compliance with all related financial and other restrictive covenants.

9. Shareholders' Equity

Share-Based Compensation

The Company's 2021 Equity and Incentive Compensation Plan (the "2021 Plan") was approved by the Company's stockholders on May 25, 2021 which replaced the 2017 Equity Incentive Plan (the "2017 Plan"). No further grants will be made under the 2017 Plan, but outstanding awards under the 2017 Plan will continue to be unaffected in accordance with their terms. The 2021 Plan permits the granting of stock options with an exercise price equal to or greater than the fair market value of the Company's common stock at the date of the grant, and other stock-based awards, including appreciation rights, restricted stock, restricted stock units, performance shares and dividend equivalents. A total of 2.6 million shares of common stock were authorized for issuance. As of December 31, 2022, 2.1 million shares remain available for future issuance. Stock options granted to employees generally vest equally over a period of four years from the date of the grant. Stock awards granted to employees generally vest over a period of three to four years from the date of the grant.

On July 6, 2020, in connection with the appointment of the Chief Executive Officer, the Company granted its Chief Executive Officer approximately 94,000 restricted stock units with a fair value of \$0.6 million, which are being expensed over the vesting period of four years. The Company also granted its Chief Executive Officer approximately 1.2 million stock options with a fair value of \$2.4 million that are being expensed over the vesting period of four years. These grants of restricted stock units and stock options ("2020 Inducement Awards") were approved by the Board of Directors of the Company and are not included in any of the aforementioned Plans.

Share-based compensation expense for stock options and restricted stock awards under these plans was \$3.9 million, \$3.3 million and \$1.8 million for 2022, 2021 and 2020, respectively. The tax benefit related to share based compensation expense was \$0.5 million, \$0.8 million and \$0.3 million in 2022, 2021 and 2020, respectively.

Employee Stock Purchase Plan

The 2020 Employee Stock Purchase Plan (“ESPP”) was approved by shareholders on June 11, 2020. The ESPP is administered by the Compensation Committee. The ESPP allows employees to purchase shares of common stock at a 15% discount from market price and pay for the shares through payroll deductions. Eligible employees can enter the plan at specific “offering dates” that occur in six-month intervals.

The aggregate maximum number of shares of the Company’s common stock that may be granted under the ESPP is 1.3 million shares over the ten-year term of the ESPP, subject to adjustment in the event there is a reorganization, merger, consolidation, recapitalization, reclassification, stock split-up, or similar transaction with respect to the common stock. As of December 31, 2022, 1.2 million shares remain available for future issuance.

The Company recognized employee stock purchase plan expense of \$60,000, \$60,000 and \$20,000 in 2022, 2021 and 2020, respectively.

Stock Options

The estimated weighted-average fair value of stock options granted during 2020, was \$1.98 per option, using the Black-Scholes option-pricing model based on the following assumptions:

Expected Volatility: The Company utilizes a volatility factor based on the Company’s historical stock prices for a period of time equal to the expected term of the stock option utilizing weekly price observations. For 2020, the Company utilized weighted-average volatility factors of 52.5%.

Expected Term: Due to limited historical exercise data, the Company utilizes the simplified method of determining the expected term based on the vesting schedules and terms of the stock options. For 2020, the Company utilized weighted-average expected term factors of 5.0 years.

Risk-Free Interest Rate: The risk-free interest rate factor utilized is based upon the implied yields currently available on U.S. Treasury zero-coupon issues over the expected term of the stock options. For 2020, the Company utilized a weighted-average risk-free interest rate factor of 0.3%.

The fair value of stock options is recorded as compensation expense on a straight-line basis over the vesting periods (which approximates the requisite service period) of the options and forfeitures are accounted for when they occur.

Information related to all stock options under the 2021 Plan, 2017 Plan and 2007 Plan, and the 2020 Inducement Awards for 2022, 2021 and 2020 is shown in the tables below:

(Shares in thousands)	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value (\$000)
Outstanding at December 31, 2021	1,514	\$ 11.19	4.9 years	
Forfeitures	(32)	10.55		
Exercised	(42)	8.15		
Outstanding at December 31, 2022	1,440	11.30	4.0 years	\$ 1,766
Exercisable at December 31, 2022	833	11.47	3.6 years	\$ 923

(Shares in thousands)	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value (\$000)
Outstanding at December 31, 2020	1,554	\$ 11.17	5.8 years	
Forfeitures	(38)	10.63		
Exercised	(2)	6.66		
Outstanding at December 31, 2021	1,514	11.19	4.9 years	\$ —
Exercisable at December 31, 2021	603	11.39	4.0 years	\$ —

(Shares in thousands)	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value (\$000)
Outstanding at December 31, 2019	410	\$ 11.45	4.7 years	
Forfeitures	(71)	10.86		
Granted	1,215	11.06		
Outstanding at December 31, 2020	<u>1,554</u>	11.17	5.8 years	\$ 195
Exercisable at December 31, 2020	<u>330</u>	11.66	3.0 years	\$ 6

Restricted Stock Awards

Information related to restricted stock awards under the 2021 Plan, 2017 Plan, 2007 Plan, and the 2020 Inducement Awards for 2022, 2021 and 2020 is shown in the table below. The fair value of restricted stock awards is based on the price of the stock in the open market on the date of the grant, and the fair value of performance-based restricted stock units is determined by using the Monte Carlo valuation model. The fair value of the restricted stock awards is recorded as compensation expense on a straight-line basis over the vesting periods of the awards and forfeitures are accounted for when they occur.

(Shares in thousands)	Shares	Weighted Average Grant Date Fair Value
Nonvested at December 31, 2019	1,321	\$ 6.80
Granted	648	5.64
Vested	(284)	7.60
Forfeited	(638)	5.91
Nonvested at December 31, 2020	1,047	6.00
Granted	573	8.19
Vested	(323)	6.31
Forfeited	(264)	5.80
Nonvested at December 31, 2021	1,033	7.17
Granted	755	5.74
Vested	(355)	6.80
Forfeited	(255)	6.41
Nonvested at December 31, 2022	<u>1,178</u>	\$ 6.53

The Company received \$0.4 million, zero and zero of cash from employees exercising options in 2022, 2021 and 2020, respectively. The Company received approximately \$13,000 from a non-employee director exercising options during 2021. The intrinsic value of options exercised during 2022, 2021 and 2020 was \$0.2 million, \$3,000 and zero, respectively.

