

TriMas

2022

Annual Report



TriMas

Headquartered in Bloomfield Hills, Michigan, TriMas designs, develops and manufactures a diverse set of products primarily for the consumer products, aerospace and industrial markets through its TriMas Packaging, TriMas Aerospace and Specialty Products groups. We believe our businesses share important and distinguishing characteristics, including: well-recognized brand names in the focused markets we serve; innovative product technologies and features; customer approved processes and qualified products; strong cash flow generation and long-term growth opportunities.

CORE VALUES

INTEGRITY

TEAMWORK

RESULTS-DRIVEN

CUSTOMER-FOCUSED

CONTINUOUS IMPROVEMENT



59% Packaging

21% Aerospace

20% Specialty Products

STRATEGIC PRIORITIES

- Leverage the TriMas Business Model
- Invest in Innovation
- Accelerate Growth with Strategic Acquisitions
- Drive Enhanced Cash Conversion
- Foster a Culture of Kaizen and Engagement
- Focus on Sustainability

OUR LEADING BRANDS



SUMMARY STATISTICS

\$884M

2022 Net Sales



~3,500

Employees



13

Countries



42

Global Locations



9

Acquisitions since January 2019



Dear Fellow Shareholders,

During 2022, our team continued to demonstrate remarkable resilience and adaptability in the face of global supply chain disruptions, inflation, and the ongoing effects of geopolitical conflicts and the pandemic. These macro-economic challenges were further compounded by an abrupt demand reduction in our TriMas Packaging group during the second half of 2022, as some of our key consumer goods customers chose to rebalance on-hand inventory levels given the current environment.

As a result, we worked collaboratively with our customers as they assessed their longer-range demand needs, while taking operational actions and flexing manufacturing costs where practical. The team leveraged the TriMas Business Model to effectively respond to what we believe is a temporary decrease in demand, and swiftly implemented measures to mitigate the consequences. For example, by utilizing Kaizen and manufacturing footprint planning, we identified two properties where we were able to unlock value for the company to supplement our cash earnings.

In the midst of macro-economic challenges, TriMas continued to demonstrate its commitment to shareholders by returning capital through share buybacks and quarterly dividends, yielding a 3% return of capital to our investors. We also remain committed to a balanced capital allocation strategy, while preserving a solid balance sheet. Furthermore, TriMas made substantial progress in its sustainability journey, as we strive to create a positive social and environmental impact.

2022 Business Overview

During 2022, TriMas achieved the following results as compared to 2021:

- Reported net sales of \$883.8 million, an increase of 3.1%, with continued strong order backlog within TriMas' Aerospace and Specialty Products groups;
- Increased TriMas' Specialty Products group sales by 23.5% to improve full year 2022 operating profit to \$30.3 million;

- Increased TriMas' Aerospace group sales by 2.6%, more than offsetting the planned reduction in special stocking orders of \$29.4 million, which were predominantly fulfilled in 2021;
- Expanded TriMas Packaging group's product offering for the life sciences end market with the acquisition of Intertech, completed in February 2022, and the integration of Omega Plastics, acquired in December 2021;
- Achieved 2022 operating profit of \$99.1 million, a 4.2% increase compared to 2021;
- Divested a non-core facility and vacant land for a total of \$28.3 million in net cash proceeds;
- Favorably settled cross-currency swap agreements for pre-tax cash proceeds of \$26.2 million;
- Ended 2022 with \$410.0 million of cash and aggregate availability, and a leverage ratio below 2.0x, even after considering acquisitions, dividends and share repurchases;
- Paid quarterly dividends of \$0.04 per share of TriMas common stock, totaling \$6.9 million;
- Repurchased 1,264,088 shares of outstanding TriMas common stock for \$36.9 million, and reduced shares outstanding by nearly 2.6% during the year on a net basis.

In addition, we also took several proactive steps to enhance our future. We continued to invest in TriMas' Packaging group, adding commercial and technical resources, continued build-outs of a new production plant in New Albany, Ohio, and innovative and sustainable products.

For TriMas' Aerospace group, we continued to ramp-up production to support the higher backlog, while investing in automation and new products to better serve our global customers. In TriMas' Specialty Products group, we invested in our production facilities and new product qualifications, as end markets continued to recover from the impact of the global pandemic.

Overall, 2022 was a year of marked progress toward our long-term strategy, despite macro-economic headwinds. As we move forward, our focus remains on executing our growth strategy, leveraging the TriMas Business Model to drive organic growth through innovation and strategic acquisitions, while remaining committed to cash conversion and disciplined capital allocation to maximize long-term shareholder value.

ESG: Our Commitment to Sustainability

At the heart of TriMas lies a commitment to environmental, social, and governance (ESG) principles. We strive to ensure that our operations, products and people promote sustainability, social responsibility and ethical business practices. Our commitment to ESG is reflected in all aspects of our business, from the way we source our materials to our relationships with employees, customers and other partners. We believe that ESG principles are essential for achieving long-term success and creating positive change in the world.

Throughout 2022, we made substantial progress on our ESG journey, and we are committed to continuously enhancing our sustainability strategy and related metrics. During the year, we allocated additional resources and investments to focus on enhancing our ESG efforts, published initial environmental metrics from which we strive to improve upon, launched an enhanced corporate giving program, and continued to evolve our many policies and procedures. I am proud to also announce we recently became a participant of the United Nations Global Compact (UNGC) and are committed to upholding its principles.

TriMas is also actively taking the necessary steps to protect natural resources and reduce our environmental impact. We strive to

create innovative and sustainable products by reducing material content and optimizing design to enhance recyclability, while preserving performance and quality. These initiatives place us in an ideal position to create lasting value for our customers, employees, shareholders and the global community in which our employees live and work

Positioned to Achieve Long-term Success

Looking ahead to 2023 and beyond, we are confident that our strong presence in diverse end markets, numerous growth opportunities, commitment to innovation and devoted global team will bring added benefits to our investors. Our solid balance sheet and available liquidity provide us with the means to invest in the organic expansion of each of our businesses, as well as to make strategic acquisitions. Furthermore, TriMas' financial resources enable us to deliver value to our shareholders through dividends and share repurchases. We are committed to executing our long-term strategy and expect to maintain continued momentum.

We are confident that the steps TriMas took in 2022 and preceding years to enhance our operating model, bolster our balance sheet, decrease our exposure to certain end markets, and sharpen our portfolio, will enable us to generate long-term value. My confidence in our future success is founded on the hard work and dedication of our global TriMas team. We remain steadfast in our commitment to our long-term strategy, holding ourselves accountable for successful results, and maintaining a consistent focus on excellence in serving our customers and shareholders.

We would like to thank our employees for their continued commitment and contributions throughout the year, and we thank our shareholders for your continued support and confidence as we build upon this foundation to drive success.



Thomas A. Amato

President and Chief Executive Officer

Financial Highlights

Financial data and charts from continuing operations for the periods provided

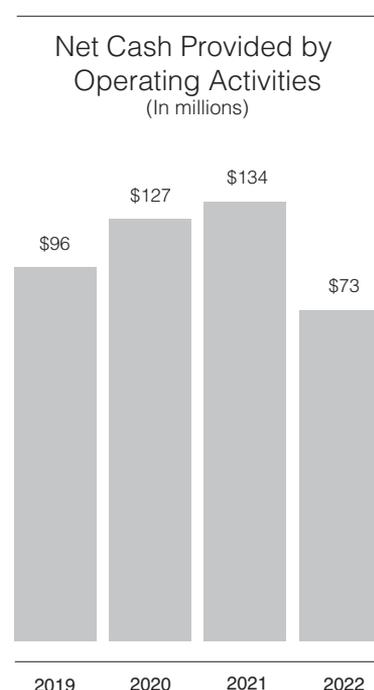
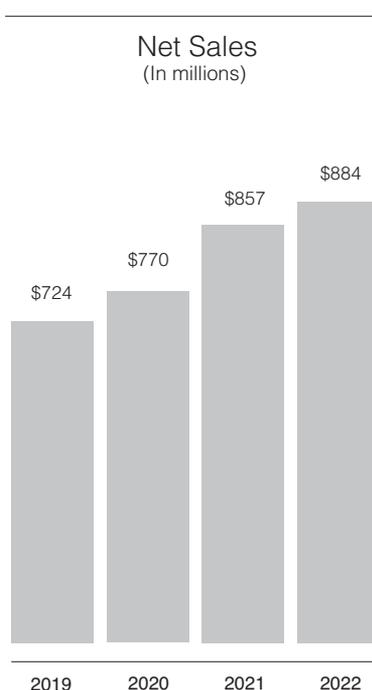
(in millions, except per share amounts)

	2022	2021	2020
Net Sales	\$883.8	\$857.1	\$770.0
Operating Profit (Loss)	\$ 99.1	\$ 95.1	(\$ 88.3)
Net Income (Loss)	\$ 66.2	\$ 57.3	(\$ 79.8)
Diluted Earnings (Loss) Per Share	\$ 1.56	\$ 1.32	(\$ 1.83)
Adjusted Operating Profit ⁽¹⁾	\$116.2	\$112.8	\$100.2
Adjusted Diluted Earnings Per Share ⁽¹⁾	\$ 2.12	\$ 2.24	\$ 1.92
Free Cash Flow ^{(1) (2)}	\$ 43.1	\$ 99.6	\$ 95.4
Total Debt	\$394.7	\$393.8	\$346.3
Cash and Cash Equivalents	\$112.1	\$140.7	\$ 74.0
Net Debt ⁽³⁾	\$282.6	\$253.1	\$272.3
Weighted Average Shares, diluted	42.5	43.3	43.6

⁽¹⁾ Please see Appendix I: Additional Information Regarding Special Items Impacting Reported GAAP Financial Measures in our fourth quarter and full year earnings releases for the related periods for detailed reconciliations to GAAP results. Special Items include items such as income/expense related primarily to asset impairments, changes in accounting policy, debt financing and related expenses, business restructuring, severance costs, change in legacy liability estimates, diligence and transaction costs, purchase accounting costs and a change in recognized tax benefits. In addition, Adjusted diluted earnings per share is defined as diluted earnings per share from continuing operations per GAAP plus or minus the after tax impact of Special Items and acquisition-related intangible amortization expense.

⁽²⁾ The Company defines Free Cash Flow as Net Cash Provided by/Used for Operating Activities, excluding the cash impact of Special Items, less Capital Expenditures.