Unrecognized compensation expense related to nonvested shares of stock options, restricted stock and performance units was \$5.5 million at December 31, 2022 and will be recognized over a weighted average vesting period of 1.6 years.

Common Stock Repurchase

On May 10, 2022, the Company's Board of Directors authorized a share repurchase program under which the Company may purchase up to \$20.0 million of its outstanding shares of common stock through April 30, 2025. The authorization permits the Company to repurchase shares in the open market, through accelerated share repurchases, block trades, Rule 10b5-1 trading plans or through privately negotiated transactions in accordance with applicable laws, rules and regulations. Through December 31, 2022, the Company has repurchased and retired approximately 1,032,000 shares of common stock at a cost of \$7.0 million under the program.

On August 3, 2021, the Company's Board of Directors authorized a share repurchase program under which CECO may purchase up to \$5.0 million of its outstanding shares of Company stock. The authorization permitted the Company to repurchase shares in the open market, through accelerated share repurchases, block trades, 10b5-1 plans or through privately negotiated transactions in accordance with applicable laws, rules and regulations. The Company completed its purchases authorized under the plan in October 2021, repurchasing approximately 700,000 shares of common stock at a cost of \$5.0 million under the program. All treasury shares were retired following the repurchase.

Dividends

The Company's dividend policy and the payment of cash dividends under that policy are subject to the Board of Director's continuing determination that the dividend policy and the declaration of dividends are in the best interest of the Company's stockholders. Future dividends and the dividend policy may be changed at the Company's discretion at any time. Payment of dividends is also subject to the continuing compliance with financial covenants under the Credit Facility. The Company has not paid a cash dividend on its common stock in any of the years ended December 31, 2022, 2021 or 2020 and currently intends to retain future earnings, if any, to finance the operations, growth and development of its business in the foreseeable future.

10. Pension and Employee Benefit Plans

The Company sponsors a non-contributory defined benefit pension plan for certain union employees. The accrual of future benefits for all participants who are non-union employees was frozen effective December 31, 2008. The plan is funded in accordance with the funding requirements of the Employee Retirement Income Security Act of 1974.

The following tables set forth the plan changes in benefit obligations, plan assets and funded status on the measurement dates:

(table only in thousands)	December 31,		
	2022	2021	2020
Change in projected benefit obligation:			
Projected benefit obligation at beginning of year	\$ 35,035	\$ 38,272	\$ 35,985
Interest cost	877	775	1,034
Actuarial (gain) loss	(6,540)	(1,936)	3,323
Benefits paid	(2,022)	(2,076)	(2,070)
Projected benefit obligation at end of year	<u>27,350</u>	<u>35,035</u>	<u>38,272</u>
Change in plan assets:			
Fair value of plan assets at beginning of year	29,474	28,545	27,099
Actual return on plan assets	(5,631)	3,005	1,629
Employer contribution	—	—	1,887
Benefits paid	(2,022)	(2,076)	(2,070)
Fair value of plan assets at end of year	<u>21,821</u>	<u>29,474</u>	<u>28,545</u>
Funded status at end of year	<u>\$ (5,529)</u>	<u>\$ (5,561)</u>	<u>\$ (9,727)</u>
Weighted-average assumptions used to determine benefit obligations for the year ended December 31:			
Discount rate	4.90%	2.55%	2.10%

The funded status as of December 31, 2022, 2021 and 2020, was \$5.5 million, \$5.6 million and \$9.7 million, respectively and is recognized in the accompanying Consolidated Balance Sheets within other long-term liabilities.

The details of net periodic benefit cost for pension benefits included in the accompanying Consolidated Statements of Income are as follows:

(table only in thousands)	December 31,		
	2022	2021	2020
Interest cost	\$ 877	\$ 775	\$ 1,034
Expected return on plan assets	(1,560)	(1,510)	(1,594)
Amortization of net loss	263	411	266
Net periodic benefit income	<u>\$ (420)</u>	<u>\$ (324)</u>	<u>\$ (294)</u>

Other changes in plan assets and benefit obligations recognized in other comprehensive income:

(table only in thousands)	December 31,		
	2022	2021	2020
Net loss (gain)	\$ 651	\$ (3,432)	\$ 3,287
Amortization of net actuarial loss	(263)	(411)	(266)
Total recognized in other comprehensive income (loss)	<u>\$ 388</u>	<u>\$ (3,843)</u>	<u>\$ 3,021</u>
Total recognized in net periodic benefit cost and other comprehensive income (loss)	<u>\$ (32)</u>	<u>\$ (4,167)</u>	<u>\$ 2,727</u>

Weighted-average assumptions used to determine net periodic benefit costs

	December 31,		
	2022	2021	2020
Discount Rate	2.55%	2.10%	2.95%
Expected return on assets	5.50%	5.50%	6.00%

The basis of the long-term rate of return assumption reflects the current asset mix for the pension plan of approximately 30% to 40% debt securities and 60% to 70% equity securities with assumed average annual returns of approximately 4% to 6% for debt securities and 8% to 12% for equity securities. The investment portfolio for the pension plan will be adjusted periodically to maintain the current ratios of debt securities and equity securities. Additional consideration is given to the historical returns for the pension plan as well as future long range projections of investment returns for each asset category. The long-term rate of return also considers administrative expenses of the plan.

Benefits under the plan is not based on wages and, therefore, future wage adjustments have no effect on the projected benefit obligation.

During 2022, 2021 and 2020, the Company updated the mortality tables (RP-2021 Total Mortality Table, RP-2020 Total Mortality Table, and RP-2019 Total Mortality Table for each respective year) in the underlying assumptions used to determine the benefit obligation.

Pension plan assets are invested in trusts comprised primarily of investments in various debt and equity funds. A fiduciary committee establishes the target asset mix and monitors asset performance. The expected rate of return on assets includes the determination of a real rate of return for equity and fixed income investment applied to the portfolio based on their relative weighting, increased by an underlying inflation rate.

The Company's defined benefit pension plan asset allocation by asset category is as follows:

Asset Category:	Target Allocation 2022	Percentage of Plan Assets	
		2022	2021
Cash and cash equivalents	0%	2%	1%
Equity securities	70%	73%	77%
Debt securities	30%	25%	22%
Total	100%	100%	100%

Estimated pension plan cash obligations are \$2.2 million, \$2.2 million, \$2.2 million, \$2.2 million, and \$2.1 million for 2023 through 2027, respectively, and a total of \$10.0 million for the years 2028 through 2032.

Fair Value Measurements of Pension Plan Assets

Following is a description of the valuation methodologies used for pension assets measured at fair value:

Cash and cash equivalents: Cash and cash equivalents consist primarily of cash on deposit in money market funds. Cash and cash equivalents are stated at cost, which approximates fair value.

Equity securities: Equity securities consist of various managed funds that invest primarily in common stocks. These securities are valued at the net asset value of shares held by the plan at year end. The net asset value is calculated based on the underlying shares and investments held by the funds.

Debt securities: Debt securities consist of U.S. government and agency securities, corporate bonds and notes, and managed funds that invest in fixed income securities. U.S governmental and agency securities are valued at closing prices reported in the active market in which the individual securities are traded. Corporate bonds and notes are valued using market inputs including benchmark yields, reported trades, broker/dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers and reference data including market research publications. Inputs may be prioritized differently at certain times based on market conditions. Managed funds are valued at the net asset value of shares held by the plan at year end. The net asset value is calculated based on the underlying investments held by the fund.

The preceding methods described may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, although the Company believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

The Company's assessment of the significance of a particular input to the fair value measurement requires judgment and may affect the valuation of the fair value of assets and liabilities and their placement within the fair value hierarchy levels.

The levels assigned to the defined benefit plan assets as of December 31, 2022, are summarized in the tables below:

(table only in thousands)	Level 1	Level 2	Level 3	Total
Pension assets, at fair value:				
Cash and cash equivalents	\$ 354	\$ —	\$ —	\$ 354
Equity securities	15,984	—	—	15,984
Debt securities	5,483	—	—	5,483
Total assets	<u>\$ 21,821</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 21,821</u>

The levels assigned to the defined benefit plan assets as of December 31, 2021, are summarized in the tables below:

(table only in thousands)	Level 1	Level 2	Level 3	Total
Pension assets, at fair value:				
Cash and cash equivalents	\$ 208	\$ —	\$ —	\$ 208
Equity securities	22,687	—	—	22,687
Debt securities	6,579	—	—	6,579
Total assets	<u>\$ 29,474</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 29,474</u>

The Company contributes to a number of multiemployer defined benefit pension plans under the terms of collective-bargaining agreements that cover its union-represented employees. The risks of participating in these multiemployer plans are different from single-employer plans in the following aspects:

- Assets contributed to the multiemployer plan by one employer may be used to provide benefits to employees of other participating employers.
- If a participating employer stops contributing to the plan, the unfunded obligations of the plan may be borne by the remaining participating employers.
- If the Company chooses to stop participating in some of its multiemployer plans, CECO may be required to pay those plans an amount based on the underfunded status of the plan, referred to as a withdrawal liability.

The Company's participation in these plans for the year ended December 31, 2022, is outlined in the table below. The "EIN/Pension Plan Number" column provides the Employer Identification Number and the three-digit plan number, if applicable. Unless otherwise noted, the most recent Pension Protection Act zone status available in 2022 is for the plan's year-end at December 31, 2021. The zone status is based on information that the Company received from the plan and is certified by the plan's actuary. Among other factors, plans in the red zone are generally less than 65% funded, plans in the yellow zone are less than 80% funded, and plans in the green zone are at least 80% funded. The "FIP/RP Status Pending/Implemented" column indicates plans for which a financial improvement plan (FIP) or a rehabilitation plan (RP) is either pending or has been implemented. The last column lists the expiration date(s) of the collective-bargaining agreement(s) to which the plans are subject.

Pension Fund	EIN/Pension Plan Number	Pension Protection Act Zone Status 2012	FIF/RP Status Pending/Implemented	Surcharge Imposed	Expiration of Collective Bargaining Agreement
Sheet Metal Workers' National Pension Fund	52-6112463/001	Green	FIF: Yes - Implemented RP: Yes - Implemented	No	Various
Sheet Metal Workers Local 224 Pension Plan	31-6171353/001	Yellow	FIF: Yes - Implemented	No	n/a
Sheet Metal Workers Local No. 177 Pension Fund	62-6093256/001	Green	Is not subject	No	April 30, 2023

Kirk and Blum was listed in the Sheet Metal Workers Local No. 177 Pension Fund's Form 5500 as providing more than five percent of total contributions for the year ended December 31, 2021. The Company was not listed in any of the other plans' Forms 5500 as providing more than five percent of the total contributions for the plans and plan years. At the date the financial statements were issued, Forms 5500 were not available for the plan years ended December 31, 2022.

The Company has no current intention of withdrawing from any plan and, therefore, no liability has been provided in the accompanying consolidated financial statements.

Amounts charged to pension expense under the above plans including the multi-employer plans totaled \$0.4 million, \$0.6 million and \$1.0 million in 2022, 2021 and 2020, respectively.

The Company has a 401(k) savings retirement plan for employees of certain of its subsidiaries. The plan covers substantially all employees who have 30 days of service, and who have attained 18 years of age. The plan allows the Company to make discretionary contributions and provides for employee salary deferrals of up to 100%. The Company made aggregate matching contributions and discretionary contributions of \$1.5 million, \$0.9 million, and \$1.6 million during 2022, 2021 and 2020, respectively.

11. Leases

The lease accounting guidance under ASC 842 establishes a right-of-use ("ROU") model that requires a lessee to record a ROU asset and a lease liability on the balance sheet for all leases with terms longer than 12 months. The Company's leasing activity is primarily related to buildings used for manufacturing, warehousing, sales, and administrative activities. The Company determines if an arrangement is a lease at inception. Many of the Company's lease agreements contain renewal options; however, the Company does not recognize ROU assets or lease liabilities for renewal periods unless it is determined that lease renewal is reasonably certain at inception or when a triggering event occurs. Some of the Company's lease agreements contain rent escalation clauses, free-rent periods, or other lease concessions. The Company recognizes its minimum rental expense on a straight-line basis based on the fixed components of a lease arrangement. Variable lease costs represent amounts that are not fixed in nature and are not tied to an index or rate, and are recognized as incurred. The Company's variable lease costs are not material.

In determining its ROU assets and lease liabilities, the Company applies a discount rate to the minimum lease payments within each lease agreement. ASC 842 requires the Company to use the rate of interest that a lessee would have to pay to borrow on a collateralized basis over a similar term an amount equal to the lease payments in a similar economic environment. When the Company cannot readily determine the discount rate implicit in the lease agreement, it utilizes its fully collateralized incremental borrowing rate. To estimate its specific incremental borrowing rates the Company considers, among other factors, interest rates on its existing credit facilities, risk-free rates, the types of assets being leased, and the term of the leases.