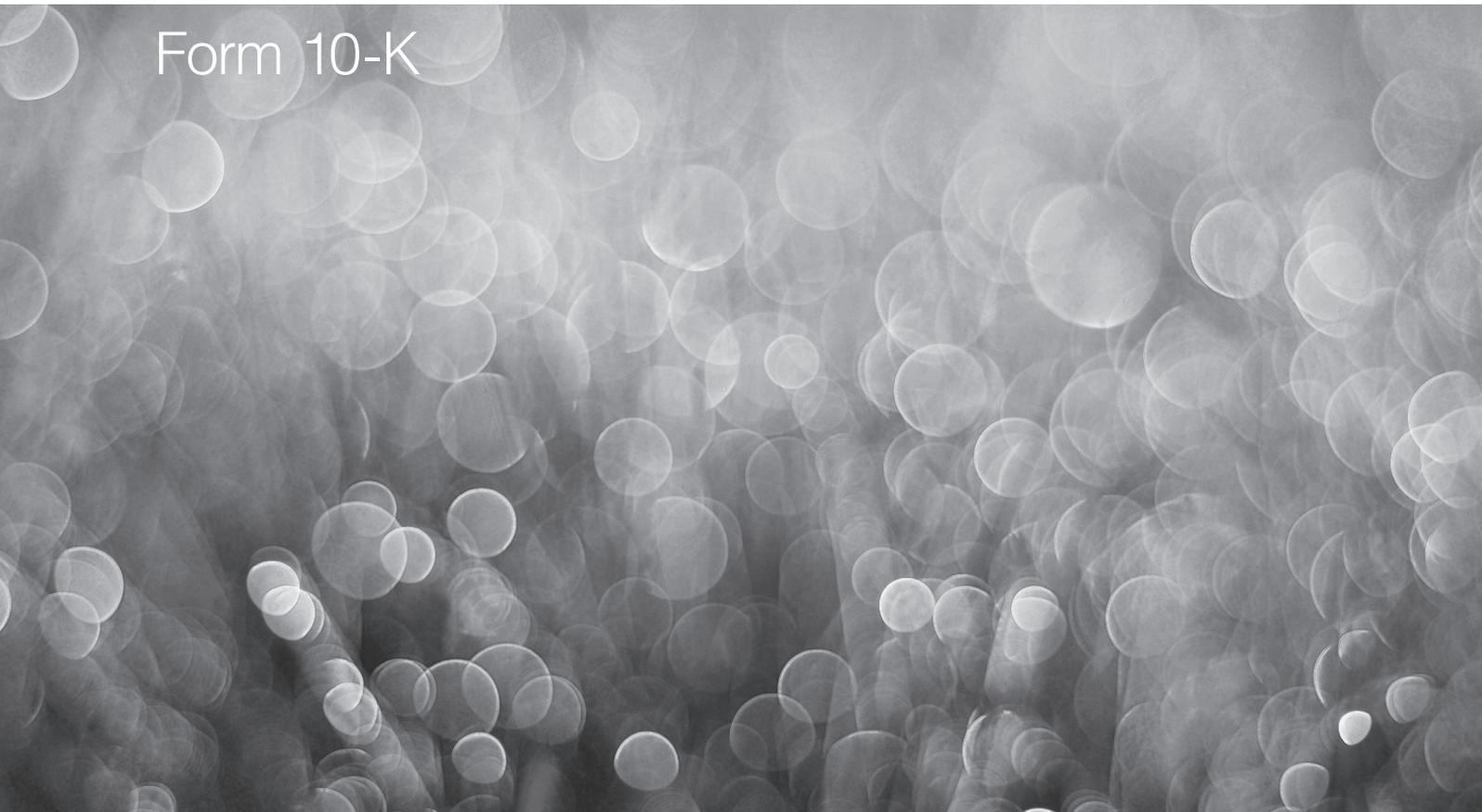
⁽³⁾ The Company defines Net Debt as Total Debt less Cash and Cash Equivalents.



TriMas

2022

Form 10-K



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 number **001-10716**

TRIMAS CORPORATION

(Exact Name of Registrant as Specified in Its Charter)

Delaware

(State or Other Jurisdiction of Incorporation or
Organization)

38-2687639

(IRS Employer Identification No.)

**38505 Woodward Avenue, Suite 200
Bloomfield Hills, Michigan 48304**

(Address of Principal Executive Offices, Including Zip Code)

(248) 631-5450

(Registrant's telephone number, including area code)

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

<u>Title of Each Class:</u>	<u>Trading symbol(s)</u>	<u>Name of Each Exchange on Which Registered:</u>
Common stock, \$0.01 par value	TRS	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 Act). Yes No

The aggregate market value of the voting common equity held by non-affiliates of the Registrant as of June 30, 2022 was approximately \$1.1 billion, based upon the closing sales price of the Registrant's common stock, \$0.01 par value, reported for such date on the NASDAQ Global Select Market. For purposes of this calculation only, directors, executive officers and the principal controlling shareholder or entities controlled by such controlling shareholder are deemed to be affiliates of the Registrant.

As of February 20, 2023, the number of outstanding shares of the Registrant's common stock, \$0.01 par value, was 41,477,451 shares.

Portions of the Registrant's Proxy Statement for the 2023 Annual Meeting of Stockholders are incorporated herein by reference in Part III of this Annual Report on Form 10-K to the extent stated herein.

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Forward-Looking Statements

This report may contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 about our financial condition, results of operations and business. These forward-looking statements can be identified by the use of forward-looking words, such as “may,” “could,” “should,” “estimate,” “project,” “forecast,” “intend,” “expect,” “anticipate,” “believe,” “target,” “plan” or other comparable words, or by discussions of strategy that may involve risks and uncertainties.

These forward-looking statements are subject to numerous assumptions, risks and uncertainties which could materially affect our business, financial condition or future results including, but not limited to: general economic and currency conditions; the severity and duration of the ongoing coronavirus (“COVID-19”) pandemic; competitive factors; market demand; our ability to realize our business strategies; our ability to identify attractive acquisition candidates, successfully integrate acquired operations or realize the intended benefits of such acquisitions; pressures on our supply chain, including availability of raw materials and inflationary pressures on raw material and energy costs, and customers; the performance of our subcontractors and suppliers; risks and uncertainties associated with intangible assets, including goodwill or other intangible asset impairment charges; risks associated with a concentrated customer base; information technology and other cyber-related risks; risks related to our international operations, including, but not limited to, risks relating to rising tensions between the United States and China; government and regulatory actions, including, without limitation, climate change legislation and other environmental regulations, as well as the impact of tariffs, quotas and surcharges; changes to fiscal and tax policies; intellectual property factors; uncertainties associated with our ability to meet customers’ and suppliers’ sustainability and environmental, social and governance (“ESG”) goals and achieve our sustainability and ESG goals in alignment with our own announced targets; litigation; contingent liabilities relating to acquisition activities; interest rate volatility; our leverage; liabilities imposed by our debt instruments; labor disputes and shortages; the disruption of operations from catastrophic or extraordinary events, including, but not limited to, natural disasters, geopolitical conflicts and public health crises, such as the ongoing coronavirus pandemic; the amount and timing of future dividends and/or share repurchases, which remain subject to Board approval and depend on market and other conditions; our future prospects; and other risks that are discussed in Part I, Item 1A, "Risk Factors." The risks described in this report are not the only risks facing our Company. Additional risks and uncertainties not currently known to us or that we currently deemed to be immaterial also may materially adversely affect our business, financial position and results of operations or cash flows.

Forward-looking and other statements in this Annual Report on Form 10-K regarding our sustainability and ESG plans and goals are not an indication that these statements are necessarily material to investors or required to be disclosed in our filings with the Securities and Exchange Commission (“SEC”). In addition, historical, current and forward-looking sustainability- and ESG-related statements may be based on standards for measuring progress that are still developing, internal controls and processes that continue to evolve and assumptions that are subject to change in the future.

The cautionary statements set forth above should be considered in connection with any subsequent written or oral forward-looking statements that we or persons acting on our behalf may issue. We caution readers not to place undue reliance on the statements, which speak only as of the date of this report. We do not undertake any obligation to review or confirm analysts' expectations or estimates or to release publicly any revisions to any forward-looking statement to reflect events or circumstances after the date of this report or to reflect the occurrence of unanticipated events, except as required by law.

We disclose important factors that could cause our actual results to differ materially from our expectations implied by our forward-looking statements under Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and elsewhere in this report. These cautionary statements qualify all forward-looking statements attributed to us or persons acting on our behalf. When we indicate that an event, condition or circumstance could or would have an adverse effect on us, we mean to include effects upon our business, financial and other conditions, results of operations, prospects and ability to service our debt.

Trademarks and Service Marks

We own or have rights to trademarks, service marks or trade names that we use in connection with the operation of our business. Solely for convenience, some of the copyrights, trademarks, service marks and trade names referred to in this Annual Report on Form 10-K are listed without the ©, ® and ™ symbols, but we will assert, to the fullest extent under applicable law, our rights to our copyrights, trademarks, service marks, trade names and domain names. The trademarks, service marks and trade names of other companies appearing in this Annual Report on Form 10-K are, to our knowledge, the property of their respective owners.

PART I

Item 1. Business

Overview

TriMas designs, develops and manufactures a diverse set of products primarily for the consumer products, aerospace and industrial markets through its TriMas Packaging, TriMas Aerospace and Specialty Products groups. We believe our businesses share important and distinguishing characteristics, including: well-recognized brand names in the focused markets we serve; innovative product technologies and features; customer approved processes and qualified products; strong cash flow generation and long-term growth opportunities. Headquartered in Bloomfield Hills, Michigan, TriMas has approximately 3,500 employees who serve our customers from 42 manufacturing and support locations in 13 countries.

During 2022, our net sales were \$883.8 million, operating profit was \$99.1 million, and net cash provided by operating activities was \$72.6 million. Approximately 74% of our 2022 net sales were generated from sales in North America.

Our Competitive Strengths

TriMas reports its operating activities in three segments: Packaging, Aerospace and Specialty Products. Our management team believes TriMas is uniquely positioned because of a number of competitive strengths, including:

- *Well-Recognized and Established Brands.* Our main brands include Rieke[®], Affaba & Ferrari[™], Taplast[™], Rapak[®], Intertech and Omega Plastics (reported in Packaging); TriMas Aerospace[™], Monogram Aerospace Fasteners[™], Allfast[®] Fastening Systems, Mac Fasteners[™], RSA Engineered Products, Martinic Engineering[™] and TFI Aerospace (reported in Aerospace); and Norris Cylinder[™] and Arrow[®] Engine Company (reported in Specialty Products). We believe each of our go-to-market brands are well-recognized and firmly established in the focused markets we serve. We believe our brands represent high standards and a commitment to quality and service that our customers rely on, and in many cases certify or audit, when they make their sourcing decisions.
- *Innovative and Proprietary Manufacturing and Product Technologies.* We believe each of our businesses is well-positioned through years of refined manufacturing know-how, innovative product development, application engineering and solutions design. We believe our manufacturing footprint and operational competencies would be difficult and costly to replicate, providing us an advantage. We continue to place a priority on investing in innovation to protect and enhance our product designs, brand names, and manufacturing processes and competencies.
- *Customer-Focused Solutions and Long-Term Customer Relationships.* We work collaboratively with our customers to design new product applications that help satisfy rapidly changing preferences in the marketplace. As a recognized leader in many of our markets, customers partner with us during the design, product development and production life cycle. These ongoing relationships, often developed over decades, coupled with our expertise in innovation and application engineering, position us to win new and replacement business with our customers when they launch new products or programs.
- *Experienced Management Team.* Given the range of product and process technologies within each of our businesses, TriMas' success is a function of our experienced management team. In each of our businesses, including businesses we have acquired, we have members of our leadership team that have served the vast majority of their careers, and have extensive and often times unique experience, in the industries we operate. The TriMas management team is focused and committed to continuously improving Company performance and growing shareholder value. Management compensation is tied to financial results through short-term incentive plans, long-term equity incentive programs and Company-established stock ownership guidelines.

Our Strategy

Guided by our experienced management team, we are focused on the following components that comprise our core strategy:

- *Leverage the TriMas Business Model.* The TriMas Business Model ("TBM") serves as the platform to manage our diverse set of businesses under a common set of standards focused on driving long-term exceptional performance. Through the TBM, we set near- and long-term performance objectives and goals, and utilize a reliable communication and escalation process that provides for flexibility and adjustments if market expectations change. A key tenet of the TBM is our commitment to operational excellence and continuous improvement. We believe our operating performance will continue to benefit from the use of Kaizen as a means to drive our decision-making and investment processes. In addition to continuous improvement and goal setting, the TBM is also focused on environmental, health and safety, talent development, and flawless new product and process launches.
- *Invest in Innovation.* We continue to invest in organic growth in our most compelling market segments with the highest long-term return potential. We intend to leverage our brands, expand our product offerings to current and new customers, and introduce innovative products to meet our customers' needs and help solve their challenges. We operate under a disciplined approach to defend and expand our product offerings, and grow our business over the longer term. In addition to product innovation, we also value process innovation and believe we can solidify our customer relationships using new innovative processes and manufacturing "know-how" to improve our quality, speed to develop and commercialize, sustainability and overall competitiveness, increasing customer satisfaction, as well as our performance.
- *Accelerate Growth with Strategic Acquisitions.* We believe TriMas, through its relatively low debt profile and its strong free cash flow, is uniquely positioned to enhance organic growth with strategic acquisitions. Our acquisition priority is to build out the Packaging platform, continuing our initiative to increase TriMas' weight in packaging-related end markets, which comprise nearly 60% of consolidated net sales in 2022, as well as explore opportunities to further expand our Aerospace platform. We typically seek to acquire adjacent product lines that expand our existing product offerings, gain access to new customers and end markets, expand our geographic footprint and/or capitalize on scale and cost efficiencies.
- *Drive Enhanced Cash Conversion.* We leverage the TBM to drive management's decision-making processes to achieve our growth and profitability targets, as well as drive our businesses toward achieving market-leading returns and cash flow conversion. We believe establishing well-defined strategies, executing against annual goals and long-range targets, operating in a data-driven, fact-based environment, and awarding our team on annual cash flow generation will allow us to expand our free cash flow and create shareholder value. We plan to use this cash for reinvestment in our businesses, strategic acquisitions and other capital allocation actions, such as share buybacks and dividends, which we initiated in 2021.
- *Foster a Culture of Kaizen and Engagement.* We believe our talented and dedicated global team is the foundation of our success. We strive to be a great employer through our demonstrated commitment to employee safety, diversity, equity and inclusion, talent development and workplace culture. We embrace the tools of Kaizen, which is predicated on engaging our employees to identify cost effective ways to improve all aspects of our businesses, throughout our manufacturing operations and support services. We also foster a culture of employee engagement to drive performance improvements, operational excellence and a sustainable future.
- *Focus on Sustainability.* We view sustainability and Environmental, Social and Governance ("ESG") practices as important components of our culture and rooted in our core values representing who we are as a company. We proactively seek new ways to make progress in each of the four key areas of our sustainability strategy: Governance & Ethics, People, Environment and Products. We believe that sustainability is broader than caring for the environment, and encompasses care for our employees, as well as the communities where we live and work. It means continuously enhancing our products and our processes to make the world a better place. We strive to incorporate the concept of sustainability into our decision-making model, and continue to increase the importance of sustainability in everything we do.

Our Businesses

We report the results of our operations in three segments, which had net sales and operating profit for the year ended December 31, 2022 as follows: Packaging (net sales: \$522.2 million; operating profit: \$81.0 million), Aerospace (net sales: \$188.1 million; operating profit: \$8.1 million) and Specialty Products (net sales: \$173.6 million; operating profit: \$30.3 million). For information pertaining to the net sales and operating profit attributed to our segments, refer to Note 21, "*Segment Information*," included in Item 8, "*Financial Statements and Supplementary Data*," within this Form 10-K.

Each of our segments is described in more detail on the following pages.

Packaging (59% of 2022 net sales)

TriMas' Packaging segment consists of TriMas Packaging, which includes the Rieke, Affaba & Ferrari, Taplast, Rapak, Intertech and Omega Plastics brands. We believe TriMas Packaging is a leading designer, developer and manufacturer of specialty, highly-engineered polymeric and steel closure and dispensing systems for a range of end markets, including consumer packaging, life science and industrial markets. We manufacture high-performance, value-added products that are designed to enhance our customers' ability to store, transport, process and dispense various products.

TriMas Packaging designs and manufactures dispensing products (including foaming pumps, lotion and hand soap pumps, sanitizer pumps, beverage dispensers, perfume sprayers, nasal sprayers and trigger sprayers), polymeric and steel caps and closures (including food lids, flip-top closures, child resistance caps, drum and pail closures and flexible spouts), polymeric jar products, and fully integrated dispensers for fill-ready, flexible bag-in-box applications, for a variety of consumer product markets including, but not limited to, the beauty and personal care, home care, food and beverage, medical, pharmaceutical and nutraceutical, as well as industrial end markets.

In addition, TriMas Packaging, through its December 2021 acquisition of Omega Plastics and February 2022 acquisition of Intertech, designs and manufactures complex, precision injection molded components and assemblies for applications in the life sciences end market. Our capabilities and products include prototype production molds and custom, medical-related components such as patient diagnostic test components, consumable vascular delivery, surgical devices and pharmaceutical closures.

TriMas Packaging has the capability of manufacturing the majority of our products in North America, Europe or Asia, which allows us to evaluate manufacturing location decisions based on customer needs, timing, cost and capacity.

Competitive Strengths

We believe TriMas Packaging benefits from the following competitive strengths in coordination with operating under TriMas' overarching strategy:

- ***Strong Product Innovation.*** Through a multi-layered approach to product and process innovation starting with subject matter experts, our TriMas Packaging team is focused on driving innovation across a broad range of solutions for our customers. Our New Product Development teams are also supported by our TriMas Center of Excellence, formerly called the Engineering Resource Center, located in India, to enhance our technical innovation and development. TriMas Packaging has a consistent pipeline of new products ready for launch and continues to innovate to make products more sustainable and environmentally friendly. For example, TriMas Packaging's product development programs have provided innovative and proprietary product solutions, such as the patented single-polymer Mono™-2e pump, which features six parts, all made from one material, making it fully recyclable. We are also developing additional dispensing products made from a single-material without compromising quality, aesthetics, performance or formula compatibility, under the Singolo™ brand. In addition, TriMas Packaging recently launched tethered caps, which are caps that remain attached to a bottle or container after opening and during use to increase ease of recycling, and 53 mm and 63 mm diameter child-resistant closures ("CRC") for nutraceutical and agricultural products, which include innovative patent-pending interlocking inner/outer caps designed with less plastic, reducing our carbon footprint without compromising quality, durability or functional performance. TriMas Packaging's emphasis on highly-engineered solutions and product development has yielded numerous issued and enforceable patents, with many other patent applications pending. For example, 56 patents were filed and 46 patents were issued in 2022, related to both new and existing patent families.

- *Customized Solutions that Enhance Customer Relationships.* A significant portion of our products have customized designs that are developed and engineered to address customer-specific technical, marketing and sustainability needs, helping to distinguish our customers' products from those of their competitors. For example, the customization of specialty plastic caps, closures and dispensers including branding, unique colors, collar sizes, lining and venting results in substantial customer loyalty. TriMas Packaging has also invested in high-quality, high-performance printing capabilities for multi-color printed logos and customized designs on flat top caps and closures. The substantial investment in flexible manufacturing cells allows us to offer both short lead-times for high volume products and customization for more moderate volume orders, which provides significant advantages to our consumer packaged goods customer base. In addition, we provide customized dispensing solutions including unique pump designs, precision metering, unique colors and special collar sizes to fit our customers' containers. TriMas Packaging collaborates with customers to develop innovative products that are more eco-friendly and easier to recycle. Based on our breadth of products, and engineering and production capabilities, we have achieved preferred supplier status with several customers.
- *Global Manufacturing Footprint.* TriMas Packaging maintains a global network of sales, manufacturing and distribution sites, to serve our global customer base. Our customers, including larger consumer products customers, often desire supply capability and a manufacturing footprint close to their end markets which results in more efficient supply chains, reduced carbon footprint and better sustainability. In light of recent market forces that have impacted the global supply chain, we are expanding our North American manufacturing presence by launching a new, highly automated 230,000 square foot facility in New Albany, Ohio, which began ramping up in 2022. This new facility enables TriMas Packaging to shift production of a variety of products currently produced outside of the United States and provide significant incremental capacity for new business growth closer to our customers in North America as needed. To serve our customers in Asia, we have design and manufacturing capacity and offer highly engineered dispensing solutions through locations in China, India and Vietnam, and have increased our Asian market sales coverage. We have also increased our sales coverage in Europe. Our acquisitions of Affaba & Ferrari in 2020, and Plastic Srl and Taplast in 2019, provided us with additional sales, design and manufacturing capacity in Europe, with additional manufacturing facilities in Italy and Slovakia. In addition, we are starting to expand our supply capabilities into South America, opening our first warehouse in Brazil in 2022. We believe TriMas Packaging's flexible footprint provides us with multiple alternatives for production to best meet customer requirements and helps mitigate the impacts of potential trade disruption. The majority of TriMas Packaging's manufacturing facilities around the world have advanced injection molding machines required to manufacture precision engineered dispensing and closure components, as well as automated, high-speed assembly equipment for multi-component products.