The components of lease expense were as follows:

(table only in thousands)	December 31,		
	2022	2021	2020
Operating lease cost (a)	\$ 3,558	\$ 3,232	\$ 3,450
Finance lease cost:			
Amortization of right-of-use assets	309	308	308
Interest on lease liability	289	315	338
Total finance lease cost	598	623	646
Total lease cost	<u>\$ 4,156</u>	<u>\$ 3,855</u>	<u>\$ 4,096</u>

(a) includes variable lease costs which are immaterial

Supplemental cash flow information related to leases was as follows:

(table only in thousands)	December 31,		
	2022	2021	2020
Cash paid for amounts included in the measurement of lease liabilities			
Operating cash flows from operating leases	\$ 3,637	\$ 3,171	\$ 3,338
Operating cash flows from finance leases	289	315	338
Financing cash flows from finance leases	600	603	467
Right of use assets obtained in exchange for lease obligations			
Operating leases	<u>\$ 3,487</u>	<u>\$ 2,206</u>	<u>\$ 545</u>

Supplemental balance sheet information related to leases was as follows:

(table only in thousands)	December 31,	
	2022	2021
Operating leases		
Right-of-use assets from operating leases	\$ 11,373	\$ 10,893
Accounts payable and accrued expenses	\$ 3,228	\$ 2,414
Operating lease liabilities	8,453	8,762
Total operating lease liabilities	\$ 11,681	\$ 11,176
Finance leases		
Property, plant and equipment, net	\$ 2,329	\$ 2,619
Accounts payable and accrued expenses	\$ 645	\$ 600
Other liabilities	5,537	6,183
Total finance lease liabilities	\$ 6,182	\$ 6,783

Weighted-average remaining lease term as of December 31, 2022 were as follows:

Operating leases	10 years
Finance leases	8 years
Weighted-average discount rate	
Operating leases	4.7%
Finance leases	4.6%

As of December 31, 2022, maturities of lease liabilities were as follows:

(table only in thousands)	Operating Leases	Finance Leases
2023	3,405	907
2024	2,979	925
2025	2,375	943
2026	1,543	962
2027	668	982
Thereafter	1,891	2,597
Total minimum lease payments	\$ 12,861	\$ 7,316
Less imputed interest	(1,180)	(1,134)
Lease liability	\$ 11,681	\$ 6,182

12. Commitments and Contingencies

Legal Proceedings

Asbestos cases

The Company's subsidiary, Met-Pro, beginning in 2002 began to be named in asbestos-related lawsuits filed against a large number of industrial companies including, in particular, those in the pump and fluid handling industries. In management's opinion, the complaints typically have been vague, general and speculative, alleging that Met-Pro, along with the numerous other defendants, sold unidentified asbestos-containing products and engaged in other related actions which caused injuries (including death) and loss to the plaintiffs. Counsel has advised that more recent cases typically allege more serious claims of mesothelioma. The Company's insurers have hired attorneys who, together with the Company, are vigorously defending these cases. Many cases have been dismissed after the plaintiff fails to produce evidence of exposure to Met-Pro's products. In those cases, where evidence has been produced, the Company's experience has been that the exposure levels are low and the Company's position has been that its products were not a cause of death, injury or loss. The Company has been dismissed from or settled a large number of these cases. Cumulative settlement payments from 2002 through December 31, 2022 for cases involving asbestos-related claims were \$6.2 million which together with all

legal fees other than corporate counsel expenses have substantially been paid by the Company's insurers. The average cost per settled claim, excluding legal fees, was approximately \$42,000.

Based upon the most recent information available to the Company regarding such claims, there were a total of 247 cases pending against the Company as of December 31, 2022 (with Illinois, New York, Pennsylvania and West Virginia having the largest number of cases), as compared with 223 cases that were pending as of December 31, 2021. During 2022, 139 new cases were filed against the Company, and the Company was dismissed from 84 cases and settled 31 cases. Most of the pending cases have not advanced beyond the early stages of discovery, although a number of cases are on schedules leading to or are scheduled for trial. The Company believes that its insurance coverage is adequate for the cases currently pending against the Company and for the foreseeable future, assuming a continuation of the current volume, nature of cases and settlement amounts. However, the Company has no control over the number and nature of cases that are filed against it, nor as to the financial health of its insurers or their position as to coverage. The Company also presently believes that none of the pending cases will have a material adverse impact upon the Company's results of operations, liquidity or financial condition.

Other

The Company is also a party to routine contract and employment-related litigation matters and routine audits of state and local tax returns arising in the ordinary course of its business.

The final outcome and impact of open matters, and related claims and investigations that may be brought in the future, are subject to many variables, and cannot be predicted. In accordance with ASC 450, "Contingencies," and related guidance, the Company records reserves for estimated losses relating to claims and lawsuits when available information indicates that a loss is probable and the amount of the loss, or range of loss, can be reasonably estimated. The Company expenses legal costs as they are incurred.

The Company is not aware of pending claims or assessments, other than as described above, which may have a material adverse impact on its liquidity, financial position, results of operations, or cash flows.

13. Income Taxes

Income before income taxes was generated in the United States and globally as follows:

(table only in thousands)	2022	2021	2020
Domestic	\$ 11,971	\$ 771	\$ 3,495
Foreign	11,718	3,903	8,349
	<u>\$ 23,689</u>	<u>\$ 4,674</u>	<u>\$ 11,844</u>

Certain of the Company's undistributed earnings of its foreign subsidiaries are not permanently reinvested, as management intends to repatriate foreign-held cash as needed to meet domestic cash needs for operating, investing, and financing activities. A liability of \$1.3 million has been recorded for the deferred taxes on such undistributed foreign earnings as of December 31, 2022. The deferred taxes are attributable primarily to the foreign withholding taxes that would become payable should the Company repatriate cash held in its foreign operations.