Marketing, Customers and Distribution

TriMas Packaging accesses its markets through direct sales to customers, as well as through leading distributors, where it has enjoyed favorable, long-standing relationships. We employ commercial teams in North America, South America, Europe and Asia. At times, we also use third-party agents and distributors in our key geographic markets, as well as agents and distributors primarily to sell to container manufacturers and to users or fillers of containers.

TriMas Packaging's end customers include, but are not limited to, consumer packaged goods, personal care, beauty and cosmetic, medical, pharmaceutical, nutraceutical, food and beverage, industrial, agricultural, chemical, and cleaning and sanitary supply companies. We also provide products into applications used by warehouse clubs, e-retailers and fast food retailers. We may provide products directly to the end customer, but the end customers may also specify that our products be provided to filling or packaging intermediary customers. In addition, we also provide products to major container manufacturers, and maintain a customer service center that provides technical support, as well as other technical assistance to customers.

TriMas Packaging has manufacturing and support facilities in the United States, Mexico, Brazil, the United Kingdom, Germany, Italy, Slovakia, China, India, Vietnam and Australia.

Competition

TriMas Packaging has a broad range of products in closure, dispensing and flexible packaging systems, and therefore has various competitors in each of our product offerings. We do not believe that there is a single competitor that matches our entire product offering. Depending on the product and customers served, our competitors include Aptar, Bericap, Berry Global, Greif, Mold-Rite, Phoenix Closures, Silgan, Technocraft and other smaller private companies located in Asia.

Aerospace (21% of 2022 net sales)

Our Aerospace segment is comprised of TriMas Aerospace, which includes the Monogram Aerospace Fasteners (“Monogram”), Allfast Fastening Systems (“Allfast”), Mac Fasteners, RSA Engineered Products (“RSA”), Martinic Engineering (“Martinic”) and TFI Aerospace (“TFI”) brands. We believe TriMas Aerospace is a leading designer and manufacturer of a diverse range of products, including, but not limited to, highly-engineered fasteners, collars, blind bolts, rivets, ducting and connectors for air management systems, and other highly-engineered machined parts and components, for use in focused markets within the aerospace industry. In general, these products are customer-specific and are manufactured utilizing customer-qualified and proprietary processes. The products also satisfy rigorous customer approvals or meet unique aerospace industry standards, and as such, we believe there are a limited set of competitors. We believe our brands are well established and recognized in their markets. Each of our brands are long-term, certified suppliers of aerospace original equipment manufacturers (“OEMs”) or Tier 1 suppliers, and have been serving the aerospace industry for decades.

We provide products for commercial, business jet, and military and defense aerospace applications and platforms with sales to OEMs, supply chain distributors, maintenance, repair and overhaul (“MRO”) / aftermarket providers and tier one suppliers. Our customer-specified and/or qualified products are used in production of significant long-term aircraft programs, including several Boeing and Airbus commercial jetliner programs.

TriMas Aerospace's product offering includes a broad line of fastener products, including permanent threaded blind bolts, solid and blind rivets, standard screws and bolts manufactured to meet NAS, MS, AN and AS standards, collars, temporary fasteners and other specialty fasteners. TriMas Aerospace also manufactures and assembles complex, highly-engineered and proprietary ducting, connectors and related products for air management systems, and other complex machine-to-print parts for aerospace applications, including auxiliary power units, as well as electrical, hydraulic and pneumatic systems. In December 2021, we acquired TFI Aerospace, a manufacturer and supplier of specialty fasteners used in a variety of applications, predominantly for the aerospace end market.

Competitive Strengths

We believe TriMas Aerospace benefits from the following competitive strengths in coordination with operating under TriMas' overarching strategy:

- *Broad Product Portfolio of Established Brands.* We believe that TriMas Aerospace is a leading designer, developer and manufacturer of broad range of engineered fasteners for the aerospace industry, as well as other complex machined components such as those used in air ducting systems. The combination of the Monogram, Allfast, Mac Fasteners and TFI brands enables TriMas Aerospace to offer a wide range of fastener products which address a broad scope of customer requirements, providing scale to customers who continue to rationalize their supply base. In several of the product categories, including rotary-actuated blind bolts and blind and solid rivets, TriMas Aerospace has a meaningful market share with well-known and established brands. The combined product sets of the Monogram, Allfast, Mac Fasteners and TFI brands uniquely position us to benefit from platform-wide supply opportunities. In addition, RSA has extensive experience in providing air ducting, connectors and flexible joints used in hot engine bleed air, anti-icing and environmental control system applications. Martinic has a reputation, with more than 40 years of experience, of specializing in the high complexity machining of castings, forgings and bar stock for leading tier-one commercial and defense aerospace OEMs. We believe that we supply products for the majority of the new airplanes manufactured by the two largest global airplane OEMs.
- *Product Innovation.* We believe that TriMas Aerospace's engineering, research and development capability and new product focus are competitive advantages. For many years, TriMas Aerospace's product development programs have provided innovative and proprietary product solutions. The close working relationship between our sales and engineering teams and our customers' engineering teams is key to developing future products desired and required by our customers. Our innovation teams add value by working directly with our customers to address assembly and manufacturing process challenges to increase productivity, quality, speed and efficiency, while reducing overall installed cost. TriMas Aerospace has developed new fastener products that offer a flush break upon installation and is developing and testing other fastener designs which offer improved clamping characteristics on composite structures, improved aerodynamics and enhanced installed aesthetics. One of our recent product innovations is the Composi-Lok4® fastener evolution, providing significant installed weight savings, helping to improve fuel efficiency. TriMas Aerospace has also designed the next generation temporary fastener with a significant increase in clamping force called Fastack® SC (Super Clamp). TriMas Aerospace has also expanded its fastener offerings to include other fastening product applications on current aircraft, including the expansion of its suite of collar families used in traditional two-sided assembly. We believe our customer-focused approach to provide cost-effective technical solutions will drive the development of new products and create new opportunities for growth.

- *Leading Manufacturing Capabilities and Processes.* We believe that TriMas Aerospace is a leading manufacturer of precision-engineered components for the aerospace industry. Given industry regulatory requirements, as well as customer requirements, these products are required to be manufactured within tight tolerances and specifications, often out of hard-to-work-with and exotic materials including titanium, Inconel and specialty steels. TriMas Aerospace is also capable of advanced precision computer numerical controlled ("CNC") milling, high performance CNC turning and assembly, working in a variety of metals including super alloys, stainless steel, aircraft steel alloys, carbon steel alloys and aluminum alloys. Many of TriMas Aerospace's products, facilities and manufacturing processes are required to be qualified and/or certified. Key certifications in TriMas Aerospace include: AS9100:2009 Revision D; ISO9001:2008; TSO; and NADCAP for non-destructive testing, heat treatment, wet processes and materials testing. While proprietary products and patents are important, having proprietary manufacturing processes and capabilities makes TriMas Aerospace's products difficult to replicate. The aerospace industry has strict requirements for quality and delivery, making process innovation and continuous improvement vital to TriMas Aerospace's success. We believe TriMas Aerospace's manufacturing processes, capabilities and quality focus create a competitive strength for the business.

Marketing, Customers and Distribution

TriMas Aerospace serves both OEM and aftermarket customers on a wide variety of platforms. Given the focused nature of many of our products, TriMas Aerospace relies upon a global sales and technical team that is knowledgeable of both OEM customers and the established network of independent distributors. Although the markets for fasteners are highly competitive, we provide products and services primarily for specialized applications, and compete principally on technology, quality and service. TriMas Aerospace works directly with aircraft manufacturers to develop and test new products and improve existing products. TriMas Aerospace's primary customers include OEMs, supply chain distributors, tier one suppliers and the United States government.

TriMas Aerospace's manufacturing facilities are located in the United States and Canada. Given the nature of the components TriMas Aerospace manufactures, it can ship products efficiently to Europe, South America and Asia.

Competition

Depending on the product and customers served, our primary competitors include Ateliers de la Haute Garonne, Cherry Aerospace - Precision Castparts Corp., Howmet Aerospace, LISI Aerospace and Senior Aerospace, as well as a variety of aerospace and general industrial machined component manufacturers. We believe that we are a leader in the blind bolt market with significant market share in all blind fastener product categories in which we compete.

Specialty Products (20% of 2022 net sales)

Our Specialty Products segment is comprised of our Norris Cylinder and Arrow Engine Company businesses. We believe these businesses are well established and recognized in the end markets they serve.

TriMas' Norris Cylinder business is a leading designer, manufacturer and distributor of highly-engineered steel cylinders for use in industrial, heating, ventilation and air conditioning ("HVAC"), construction, health care and defense end markets. We believe that Norris Cylinder is a leading provider of a complete line of large, intermediate and small size, high and low-pressure steel cylinders for the transportation, storage and dispensing of compressed gases. Norris Cylinder's large high-pressure seamless gas cylinders are used principally for shipping, storing and dispensing oxygen, nitrogen, argon, helium and other compressed gases. In addition, Norris Cylinder offers a complete line of steel cylinders used to contain and dispense acetylene gas for the welding and cutting industries. Norris Cylinder's products meet the rigorous standards required by the U.S. Department of Transportation ("DOT") or International Standards Organization ("ISO"), which certifies a cylinder's adequacy to perform in specific applications.

Arrow Engine is a provider of natural gas powered wellhead engines, compressors and replacement parts, all engineered for use in oil and natural gas production and other industrial and commercial markets. As Arrow's engines can operate from the natural gas produced at the wellhead, we believe Arrow is uniquely positioned to provide its products for remote pump jack installations. Arrow Engine distributes its products through a worldwide distribution network, primarily focused in the United States and Canada. Arrow Engine manufactures its own engine line and also offers a wide variety of spare parts for various industrial engines not manufactured by Arrow Engine.