Income tax expense (benefit) consisted of the following for the years ended December 31:

(table only in thousands)	2022	2021	2020
Current:			
Federal	\$ 5,009	\$ 354	\$ (239)
State	836	278	241
Foreign	1,755	1,972	2,632
	<u>7,600</u>	<u>2,604</u>	<u>2,634</u>
Deferred:			
Federal	(3,001)	426	1,638
State	(231)	45	313
Foreign	1,058	(384)	(913)
	<u>(2,174)</u>	<u>87</u>	<u>1,038</u>
	<u>\$ 5,426</u>	<u>\$ 2,691</u>	<u>\$ 3,672</u>

The income tax expense (benefit) differs from the statutory rate due to the following:

(table only in thousands)	2022	2021	2020
Tax expense at statutory rate	\$ 4,975	\$ 981	\$ 2,487
Increase (decrease) in tax resulting from:			
State income tax, net of federal benefit	340	334	503
Change in uncertain tax position reserves	3	2	(115)
Other permanent differences	383	22	601
Impact of rate differences and adjustments	376	1,003	101
United States tax credits and incentives	(626)	300	153
Foreign tax credits and incentives	(895)	(265)	(794)
Change in valuation allowance	(526)	(489)	(218)
Foreign withholding taxes on repatriation of foreign earnings	139	244	242
Earnout expense (income)	(48)	233	293
Investment in joint venture	375	237	(1,341)
Net effect GILTI and FDII	565	—	1,598
Other	365	89	162
	<u>\$ 5,426</u>	<u>\$ 2,691</u>	<u>\$ 3,672</u>

Deferred income taxes reflect the future tax consequences of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes and tax credit carry forwards. The net deferred tax liabilities consisted of the following at December 31:

(table only in thousands)	2022	2021
Gross deferred tax assets:		
Accrued expenses	\$ 692	\$ 775
Reserves on assets	2,228	1,576
Share-based compensation awards	452	400
Minimum pension	1,247	1,239
Net operating loss carry-forwards	3,142	3,001
Tax credit carry-forwards	2,349	2,464
Investment in joint venture	815	1,226
Leases	2,564	2,424
Research and development costs	3,224	—
Other	69	582
Valuation allowances	(4,950)	(5,476)
	<u>\$ 11,832</u>	<u>\$ 8,211</u>
Gross deferred tax liabilities:		
Depreciation	(727)	(881)
Goodwill and intangibles	(13,310)	(11,501)
Prepaid expenses and inventory	(783)	(132)
Withholding tax on unremitted foreign earnings	(1,254)	(1,114)
Leases	(2,564)	(2,424)
Revenue recognition	(1,031)	(44)
	<u>(19,669)</u>	<u>(16,096)</u>
Net deferred tax liabilities	<u>\$ (7,837)</u>	<u>\$ (7,885)</u>

As of December 31, 2022, state and local net operating loss carry forwards total \$48.3 million, which expire from 2023 to 2042. The Company has recorded a valuation allowance on certain of these net operating loss carry forwards to reflect expected realization. The Company also has net operating loss carry forwards in foreign jurisdictions totaling \$8.8 million. A valuation allowance of \$6.1 million has been established against these losses in foreign jurisdictions. As of December 31, 2022 and 2021, the Company has recorded a valuation reserve in the amount of \$5.0 million and \$5.5 million, respectively. The changes in the valuation allowance resulted in additional income tax expense (benefit) of \$(0.5) million, \$(0.5) million, and \$(0.2) million in 2022, 2021, and 2020, respectively.

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities (including the impact of available carryback and carry forward periods), projected future taxable

income, and tax-planning strategies in making this assessment. Based on this assessment, management believes it is more likely than not that the Company will realize the benefits of these deductible differences, net of the existing valuation allowances at December 31, 2022. The amount of the deferred tax assets considered realizable, however, could be reduced in the near term if estimates of future taxable income during the carryforward period are reduced.

The Company accounts for uncertain tax positions pursuant to FASB ASC Topic 740. The Company recognizes the effect of income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs. A reconciliation of the beginning and ending amount of uncertain tax position reserves included in other liabilities on the Consolidated Balance Sheets is as follows:

(table only in thousands)	2022	2021
Balance as of January 1,	\$ 141	\$ 139
Additions for tax positions taken in prior years	3	2
Reductions of tax positions taken in prior years	—	—
Reductions for settlements on tax positions of prior years	—	—
Balance as of December 31,	<u>\$ 144</u>	<u>\$ 141</u>

The Company recognizes interest and penalties related to uncertain tax positions in income tax expense. The reserve for uncertain tax positions includes \$0.1 million of interest and penalties as of December 31, 2022 and 2021. The favorable settlement of all uncertain tax positions would impact the Company's effective income tax rate. Tax years going back to 2017 remain open for all significant state and foreign authorities.

14. Acquisitions and Joint Ventures

General Rubber LLC

On March 7, 2022, the Company, through the EFM JV, acquired 100% of the equity interests of General Rubber LLC ("GRC") for \$19.7 million in cash, which was financed with a combination of a draw on the Company's revolving credit facility and issuance of term debt by the EFM JV. As additional consideration, the former owners of GRC were issued 10% of the equity interest in the EFM JV, resulting in the Company holding 63% of the equity in the joint venture. The fair value ascribed to the equity interest of the former owners of GRC was approximately \$4.1 million. As of December 31, 2022, there were \$13.4 million in current assets, \$27.7 million in long-lived assets, and \$29.8 million in total liabilities related to the EFM JV included in the Consolidated Balance Sheets. For the year ended December 31, 2022, EFM JV accounted for \$35.8 million in revenue.

GRC engineers and manufactures non-metallic expansion joints and flow control products including rubber expansion joints, ducting expansion joints, and industrial pinch and duck bill valves, serving the industrial water and wastewater markets. The acquisition diversifies and expands the EFM JV product offerings within the Engineered Systems segment. The following table summarizes the fair values of the assets acquired and liabilities assumed at the date of closing.

(in thousands)		
Current assets (including cash of \$137)	\$	4,963
Property and equipment		459
Goodwill		11,120
Intangible - finite life		<u>8,380</u>
Total assets acquired		24,922
Current liabilities assumed		(714)
Deferred income tax liability		(388)
Net assets acquired	<u>\$</u>	<u>23,820</u>

The Company acquired customer lists and tradename intangible assets valued at \$7.7 million and \$0.7 million, respectively. These assets were determined to have useful lives of 10 years.

During the year ended December 31, 2022, GRC accounted for \$11.7 million in revenue and \$2.1 million of net income included in the Company's results.

Compass Water Solutions, Inc.

On May 3, 2022, the Company acquired 100% of the equity interests of Compass Water Solutions, Inc. ("Compass") for \$9.0 million in cash, which was financed with a draw on the Company's revolving credit facility, and \$2.0 million in notes payable to the former owners over two years. As additional consideration, the former owners are entitled to earn-out payments based upon a multiple of specified financial results through April 30, 2023. Based on projections at the acquisition date, the Company estimated the fair value of the earn-out to be \$1.4 million. As of December 31, 2022, the earnout liability recorded in "Accounts payable and accrued expenses" on the Consolidated Balance Sheets is \$1.2 million.