Competitive Strengths

We believe our Specialty Products segment benefits from the following competitive strengths in coordination with operating under TriMas' overarching strategy:

- *Leading Market Positions and Strong Brand Names.* With more than 70 years of experience, Norris Cylinder is one of the worlds' largest manufacturers of high- and low-pressure steel cylinders, and the only manufacturer in the United States. In 2021, Norris Cylinder became an official "Made in the USA" designated manufacturer, which we believe allows Norris to locally address customers' needs, while maintaining more control over lead times and quality. We believe that Norris has a reputation for high-quality cylinders used in a variety of applications, including industrial gas, welding and cutting, government, medical, laboratories, food and beverage technology, breathing air, fire protection and aviation. We believe that Arrow Engine also has also a leading market position in the niche it serves.
- *Comprehensive Product Offering.* We believe that both Norris Cylinder and Arrow Engine offer a comprehensive product offering that meets their customers' needs. Norris Cylinder offers a complete line of large, intermediate and small size, high and low-pressure steel cylinders to its customers across a variety of end markets. Arrow Engine also provides a comprehensive product offering, including engines, compressors, chemical pumps, generator sets, electronics and replacement parts to a variety of oilfield and industrial markets. In addition, utilizing the tools of Kaizen, Arrow Engine developed and launched a new reduced emission EPA-certified A54-E engine platform for stationary and off-road mobile applications.
- *Established and Extensive Distribution Channels.* Our Specialty Products businesses have long-standing customer relationships and distributes directly to major companies, as well as distributing to domestic buying groups, OEMs, medium and small independent companies, and independent distributors. Our long-standing supply positions in this well-established network has allowed our Specialty Products businesses to successfully navigate some of the most robust, as well as harshest, economic cycles.
- *Difficult and Costly to Replicate Manufacturing Base.* Our Norris Cylinder business has locations in Longview, Texas, and Huntsville, Alabama, which have numerous forging and metalworking pieces of equipment and processes. While there are other manufacturers of steel cylinders globally, the installation of manufacturing processes and adding new capacity tends to be a lengthy process and a costly investment to implement. As such, in periods of rising demand, as we have experienced in 2021 and 2022, Norris Cylinder's installed capacity and manufacturing presence in the United States provides an advantage when compared to non-U.S. suppliers dealing with logistic constraints.

Marketing, Customers and Distribution

The customers of our Specialty Products segment predominantly operate in the industrial end markets, and to a lesser extent, the upstream oil and gas end markets. Given the focused nature of many of our products, we rely upon a combination of a direct sales force and an established network of distributors with familiarity of the end-users. Norris Cylinder, for example, sells directly to customers and through distributors. Our primary customers include industrial gas producers and distributors, welding equipment distributors, and equipment manufacturers.

The Norris Cylinder and Arrow Engine manufacturing facilities are located in the United States.

Competition

Norris Cylinder competes against Worthington, Beijing Tianhai Industry Co., Faber and Vitkovice Cylinders, but is the only steel cylinder manufacturer in the United States. Arrow Engine tends to compete against natural gas powered, lower horsepower, multi-cylinder engines from manufacturers such as Caterpillar, Chevy, Cummins and Ford industrial engines and electric motors.

TriMas' Acquisition Strategy

TriMas views the pursuit of strategic acquisitions as core to augmenting its organic growth and achieving our overarching corporate strategy. We believe TriMas is uniquely positioned to leverage our relatively low debt profile and strong free cash flow profile to identify and complete bolt-on acquisitions annually as part of our capital allocation strategy. TriMas' acquisition priority is to build out our Packaging platform, continuing our initiative to increase TriMas' position in packaging-related end markets, which currently comprises nearly 60% of consolidated net sales, as well as explore unique opportunities to build out our Aerospace platform. We typically seek to acquire adjacent product lines that expand our existing product offerings, gain access to new customers and end markets, expand our geographic footprint and/or capitalize on scale and cost efficiencies. From 2019 through 2022, TriMas has completed eight acquisitions and one divestiture.

Materials and Supply Arrangements

Our largest raw material purchases are for resins (such as polypropylene and polyethylene), steel, aluminum and other metal and non-metal-based purchased components. Raw materials and other supplies used in our operations are normally available from a variety of competing suppliers. In addition to raw materials, we purchase a variety of components and finished products from sources in lower-cost countries.

Polypropylene and polyethylene are generally commodity resins with multiple suppliers capable of providing product globally. Steel is purchased primarily from steel mills and service centers, and on a more localized basis. Changing global dynamics for steel production, supply and pricing may continue to present a challenge to our business.

Historically, we have experienced volatility in costs and availability of our raw material purchases and have worked with our suppliers to manage costs and disruptions in supply. We also utilize pricing programs to pass increased steel, resin and other raw material costs on to customers. Although we may experience delays in our ability to implement price increases, we have been generally able to recover such increased costs.

Human Capital Resources

As of December 31, 2022, we employed approximately 3,500 people, of which 44% were located outside the United States. We have one facility, located in Commerce, California where our hourly employees operate under a collective bargaining agreement, and which represents 12% of our U.S. employees. We have five facilities outside of the United States where our employees are affiliated with work councils, which covers 48% of our non-U.S. employees.

We believe employee relations throughout our organization are good and we are not aware of any present active union organizing activities at any of our facilities. We cannot predict the impact of any further unionization of our workplace. Our labor agreement with the United Automobile, Aerospace and Agricultural Implement Workers of America at our TriMas Aerospace facility in Commerce, California expires in August 2024.

TriMas focuses on a number of human capital resources objectives in managing its business, including our commitment to health and safety, employee engagement, diversity, equity & inclusion and talent development. These human capital resources objectives, taken together, may be material to understanding our business under certain circumstances. These objectives are reinforced by our Code of Conduct, our global policies, including our Global Human Rights Policy, Diversity, Equity & Inclusion Statement, and Environment, Health & Safety Policy, as well as our commitment to sustainability as evidenced by our annual Sustainability Reports.

Commitment to Safety

Our first objective under the TBM is the health and safety of our employees, including anyone who conducts business on our behalf. The commitment to safety starts at the top levels of our organization, and as a result of our commitment, we updated and enhanced our Environment, Health & Safety Policy in 2022. We believe a safe and secure workplace is fundamental to our success. TriMas is committed to providing a safe and healthy workplace, and complying with applicable safety and health laws, regulations and internal requirements. We are also committed to engaging our employees to continually improve health and safety by acting upon opportunities to reduce risk and improve our safety and health performance, and offer training programs on a regular basis. TriMas maintains comprehensive safety programs focused on identifying hazards and eliminating risks that can lead to work-place injuries.

Employee Engagement

At TriMas, a commitment to continuous improvement is one of our core values and imperative to our long-term success. We embrace the tools of Kaizen and work to foster a culture of employee engagement to drive performance improvements and operational excellence. We believe that employee feedback is important which is why, in 2021 and 2022, we administered employee engagement surveys globally. We continue to work on our engagement as a company, with managers actively facilitating engagement discussions with their teams and developing action plans to ensure progress and continuous improvement.

Diversity, Equity and Inclusion

We believe we are at our best when we bring together unique perspectives, experiences and ideas, and actively build diverse teams and inclusive work environments across our global locations. We believe that tapping into our employees' diverse backgrounds and experiences ensures we make better decisions and supports stronger operating performance. Our goal is to foster working environments that are fair, equitable and safe, where rights are respected and everyone can achieve their full potential. Our policies and practices strive to assure equal employment and advancement opportunities for all qualified people. We also work to maintain appropriate standards of conduct in the workplace and to be sensitive to the concerns of our diverse group of employees. We strive to maintain workplaces that are free from discrimination or harassment on the basis of race, ethnicity, color, national origin, religion, age, gender, gender identity and expression, genetic information, sexual orientation, protected veteran status, disability or any other characteristic protected by applicable laws.

Talent Development

We believe that a talented, engaged and dynamic workforce is vital to our success. We seek to hire, develop and retain individuals who embrace and thrive in our culture. Our culture is grounded in our values: Integrity, Customer-focused, Teamwork, Results-driven and Continuous Improvement. Our businesses strive to build robust talent pipelines through targeted recruitment initiatives across our global footprint. Our programs are intended to ensure seamless onboarding for our new employees. We identify and nurture talent through a culture that is designed to enable employees to succeed and grow into leadership positions. We believe that our diverse businesses and structure provide many opportunities for employees to follow their own path and advance their careers.

We are committed to a culture of Kaizen and operational excellence, and we provide employees with the opportunity to receive frequent performance feedback. On a regular basis throughout the year, employees have goal alignment, performance and career development discussions with their managers (via annual goal setting, mid-year and year-end performance and talent reviews). At these times, employees receive candid feedback on their performance against set objectives. These reviews evaluate each employee's strengths, skills and areas for opportunity, which are important for career development.

Seasonality

TriMas does not typically experience significant seasonal fluctuation, other than our fourth quarter, which in past years has tended to be the lowest net sales quarter of the year given holiday shutdowns by certain of our customers and other customers deferring capital spending to the following year.

Government Regulations

Environmental Matters

We are subject to increasingly stringent environmental laws and regulations, including those relating to air emissions, wastewater discharges, and chemical and hazardous waste management and disposal. Some of these environmental laws hold owners or operators of land or businesses liable for their own and for previous owners' or operators' releases of hazardous or toxic substances or wastes. Other environmental laws and regulations require obtaining and complying with environmental permits. To date, costs of complying with environmental, health and safety requirements have not been material. However, the nature of our operations and our long history of industrial activities at certain of our current or former facilities, as well as those acquired, could potentially result in material environmental liabilities.

Current environmental laws and regulations have not had a material impact on our business, capital expenditures or financial position. However, we must comply with existing and pending climate change legislation, regulation and international treaties or accords. Future events, including those relating to climate change or greenhouse gas regulation could require us to incur expenses related to the modification or curtailment of operations, installation of pollution control equipment or investigation and cleanup of contaminated sites. In addition to environmental laws and regulations, our operations are governed by variety of laws and regulations, including those relating to workplace safety and worker health, principally the Occupational Safety and Health Act and regulations thereunder. We believe that we are in material compliance with these laws and regulations and do not believe that future compliance with such laws and regulations will have a material adverse effect on our business, financial condition, results of operations and cash flows.

Trade Policies and Regulations

Free trade laws and regulations provide certain duties and tariffs on qualifying imports and exports, subject to compliance with the applicable classification and other requirements. In the past few years, we have experienced higher input costs as a direct result of tariffs imposed on certain raw materials and components imported from China. In certain cases, we have passed-through these incremental costs to the customer, while in some cases we have not changed pricing to retain or expand volume, and in other cases we continue to work to install capacity in facilities where there currently is no tariff. In addition, certain of our U.S. suppliers raised prices for components in response to an overall increase in demand for domestic sources.

We believe that we are in material compliance with free trade laws and regulations. While there may be an impact to our financial condition as a result of changes in the amount of duties or tariffs levied on products we sell, we do not believe that costs to remain in compliance with such laws and regulations will have a material adverse effect on our business, financial condition, results of operations and cash flows.

Intangible Assets

Our identified intangible assets, consisting of customer relationships, trademarks and trade names, and technology, are recorded at \$188.1 million at December 31, 2022, net of accumulated amortization. The valuation of each of the identified intangibles was performed using broadly accepted valuation methodologies and techniques.

Customer Relationships. We have developed and maintained stable, long-term selling relationships with customer groups for specific branded products and/or focused market product offerings within each of our businesses. Useful lives assigned to customer relationship intangibles range from five to 25 years and have been estimated using historic customer retention and turnover data. Other factors considered in evaluating estimated useful lives include the diverse nature of focused markets and products of which we have significant share, how customers in these markets make purchases and these customers' position in the supply chain. We also monitor and evaluate the impact of other evolving risks including the threat of lower cost competitors and evolving technology.

Trademarks and Trade Names. Each of our businesses designs and manufactures products for focused markets under various trade names and trademarks (see prior discussion by reportable segment). Our trademark/trade name intangibles are well-established and considered long-lived assets that require maintenance through advertising and promotion expenditures. Because it is our practice and intent to maintain and to continue to support, develop and market these trademarks/trade names for the foreseeable future, we consider our rights in these trademarks/trade names to have an indefinite life, except as otherwise dictated by applicable law.

Technology. We hold a number of United States and foreign patents, patent applications, and proprietary product and process-oriented technologies within all three of our reportable segments. We have, and will continue to dedicate, technical resources toward the further development of our products and processes in order to maintain our competitive position in the industrial, commercial and consumer end markets that we serve. Estimated useful lives for our technology intangibles range from one to 30 years and are determined in part by any legal, regulatory or contractual provisions that limit useful life. For example, patent rights have a maximum limit of 20 years in the United States. Other factors considered include the expected use of the technology by the operating groups, the expected useful life of the product and/or product programs to which the technology relates, and the rate of technology adoption by the industry.

International Operations

Of our net sales for the year ended December 31, 2022, 21.8% were derived from sales by our businesses located outside of the United States, and 32.8% of our long-lived assets as of December 31, 2022 were located outside of the United States. We operate manufacturing facilities in Canada, China, Germany, India, Italy, Mexico, Slovakia, the United Kingdom and Vietnam, in addition to our U.S. operations. In addition to the net sales derived from sales by our businesses located outside of the United States, we also generated \$74.5 million of export sales from the United States.

Website Access to Company Reports

We use our corporate website, www.trimascorp.com, as a channel for routine distribution of important information, including news releases, company presentations and links to our businesses' websites, as well as reinforcing our commitment to sustainability as evidenced by our Sustainability Reports. We also provide financial information on our website and post filings as soon as reasonably practicable after they are electronically filed with, or furnished to, the Securities and Exchange Commission ("SEC"), including our annual, quarterly, and current reports on Forms 10-K, 10-Q and 8-K, our proxy statements and any amendments to those reports or statements. All such postings and filings are available under our Investors section of the 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

You should carefully consider each of the risks described below, together with information included elsewhere in this Annual Report on Form 10-K and other documents we file with the SEC. The risks and uncertainties described below are those that we have identified as material, but are not the only risks and uncertainties facing us. Although the risks are organized by headings, and each risk is discussed separately, many of the risks are interrelated. Readers should not interpret the disclosure of any risk factor to imply that the risk has not already materialized. Additional risks and uncertainties not currently known to us or that we currently believe are immaterial may also impact our business operations, financial results and liquidity.

Risks Relating to Our Business

Our businesses depend upon general economic conditions and we serve some customers in highly cyclical industries; as such, we may be subject to the loss of sales and margins due to an economic downturn or recession.

Our financial performance depends, in large part, on conditions in the markets that we serve in both the U.S. and globally. In the past, our operations have been exposed to volatility due to changes in general economic conditions or consumer preferences, recessions or adverse conditions in the markets we serve, including the impact of global pandemics, such as the coronavirus and related variants ("COVID-19"), and the Russia-Ukraine conflict. We are exposed to highly cyclical end markets for industrial goods, and to a lesser extent, aerospace and consumer products. An uncertain macro-economic and political climate could lead to reduced demand from our customers, variations in timing of sales to our customers, increased price competition for our products, increased risk of excess and obsolete inventories, uncollectible receivables, and higher overhead costs as a percentage of revenue, all of which could impact our operating margins. If our customers are adversely affected by these factors, we may experience lower product volume orders, which could have an unfavorable impact on our revenue and operating profit. For example, a number of our consumer packaged goods customers increased their first-half 2022 orders for our products due to concerns over capacity constraints and rising inflation, and significantly reduced their orders in the back half of 2022, alerting us that they need to sell through a substantial portion of their existing inventory levels prior to placing significant additional orders. Our ability to precisely forecast the level of our customers' orders is limited and can result in inefficiencies in scheduling our installed manufacturing capacity and result in sub-optimal business and financial results.

The COVID-19 pandemic has adversely impacted, and continues to pose risks, to our businesses, the nature and extent of which are highly uncertain and unpredictable.

We have been managing matters related to the global outbreak of the COVID-19, including impacts to our operations and strategic supplier-partners in Asia, as well as our manufacturing operations in Europe and North America since early 2020. The COVID-19 pandemic has impacted our results of operations, and we expect it will continue to impact us in the future at varying levels. For example, sales for our dispensing and closure products used to help fight the spread of germs significantly increased in 2020 and 2021, and receded in 2022. Sales in our Aerospace segment significantly declined at the onset of the pandemic, and have increased in 2022 as air travel and new aircraft production increases. The primary impacts on our business to date have been related to (i) shifting customer demand for many of our products, including those used in cosmetic, personal care, pharmaceutical, home care, food and beverage, and industrial markets, as well as aerospace markets; (ii) delays and disruptions in the availability of and timely delivery of materials and components used in our operations, as well as increased costs for such materials and components; and (iii) reduced availability and productivity of employees.

The extent of the COVID-19 pandemic's effect on our operational and financial performance will depend in large part on future developments, which cannot be predicted with confidence at this time. Future developments include the duration, scope and severity of the pandemic, the actions taken to contain or mitigate its ongoing impact in the regions in which we do business, and any future impacts on widespread economic activity, including air travel. The emergence of new variants of COVID-19, evolving governmental plans to institute vaccination mandates and limited availability of vaccines in various jurisdictions create uncertainty that may impact our employees and result in labor shortages and unforeseen costs. In addition, because we cannot predict the impact that COVID-19 or other global pandemics will ultimately have, the actual impact may also exacerbate other risks discussed in this Item 1A.

Many of the markets we serve are highly competitive, which could limit sales volumes and reduce our operating margins.

Many of our products are sold in competitive markets. We believe that the principal points of competition in our markets are price, product quality, delivery performance, design and engineering capabilities, product development, conformity to customer specifications, customer service and effectiveness of distribution. Maintaining and improving our competitive position will require continued investment by us in manufacturing, engineering, quality standards, marketing, customer service and support of our distribution networks. We may have insufficient resources in the future to continue to make such investments and, even if we make such investments, we may not be able to maintain or improve our competitive position. We also face the risk of lower-cost manufacturers located in China, India and other regions competing in the markets for our products and we may be driven as a consequence of this competition to increase our investment overseas. Making overseas investments can be highly risky and we may not always realize the advantages we anticipate from any such investments. Competitive pressure may limit the volume of products that we sell and reduce our operating margins.

We may be unable to successfully implement our business strategies and achieve our strategic and financial objectives.

We have a long history of acquisitions and divestitures, and we continuously evaluate strategic opportunities and other investment activities. From time to time, we may engage in one or more strategic transactions. If we do so, it may or may not meet the intended strategic or financial objective.

Strategic acquisitions may require integration expense and actions that may negatively affect our results of operations and that could not have been fully anticipated beforehand. In addition, attractive strategic transaction opportunities may not be identified or pursued in the future, financing for strategic transactions may be unavailable on satisfactory terms and we may be unable to accomplish our strategic objectives in effecting a particular strategic transaction. We may encounter various risks in pursuing such strategic transactions, including the possible inability to integrate an acquired business into our operations, increased expenses, increased debt obligations to finance such strategic transactions and unanticipated problems or liabilities.

In addition, we may dispose of assets or businesses at a price or on terms that are less favorable than we had anticipated, or with the exclusion of assets that must be divested or run off separately. As we seek to sell or separate certain assets, equity interests or businesses, we may also encounter difficulty in finding buyers, managing interdependencies across multiple transactions and other Company initiatives, implementing separation plans or executing alternative exit strategies on acceptable terms, which could delay or prevent the accomplishment of our strategic and financial objectives. Moreover, the effect of dispositions over time will reduce our cash flow and earnings capacity and result in a less diversified portfolio of businesses, and we will have a greater dependency on remaining businesses for our financial results.

Accordingly, risks related to strategic acquisitions or dispositions may result in the disruption of our ongoing business, diversion of management's attention, the failure of such transactions to be completed, or the failure to realize the financial and strategic benefits contemplated at the time of a transaction, some or all of which could materially and adversely affect our business strategy, financial condition and results of operations.

Increases in our raw material or energy costs or the loss of critical suppliers could adversely affect our profitability and other financial results.

We are sensitive to price movements in our raw materials supply base. Our largest material purchases are for resins (such as polypropylene and polyethylene), steel, aluminum and other metal and non-metal-based purchased components. Prices for these products, along with costs for transportation and energy, fluctuate with market conditions, and have generally increased over time. For example, during 2022, we experienced increased energy costs and supply chain disruptions as a result of the Russia-Ukraine conflict. In addition, we have experienced, and expect to continue to experience, the impact of cost inflationary pressure on raw materials, wage rates and freight. We have generally been able to recover such costs during 2022, as market prices have generally stabilized. We may be unable to offset the impact of future cost increases with price increases on a timely basis due to outstanding commitments to our customers, competitive considerations or our customers' resistance to accepting such price increases and our financial performance could be adversely impacted. A failure by our suppliers to continue to supply us with certain raw materials, component parts, or at all, could have a material adverse effect on us. To the extent there are energy supply disruptions or material fluctuations in energy costs, our margins could be materially adversely impacted.

Our ability to deliver products that satisfy customer requirements is dependent on the performance of our subcontractors and suppliers, as well as on the availability of raw materials and other components.

We rely on other companies, including subcontractors and suppliers, to provide and produce raw materials, integrated components and sub-assemblies and production commodities included in, or used in the production of, our products. If one or more of our suppliers or subcontractors experiences delivery delays or other performance problems, we may be unable to meet commitments to our customers or incur additional costs and penalties. In some instances, we depend upon a single source of supply. Any material service disruption from one of our suppliers, either due to circumstances beyond the supplier's control, such as geopolitical developments, including any potential impacts resulting from rising tensions between the United States and China, or logistical complications or operational disruptions due to weather, global climate change, earthquakes or other natural disasters, or as a result of performance problems or financial difficulties, could have a material adverse effect on our ability to meet commitments to our customers or increase our operating costs. Since the outbreak of the COVID-19 pandemic, we have experienced even greater uncertainties in the economic environment, including input cost inflation, supply chain disruptions with our subcontractors and suppliers, shortages in global markets for commodities, logistics and labor, all of which have resulted in labor and manufacturing inefficiencies given the challenges in production scheduling.