Compass is a leading global supplier of membrane-based industrial water and wastewater treatment systems that help customers achieve regulatory compliance of water discharge at the lowest lifecycle cost. The acquisition diversifies and expands the Company's industrial water product offerings within the Engineered Systems segment. The following table summarizes the fair values of the assets acquired and liabilities assumed at the date of closing.

(in thousands)	
Current assets (including cash of \$334)	\$ 4,796
Property and equipment	101
Goodwill	4,848
Intangible - finite life	4,900
Total assets acquired	14,645
Current liabilities assumed	(623)
Deferred income tax liability	(1,627)
Net assets acquired	<u>\$ 12,395</u>

The Company acquired customer lists and tradename intangible assets valued at \$4.4 million and \$0.5 million, respectively. These assets were determined to have useful lives of 10 years.

During the year ended December 31, 2022, Compass accounted for \$3.7 million in revenue and \$0.1 million of net loss included in the Company's results.

Western Air Ducts Ltd.

On June 22, 2022, the Company acquired 100% of the equity interests of Western Air Ducts Limited for \$10.7 million in cash, which was financed with a draw on the Company's revolving credit facility, and deferred cash consideration of \$0.8 million payable in one year. The deferred consideration is recorded in "Accounts payable and accrued expenses" on the Consolidated Balance Sheets.

Western Air Ducts is a leading European supplier of dust and fume extraction solutions, providing consultation, design, manufacturing, installation, and service. The acquisition diversifies and expands the Company's industrial air product offerings within the Industrial Process Solutions segment. The following table summarizes the fair values of the assets acquired and liabilities assumed at the date of closing.

(in thousands)	
Current assets (including cash of \$1,557)	\$ 2,711
Property and equipment	188
Goodwill	7,344
Intangible - finite life	3,158
Total assets acquired	13,401
Current liabilities assumed	(1,127)
Deferred income tax liability	(824)
Net assets acquired	<u>\$ 11,450</u>

The Company acquired customer lists and tradename intangible assets valued at \$2.8 million and \$0.4 million, respectively. These assets were determined to have useful lives of 10 years.

During the year ended December 31, 2022, Western Air Ducts accounted for \$1.5 million in revenue and \$0.3 million of net loss included in the Company's results.

DS21 Co., Ltd.

On September 19, 2022, the Company acquired 100% of the equity interests of DS21 Co., Ltd. ("DS21") for \$9.2 million, including \$8.9 million in cash, which was financed with a draw on the Company's revolving credit facility, and deferred cash consideration of \$0.3 million payable in one year.

DS21 is a South Korean-based design and manufacturing firm specializing in innovative water and wastewater treatment solutions. The addition of DS21 advances the Company's leadership position in niche oily water and produced water treatment, demineralization water treatment and ultra-pure water supply applications within the Company's Engineered Systems segment. The following table summarizes the fair values of the assets acquired and liabilities assumed at the date of closing.

(in thousands)	
Current assets (including cash of \$1,453)	\$ 5,099
Property and equipment	4,112
Intangible - finite life	422
Deferred income taxes	557
Other assets	169
Total assets acquired	<u>10,359</u>
Current liabilities assumed	(1,008)
Other liabilities	(113)
Net assets acquired	<u>\$ 9,238</u>

The Company acquired customer lists and tradename intangible assets valued at \$0.1 million and \$0.3 million, respectively. These assets were determined to have useful lives of 10 years.

During the year ended December 31, 2022, DS21 accounted for \$1.9 million in revenue and \$0.5 million of net loss included in the Company's results.

Environmental Integrated Solutions

On June 4, 2020, the Company acquired 100% of the equity interests of Environmental Integrated Solutions ("EIS") for \$10.3 million in cash, which was financed through the revolving credit facility. As additional consideration, the former owners were entitled to earn-out payments based upon a multiple of specified financial results through December 31, 2021, which was estimated to be \$0.6 million at the acquisition date. See Note 7 for additional information on the earnout.

EIS engineers products that clean air through a variety of technologies including volatile organic compounds ("VOC") abatement, odor control, regenerative thermal oxidizers, and other air pollution control solutions, which complements the Industrial Process Solutions segment businesses. The following table summarizes the fair values of the assets acquired and liabilities assumed at the date of closing.

(in thousands)	
Current assets (including cash of \$4,212)	\$ 6,416
Property and equipment	26
Other assets	44
Goodwill	7,022
Intangible - finite life	4,840
Total assets acquired	<u>18,348</u>
Current liabilities assumed	(6,514)
Deferred income tax liability	(920)
Net assets acquired	<u>\$ 10,914</u>

The Company acquired customer lists and tradename intangible assets valued at \$4.2 million and \$0.6 million, respectively. These assets were determined to have useful lives of 10 years.

Mader

On July 31, 2020, the Company entered into the JV Agreement with Mader in which CECO contributed the net assets of its Effox-Flextor damper business and Mader contributed the net assets of its damper business. Under the terms of the JV Agreement, CECO will hold 70% of the equity in the joint venture, and 50% voting interest. The Company determined CECO was the primary beneficiary of this variable interest entity and therefore the 30% noncontrolling equity interest is in the Consolidated Balance Sheet.

The results of the EFM JV are included in the Engineered Systems segment. The fair value of Mader's net assets contributed was \$1.0 million.

The following table summarizes the fair values of the assets acquired and liabilities assumed at the JV agreement date.

(in thousands)	
Current assets (including cash of \$229)	\$ 2,040
Property and equipment	103
Goodwill	2,085
Deferred income tax asset	287
Total assets assumed	<u>4,515</u>
Current liabilities assumed	(515)
Other liabilities	(500)
Long term debt	(2,508)
Net assets acquired	<u>\$ 992</u>

The approximate fair values of the assets acquired and liabilities assumed related to the acquisitions occurring in 2022 are based on preliminary estimates and assumptions. These preliminary estimates and assumptions could change significantly during the purchase price measurement period as the Company finalizes the valuation of assets acquired and liabilities assumed. These changes could result in material variances between the Company's future financial results, including variances in the estimated purchase price, fair values recorded and expenses associated with these items.