We have significant goodwill and intangible assets, and future impairment of our goodwill and intangible assets could have a material negative impact on our financial results.

At December 31, 2022, our goodwill and intangible assets were \$527.9 million and represented 40.5% of our total assets. If we experience declines in sales and operating profit or do not meet our current and forecasted operating budget, we may be subject to goodwill and/or other intangible asset impairments in the future. While the fair value of our remaining goodwill exceeds its carrying value, significantly worse financial performance of our businesses, significantly different assumptions regarding future performance of our businesses or significant declines in our stock price could result in future impairment losses. Because of the significance of our goodwill and intangible assets, and based on the magnitude of historical impairment charges, any future impairment of these assets could have a material adverse effect on our financial results.

Our business may be exposed to risks associated with an increasingly concentrated customer base.

While no individual customer accounted for 10% or more of our consolidated net sales for 2022, 2021, or 2020, our customer base has become, and may further become, increasingly concentrated as a result of our strategy to focus on growing sales with existing customers in packaging end markets, or due to customer consolidations. In 2022, our Aerospace and Specialty Products segments each had customers that comprised 10% or more of its segment revenue. As a result of these factors, changes to or reductions in the buying patterns of these larger customers may expose our business and results of operations to greater volatility. For example, prior to the outbreak of COVID-19, a large commercial aircraft manufacturer announced significant production delays and/or reductions on certain of its platforms for which we provide products, which significantly impacted our sales, profit and production efficiencies compared with historical levels.

The mix and type of customers, and sales to any single customer, may vary significantly from quarter to quarter and from year to year, and have a significant impact on our financial condition, results of operations and cash flows. If customers do not place orders, or they substantially reduce, delay or cancel orders, we may not be able to replace the business, which may have a significant adverse impact on our results of operations and financial condition. For example, a number of our consumer packaged goods customers ordered higher levels of inventory due to concerns over capacity constraints and rising inflation in the first half of 2022, and subsequently reduced their order levels in the back-half of 2022. In addition, major customers may require that we localize manufacturing and supply capacity rather than sourcing from lower cost countries, or seek pricing, payment, intellectual property-related, or other commercial terms that are less favorable to us, which may have a negative impact on our business. The concentration of our customer base also increases our risks related to the financial condition of our customers, and the deterioration in financial condition of customers or the failure of customers to perform their obligations could have a material adverse effect on our results of operations and cash flows.

We are dependent on our manufacturing facilities for the production of our highly engineered products, which subjects us to risks associated with disruptions and changing technology and manufacturing techniques that could place us at a competitive disadvantage.

If our manufacturing facilities become unavailable either temporarily or permanently due to weather, earthquakes or other natural disasters related to global climate change, or geopolitical developments, including any potential impacts resulting from rising tensions between the United States and China, or logistical complications or operational disruptions arising from adverse regulatory actions, acts of war, cyber-attacks, public health crises or labor disruptions, we may be unable to shift production to other facilities or to make up for lost production. For example, our Aerospace manufacturing facilities are predominately located in southern California, an area known for earthquakes, and are thus vulnerable to damage. Any new facility would need to comply with the necessary regulatory requirements, satisfy our specialized manufacturing requirements and require specialized equipment. Even though we carry business interruption insurance policies, any business interruption losses could exceed the coverage available or be excluded from our insurance policies. Any disruption of our ability to operate our business could result in a material decrease in our revenues or significant additional costs to replace, repair or insure our assets, which could have a material adverse impact on our financial condition and results of operations.

In addition, we believe that our customers rigorously evaluate their suppliers on the basis of price competitiveness, product quality, reliability and timeliness of delivery, technical expertise and development capability, new product innovation, product design capability, manufacturing expertise, operational flexibility, customer service and overall management. Our success depends on our ability to continue to meet our customers' changing expectations with respect to these criteria. We may be unable to install, maintain and certify equipment needed to produce products or upgrade or transition our manufacturing facilities without impacting production rates or requiring other operational efficiency measures at our facilities. We anticipate that we will remain committed to product research and development, advanced manufacturing techniques and service to remain competitive, which entails significant costs; however, we may be unable to address technological advances, implement new and more cost-effective manufacturing techniques, or introduce new or improved products, whether in existing or new markets, so as to maintain our businesses' competitive positions or to grow our businesses as desired.

A major failure of our information systems could harm our business; increased IT security threats and more sophisticated and targeted computer crime could pose a risk to our systems, networks, and products.

We depend on integrated information systems to conduct our business. While we maintain some of our critical information systems, we are also dependent on third parties to provide important services relating to, among other things, operational technology at our facilities, human resources, electronic communications and certain finance functions. We may experience operating problems with our information systems as a result of system failures, viruses, computer hackers or other causes. Any significant disruption or slowdown of our systems could cause customers to cancel orders or cause standard business processes to become inefficient or ineffective.

We have experienced cyber-attacks in the past and, while none of these cyber-attacks resulted in a material disruption to our business, we may experience additional cyber-attacks in the future. Increased global IT security 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 networks and systems remain potentially vulnerable to advanced persistent threats. Furthermore, we may have little or no oversight with respect to security measures employed by third-party service providers, which may ultimately prove to be ineffective at countering threats. Depending on their nature and scope, such threats could potentially lead to the compromising 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.

A growing portion of our sales and earnings may be derived from international sources, which exposes us to certain risks which may adversely affect our financial results and impact our ability to service debt.

We have operations outside of the United States. Of our net sales for the year ended December 31, 2022, 21.8% were derived from sales by our subsidiaries located outside of the U.S. In addition, we may expand our international operations through internal growth or acquisitions. International operations, particularly sales to emerging markets and manufacturing in non-U.S. countries, are subject to risks that are not present within U.S. markets, which include, but are not limited to, the following:

- volatility of currency exchange between the U.S. dollar and currencies in international markets;
- changes in local government regulations and policies including, but not limited to, foreign currency exchange controls or monetary policy, governmental embargoes, repatriation of earnings, expropriation of property, duty or tariff restrictions, investment limitations and tax policies;

- political and economic instability and disruptions, including labor unrest, civil strife, public health crises (including viral outbreaks such as the coronavirus), acts of war, guerrilla activities, insurrection and terrorism;
- legislation that regulates the use of chemicals;
- disadvantages of competing against companies from countries that are not subject to U.S. laws and regulations, including the Foreign Corrupt Practices Act ("FCPA");
- compliance with international trade laws and regulations, including export control and economic sanctions, such as anti-dumping duties;
- difficulties in staffing and managing multi-national operations;
- limitations on our ability to enforce legal rights and remedies;
- tax inefficiencies in repatriating cash flow from non-U.S. subsidiaries that could affect our financial results and reduce our ability to service debt;
- reduced protection of intellectual property rights; and
- other risks arising out of foreign sovereignty over the areas where our operations are conducted.

In addition, we could be adversely affected by violations of the FCPA and similar worldwide anti-bribery laws as well as export controls and economic sanction laws. The FCPA and similar anti-bribery laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments to non-U.S. officials for the purpose of obtaining or retaining business.

Our acquisition and disposition agreements by which we have acquired or sold companies, include indemnification provisions that may not fully protect us and may result in unexpected liabilities.

Certain of the agreements related to the acquisition and disposition of businesses require indemnification against certain liabilities related to the operations of the company for the previous owner. We cannot be assured that any of these indemnification provisions will fully protect us, and as a result we may incur unexpected liabilities that adversely affect our profitability and financial position.

Expectations relating to sustainability and ESG considerations could expose us to potential liabilities, increased costs, reputational harm and other adverse effects on our business.

Many governments, regulators, investors, employees, customers and other stakeholders are increasingly focused on sustainability and ESG considerations relating to businesses. We have announced certain areas of focus through information on our website, press statements and other communications, including through our Sustainability Reports, which include health and safety, environmental matters, climate change and greenhouse gas emissions, human capital, diversity, equity and inclusion, talent development, and innovation for sustainable products. The criteria used to evaluate sustainability and ESG practices, including goals and initiatives, may continue to evolve, which could result in greater expectations and may cause us to make investments, which may be material, to satisfy new criteria. In addition, some stakeholders may disagree with our goals and initiatives, or have very different views on where our sustainability and ESG focus should be placed, including differing views of regulators in various jurisdictions in which we operate. The increasing attention to sustainability could also result in reduced demand for certain of our products and/or reduced profits. If we are unable to respond effectively, investors may conclude that our sustainability and ESG policies and/or actions are inadequate. Any failure, or perceived failure, by us to achieve our sustainability or ESG goals and initiatives, adhere to our public statements, comply with federal, state or international laws and regulations, meet evolving and varied stakeholder expectations and standards or accurately disclose our progress on such matters, could expose us to potential liabilities, increased costs, reputational harm and other adverse effects on our business.

Regulatory, Legal and Environmental Risks

Significant developments from the recent and potential changes in U.S. trade policies could have a material adverse effect on us and our financial condition and results of operations.

Free trade laws and regulations provide certain duties and tariffs on qualifying imports and exports, subject to compliance with the applicable classification and other requirements. The United States government has indicated its intent to alter its approach to international trade policy and in some cases to renegotiate, or potentially terminate, certain existing bilateral or multi-lateral trade agreements and treaties with foreign countries. For example, the U.S. government has implemented additional tariffs on certain goods imported from China. These tariffs, and other governmental actions relating to international trade agreements or policies, the adoption and expansion of trade restrictions, or the occurrence of a trade war may adversely impact demand for our products, costs, customers, suppliers and/or the U.S. economy or certain sectors thereof and, as a result, adversely impact our business. These tariffs and actions may, directly or indirectly, lead to higher costs and cause us to increase prices to our customers which may reduce demand, or, if we are unable to increase prices, result in lowering our margin on products sold. For example, in the past few years, we have experienced higher input costs as a direct result of tariffs imposed on certain raw materials and components imported from China. In certain cases, we have passed-through these incremental costs to the customer, while in some cases we have not changed pricing to retain or expand volume, and in other cases we continue to work to install capacity in facilities where there currently is no tariff. In addition, certain of our U.S. suppliers raised prices for components in response to an overall increase in demand for domestic sources. It remains unclear what the U.S. or foreign governments will or will not do with respect to tariffs, international trade agreements and policies on a short-term or long-term basis. Additional changes in laws or policies governing the terms of foreign trade, and in particular increased trade restrictions, tariffs or taxes on imports from countries where we manufacture or purchase products could have a material adverse effect on our business and financial results.