Goodwill recognized represents value the Company expects to be created by combining the various operations of the acquired businesses with the Company's operations, including the expansion into markets within existing business segments, access to new customers and potential cost savings and synergies. Goodwill related to these acquisitions is not deductible for tax purposes.

Acquisition and integration expenses on the Consolidated Statements of Income are related to acquisition activities, which include retention, legal, accounting, banking, and other expenses.

The following unaudited pro forma financial information represents the Company's results of operations as if the GRC, Compass, Western Air Ducts, and DS21 acquisitions had occurred on January 1, 2021:

(table only in thousands, except per share data)	December 31,	
	2022	2021
Net sales	\$ 435,216	\$ 358,724
Net income attributable to CECO Environmental Corp.	18,074	4,466
Earnings per share:		
Basic	\$ 0.52	\$ 0.13
Diluted	\$ 0.52	\$ 0.13

The pro forma results have been prepared for informational purposes only and include adjustments to amortize acquired intangible assets with finite life, reflect additional interest expense on debt used to fund the acquisition, and to record the income tax consequences of the pro forma adjustments. These pro forma results do not purport to be indicative of the results of operations that would have occurred had the purchase been made as of the beginning of the periods presented or of the results of operations that may occur in the future.

15. Business Segment Information

The Company's operations are organized and reviewed by management along its product lines or end markets that the segment serves and are presented in two reportable segments. The results of the segments are reviewed through to the "Income from operations" line on the Consolidated Statements of Income. The accounting policies of the segments are the same as those in the consolidated financial statements.

The Company's reportable segments are organized as groups of similar products and services, as described as follows:

- **Engineered Systems segment:** The Company's Engineered Systems segment serves the power generation, hydrocarbon processing, water/wastewater treatment, oily water separation and treatment, marine and naval vessels, and midstream oil & gas sectors. The Company is a key part of helping meet the global demand for environmental and equipment protection solutions with its highly engineered platforms including emissions control, fluid bed cyclones, thermal acoustics, separation & filtration, and dampers & expansion joints.
- **Industrial Process Solutions segment:** The Company's Industrial Process Solutions segment serves the broad industrial sector with solutions for air pollution and contamination control, fluid handling, and process filtration in applications such as aluminum beverage can production, automobile production, food and beverage processing, semiconductor fabrication, electronics production, steel and aluminum mill processing, wood manufacturing, desalination, and aquaculture markets. For Industrial Air applications, the Company assists companies maintain clean and safe operations for employees, reduce energy consumption, minimize waste for customers, and ensure they meet regulatory standards for toxic emissions, fumes, volatile organic compounds, and odor elimination through the Company's platforms including duct fabrication & installation, industrial air, and fluid handling.

(table only in thousands)	2022	2021	2020
Net Sales (less intra-, inter-segment sales)			
Engineered Systems segment	\$ 263,224	\$ 186,926	\$ 205,494
Industrial Process Solutions segment	159,403	137,214	110,517
Total net sales	<u>\$ 422,627</u>	<u>\$ 324,140</u>	<u>\$ 316,011</u>

(table only in thousands)	2022	2021	2020
Income from Operations			
Engineered Systems segment	\$ 36,200	\$ 25,770	\$ 34,170
Industrial Process Solutions segment	22,705	15,054	7,220
Corporate and Other (1)	(36,744)	(30,967)	(28,044)
Income from operations	<u>\$ 22,161</u>	<u>\$ 9,857</u>	<u>\$ 13,346</u>

- (1) Includes corporate compensation, professional services, information technology, acquisition and integration expenses, and other general, administrative corporate expenses.

(table only in thousands)	2022	2021	2020
Property and Equipment Additions			
Engineered Systems segment	\$ 203	\$ 100	\$ 550
Industrial Process Solutions segment	879	721	1,349
Corporate and Other	2,294	1,795	2,046
Property and equipment additions	<u>\$ 3,376</u>	<u>\$ 2,616</u>	<u>\$ 3,945</u>

(table only in thousands)	2022	2021	2020
Depreciation and Amortization			
Engineered Systems segment	\$ 4,672	\$ 4,249	\$ 4,957
Industrial Process Solutions segment	4,388	4,299	4,199
Corporate and Other	1,554	1,305	765
Depreciation and amortization	<u>\$ 10,614</u>	<u>\$ 9,853</u>	<u>\$ 9,921</u>

(table only in thousands)	December 31,	
	2022	2021
Identifiable Assets		
Engineered Systems segment	\$ 332,820	\$ 262,558
Industrial Process Solutions segment	150,458	141,975
Corporate and Other (2)	21,443	11,664
Identifiable assets	<u>\$ 504,721</u>	<u>\$ 416,197</u>

(2) Corporate assets primarily consist of cash, property, plant and equipment, and income tax related assets.

(table only in thousands)	December 31,	
	2022	2021
Goodwill		
Engineered Systems segment	\$ 114,746	\$ 99,303
Industrial Process Solutions segment	68,451	61,880
Goodwill	\$ 183,197	\$ 161,183

Intra-segment and Inter-segment Revenues

The Company has divisions that sell to each other within segments (intra-segment sales) and between segments (inter-segment sales) as indicated in the following tables:

(table only in thousands)	Year Ended December 31, 2022				
	Total Sales	Intra-Segment Sales	Less Inter-Segment Sales		Net Sales to Outside Customers
			Industrial Process Solutions	Engineered Systems	
Net Sales					
Engineered Systems segment	\$ 278,354	\$ (14,088)	\$ (1,042)	\$ —	\$ 263,224
Industrial Process Solutions segment	165,220	(5,536)	—	(281)	159,403
Total net sales	<u>\$ 443,574</u>	<u>\$ (19,624)</u>	<u>\$ (1,042)</u>	<u>\$ (281)</u>	<u>\$ 422,627</u>

(table only in thousands)	Year Ended December 31, 2021				
	Total Sales	Intra-Segment Sales	Less Inter-Segment Sales		Net Sales to Outside Customers
			Industrial Process Solutions	Engineered Systems	
Net Sales					
Engineered Systems segment	\$ 197,380	\$ (9,483)	\$ (971)	\$ —	\$ 186,926
Industrial Process Solutions segment	152,886	(14,533)	—	(1,139)	137,214
Total net sales	<u>\$ 350,266</u>	<u>\$ (24,016)</u>	<u>\$ (971)</u>	<u>\$ (1,139)</u>	<u>\$ 324,140</u>

(table only in thousands)	Year Ended December 31, 2020				
	Total Sales	Intra-Segment Sales	Less Inter-Segment Sales		Net Sales to Outside Customers
			Industrial Process Solutions	Engineered Systems	
Net Sales					
Engineered Systems segment	\$ 218,290	\$ (11,333)	\$ (1,463)	\$ —	\$ 205,494
Industrial Process Solutions segment	124,547	(12,798)	—	(1,232)	110,517
Total net sales	<u>\$ 342,837</u>	<u>\$ (24,131)</u>	<u>\$ (1,463)</u>	<u>\$ (1,232)</u>	<u>\$ 316,011</u>

No single customer represented greater than 10% of consolidated net sales or accounts receivable for 2022, 2021, or 2020.

For 2022, 2021, and 2020, sales outside the United States accounted for approximately 35%, 38%, and 35%, respectively, of consolidated net sales. The largest portions of sales outside the United States in 2022 were in Europe (20%), and Asia (11%). Of consolidated long-lived assets, \$39.9 million and \$26.7 million were located outside of the United States as of December 31, 2022 and 2021, respectively. The largest portion of long-lived assets located outside the United States at December 31, 2022 were in Europe (\$30.5 million).

16. Subsequent Events

On January 10, 2023, the Company completed the acquisition of Wakefield Acoustics, Ltd. ("Wakefield"), based in the United Kingdom. Wakefield is a leading producer of industrial engineered noise control solutions, including custom acoustical gen-set packages, ambient air baffles, acoustical louvres, and skid enclosures, primarily serving server farms for data centers, standby and emergency power generation, oil and gas, petrochemical, commercial construction, infrastructure, and general manufacturing

industries. This acquisition advances the Company's leadership position within the industrial silencing and noise attenuation market by adding a range of solutions and access to new geographic markets and industrial segments. The purchase price is approximately \$5 million and was financed using a combination of cash and debt under the Company's existing Credit Facility, as well as a potential earnout payment to the sellers. The impact for this acquisition is not included in the Company's results for the year ended December 31, 2022. The initial accounting for the acquisition was not complete at the time the financial statements were issued due to the timing of the acquisition and the filing of this Annual Report on Form 10-K. As a result, complete disclosures required under ASC 805, Business Combinations cannot be made at this time.

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Supplementary Reconciliation of Non-GAAP Financial Measures:

(dollars in millions)	Annual 2020	Annual 2021	Annual 2022
Net income as reported in accordance with GAAP	\$ 8.2	\$ 1.4	\$ 17.4
Amortization expenses	\$ 7.4	\$ 6.7	\$ 7.0
Earnout expenses	\$ 1.4	\$ 1.1	\$ (0.2)
Restructuring expenses	\$ 2.3	\$ 0.6	\$ 0.1
Acquisition and integration expenses	\$ 1.4	\$ 0.8	\$ 4.5
Executive transition expenses	\$ 1.5	\$ –	\$ 1.2
Intangible asset impairment	\$ 0.9	\$ –	\$ –
Foreign currency remeasurement	\$ 0.3	\$ 2.0	\$ (1.3)
Tax expense (benefit) of adjustments	\$ (3.9)	\$ (2.8)	\$ (2.8)
Non-GAAP net income	\$ 19.5	\$ 9.8	\$ 25.9
Depreciation	\$ 2.5	\$ 3.2	\$ 3.6
Non-cash stock compensation	\$ 2.0	\$ 3.3	\$ 3.9
Other (income) expense, net	\$ (2.3)	\$ 0.2	\$ (5.6)
Interest expense	\$ 3.5	\$ 3.0	\$ 5.4
Income tax expense	\$ 7.6	\$ 5.5	\$ 8.2
Noncontrolling interest	\$ –	\$ 0.6	\$ 0.8
<i>Adjusted EBITDA</i>	<i>\$ 32.8</i>	<i>\$ 25.6</i>	<i>\$ 42.2</i>
<i>Adjusted EBITDA margin</i>	<i>10.4%</i>	<i>7.9%</i>	<i>10.0%</i>

(dollars in millions)	Annual 2020	Annual 2021	Annual 2022
Net cash provided by operating activities	\$ 4.4	\$ 13.3	\$ 29.6
Earnouts payments (within operating activities)	\$ –	\$ 0.6	\$ 1.0
Acquisitions of property and equipment	\$ (3.9)	\$ (2.6)	\$ (3.4)
Free cash flow	\$ 0.5	\$ 11.3	\$ 27.2

Corporate Information

Board of Directors

Jason DeZwirek
Chairman

Todd Gleason
Chief Executive Officer

Robert E. Knowling, Jr.
Chairman
Eagles Landing Partners

David B. Liner
Former General Counsel, Corporate
Secretary and Chief Compliance Officer
Roper Technologies, Inc.

Claudio A. Mannarino
President
Sette CS Inc.

Munish Nanda
President, Americas & Europe
Watts Water Technologies, Inc.

Valerie Gentile Sachs
Former Vice President,
General Counsel
and Corporate Secretary
OM Group, Inc.

Richard F. Wallman
Former Senior Vice President
and Chief Financial Officer,
Honeywell International, Inc.

Executive Officers

Todd Gleason
Chief Executive Officer

Peter Johansson
Chief Financial & Strategy Officer

Ramesh Nuggihalli
Chief Operating Officer

Lynn Watkins-Asiyanbi
Chief Administrative & Legal Officer

Paul Gohr
Chief Accounting Officer

Corporate Information

Annual Meeting

Annual Meeting: CECO Environmental Corp.'s Annual Meeting of Stockholders at 8:00 a.m. Central Time on Monday, June 5, 2023, virtually through www.virtualshareholdermeeting.com/CECO2023

Common Stock

The Common Stock of CECO Environmental Corp. is traded on the Nasdaq Global Select Market under the symbol ["CECO"]

Corporate Office

14651 N. Dallas Parkway, Suite 500
Dallas, Texas 75254

Registered Public Accounting Firm

BDO USA, LLP
Cincinnati, Ohio

Corporate Counsel

Foley & Lardner LLP
Milwaukee, WI

Transfer Agent and Registrar

Broadridge Corporate Issuer
Solutions, Inc.
Brentwood, New York

From Left to Right: Claudio A. Mannarino, Robert E. Knowling Jr., Todd Gleason, Richard F. Wallman, Valerie Gentile Sachs, Jason DeZwirek, David B. Liner, Munish Nanda.



14651 N. Dallas Parkway
Suite 500
Dallas, Texas 75254
USA
cecoenviro.com