Compliance with and changes in tax laws, including tax reform legislation in the United States, could materially and adversely impact our financial condition, results of operations and cash flows.

We are subject to extensive tax liabilities, including federal, state and foreign income taxes and transactional taxes such as excise, sales and use, payroll, franchise, withholding and property taxes. Many tax liabilities are subject to periodic audits by taxing authorities, and such audits could subject us to additional tax as well as interest and penalties. New tax laws and regulations and changes in existing tax laws and regulations could result in increased expenditures by us for tax liabilities in the future and could materially and adversely impact our financial condition, results of operations and cash flows.

We may face liability associated with the use of products for which patent ownership or other intellectual property rights are claimed.

We may be subject to claims or inquiries regarding alleged unauthorized use of a third party's intellectual property. An adverse outcome in any intellectual property litigation could subject us to significant liabilities to third parties, require us to license technology or other intellectual property rights from others, require us to comply with injunctions to cease marketing or using certain products or brands, or require us to redesign, re-engineer, or re-brand certain products or packaging, any of which could affect our business, financial condition and operating results. If we are required to seek licenses under patents or other intellectual property rights of others, we may not be able to acquire these licenses on acceptable terms, if at all. In addition, the cost of responding to an intellectual property infringement claim, in terms of legal fees and expenses and the diversion of management resources, whether or not the claim is valid, could have a material adverse effect on our business, results of operations and financial condition.

We may be unable to adequately protect our intellectual property.

While we believe that our patents, trademarks, know-how and other intellectual property have significant value, it is uncertain that this intellectual property or any intellectual property acquired or developed by us in the future, will provide a meaningful competitive advantage. Our patents or pending applications may be challenged, invalidated or circumvented by competitors or rights granted thereunder may not provide meaningful proprietary protection. Moreover, competitors may infringe on our patents or successfully avoid them through design innovation. Policing unauthorized use of our intellectual property is difficult and expensive, and we may not be able to, or have the resources to, prevent misappropriation of our proprietary rights, particularly in countries where the laws may not protect such rights as fully as in the U.S. The cost of protecting our intellectual property may be significant and have a material adverse effect on our financial condition and future results of operations.

We may incur material losses and costs as a result of product liability, recall and warranty claims brought against us.

We are, from time to time, subject to a variety of claims or litigation incidental to our businesses, including demands for damages arising out of use of our products, claims relating to intellectual property matters and claims involving employment matters and commercial disputes. We currently carry insurance and maintain reserves for potential product liability claims. However, our insurance coverage may be inadequate if such claims do arise and any liability not covered by insurance could have a material adverse effect on our business. Although we have been able to obtain insurance in amounts we believe to be appropriate to cover such liability to date, our insurance premiums may increase in the future as a consequence of conditions in the insurance business generally or our situation in particular. Any such increase could result in lower operating profit or cause the need to reduce our insurance coverage. In addition, a future claim may be brought against us that could have a material adverse effect on us. Any product liability claim may also include the imposition of punitive damages, the award of which, pursuant to certain state laws, may not be covered by insurance. Our product liability insurance policies have limits that, if exceeded, may result in material costs that could have an adverse effect on our future profitability. In addition, warranty claims are generally not covered by our product liability insurance. Further, any product liability or warranty issues may adversely affect our reputation as a manufacturer of high-quality, safe products, divert management's attention, and could have a material adverse effect on our business.

In addition, our former Lamons business is a party to lawsuits related to asbestos contained in gaskets formerly manufactured by it or its predecessors. While we sold the Lamons business in December 2019, we retained the asbestos-related liability exposure. Some of this litigation includes claims for punitive and consequential as well as compensatory damages. We are not able to predict the outcome of these matters given that, among other things, claims may be initially made in jurisdictions without specifying the amount sought or by simply stating the minimum or maximum permissible monetary relief, and may be amended to alter the amount sought. Of the 4,798 claims pending at December 31, 2022, 45 set forth specific amounts of damages (other than those stating the statutory minimum or maximum). See Note 16, "*Commitments and Contingencies*," included in Item 8, "*Financial Statements and Supplementary Data*," within this Form 10-K for additional information.

Total settlement costs (exclusive of defense costs) for all such cases, some of which were filed over 25 years ago, have been \$12.5 million. All relief sought in the asbestos cases is monetary in nature. To date, approximately 40% of our costs related to settlement and defense of asbestos litigation have been covered by our primary insurance. Effective February 14, 2006, we entered into a coverage-in-place agreement with our first level excess carriers regarding the coverage to be provided to us for asbestos-related claims when the primary insurance is exhausted. The coverage-in-place agreement makes asbestos defense costs and indemnity insurance coverage available to us that might otherwise be disputed by the carriers and provides a methodology for the administration of such expenses. The Company's primary insurance exhausted in November 2018, and the Company is solely responsible for defense costs and indemnity payments prior to the commencement of coverage under this agreement, the duration of which would be subject to the scope of damage awards and settlements paid. During this period, we may incur significant litigation costs in defending these matters. We also may be required to incur additional defense costs and pay damage awards or settlements or become subject to equitable remedies in the future that could adversely affect our businesses.

Our business may be materially and adversely affected by compliance obligations and liabilities under environmental laws and regulations, including related to climate change.

We are subject to increasingly stringent environmental laws and regulations, including those relating to air emissions, wastewater discharges and chemical and hazardous waste management and disposal. A number of governments or governmental bodies have introduced or are contemplating introducing regulatory changes in response to climate change, including regulating greenhouse gas emissions. Some of these laws hold owners or operators of land or businesses liable for their own and for previous owners' or operators' releases of hazardous or toxic substances or wastes. Other environmental laws and regulations require obtaining and complying with environmental permits. To date, costs of complying with environmental, health and safety requirements have not been material. However, the nature of our operations and our long history of industrial activities at certain of our current or former facilities, as well as those acquired, could potentially result in material liabilities.

While we must comply with existing and pending climate change legislation, regulation and international treaties or accords, current laws and regulations have not had a material impact on our business, capital expenditures or financial position. Future events, including those relating to climate change or greenhouse gas regulation, could require us to incur expenses related to fund energy efficiency activities, fees or restrictions on certain activities, the modification or curtailment of operations, installation of pollution control equipment or investigation and cleanup of contaminated sites. Any adopted future regulations could also negatively impact our ability to compete with companies situated in areas not subject to such limitations, and we may not be able to recover the cost of compliance with new or more stringent laws and regulations, which could adversely impact our results of operations, cash flow or financial condition.

Our reputation, ability to do business, and results of operations may be impaired by legal compliance risks.

While we strive to maintain high standards, our internal controls and compliance systems may not always protect us from acts committed by our employees, agents, or business partners that would violate U.S. and/or non-U.S. laws or adequately protect our confidential information, including the laws governing payments to government officials, bribery, fraud, anti-kickback and false claims rules, competition, export and import compliance, money laundering, and data privacy laws, as well as the improper use of proprietary information or social media. Any such allegations, violations of law or improper actions could subject us to civil or criminal investigations in the U.S. and in other jurisdictions, could lead to substantial civil or criminal, monetary and non-monetary penalties, and related shareholder lawsuits, could lead to increased costs of compliance, could damage our reputation and could have a material effect on our financial statements.

Risks Related to our Debt and Other Financial Obligations

We have debt principal and interest payment requirements that may restrict our future operations and impair our ability to meet our obligations.

As of December 31, 2022, we have \$394.7 million of outstanding long-term debt. We are subject to variable interest rates on our revolving credit facility. Such interest rates, effective January 1, 2022, are based on the Secured Overnight Financing Rate, the Sterling Overnight Index Average and the Euro Short Term Rate depending upon the currency of borrowing, all plus a spread of 1.50%. The interest rate spread is based upon the leverage ratio, as defined, as of the most recent determination date. We may experience increases in our interest expense as a result of general increases in interest rate levels. In addition, we could be further impacted by changes in variable interest rates. Our reference rates under our revolving credit facility may perform differently from the historical use of U.S. dollar LIBOR, which may affect our net interest expense and require changes to our future risk, pricing and hedging strategies. We had no amounts outstanding under our revolving credit facility as of December 31, 2022.

Our degree of leverage and level of interest expense may have important consequences, including:

- should our leverage increase, it may place us at a competitive disadvantage as compared with our less leveraged competitors and make us more vulnerable in the event of a downturn in general economic conditions or in any of our businesses;
- our flexibility in planning for, or reacting to, changes in our businesses and the industries in which we operate may be limited;
- a substantial portion of our cash flow from operations will be dedicated to the payment of annual interest and future principal obligations on our indebtedness, thereby reducing the funds available to us for operations, capital expenditures, acquisitions, future business opportunities or obligations to pay rent in respect of our operating leases; and
- our operations are restricted by our debt instruments, which contain certain financial and operating covenants, and those restrictions may limit, among other things, our ability to borrow money in the future for working capital, capital expenditures, acquisitions, rent expense or other purposes.

Our ability to service our debt and other obligations will depend on our future operating performance, which will be affected by prevailing economic conditions and financial, business and other factors, many of which are beyond our control. Our business may not generate sufficient cash flow, and future financings may not be available to provide sufficient net proceeds, to meet these obligations or to successfully execute our business strategies. See "*Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources.*"

Restrictions in our debt instruments limit our ability to take certain actions and breaches thereof could impair our liquidity.

Our revolving credit facility and the indenture governing our senior notes contain covenants that restrict our ability to:

- pay dividends or redeem or repurchase capital stock;
- incur additional indebtedness and grant liens;
- make acquisitions and joint venture investments; and
- sell assets.

Our debt instruments also require us to comply with financial covenants relating to, among other things, interest coverage and leverage. We may not be able to satisfy these covenants in the future or be able to pursue our strategies within the constraints of these covenants. Substantially all of the assets of our domestic subsidiaries are pledged as collateral. Borrowings under the foreign currency sub limit are secured by a pledge of the assets of the foreign subsidiary borrowers that are party to our revolving credit facility. A breach of a covenant contained in our debt instruments could result in an event of default under one or more of our debt instruments and our lease financing arrangements. Such breaches would permit the lenders to declare all amounts borrowed thereunder to be due and payable, and the commitments of such lenders to make further extensions of credit could be terminated. Each of these circumstances could materially and adversely impair our liquidity.

Our borrowing costs may be impacted by our credit ratings developed by various rating agencies.

Two major ratings agencies, Standard & Poor's and Moody's, evaluate our credit profile on an ongoing basis and have each assigned ratings for our long-term debt. If our credit ratings were to decline, our ability to access certain financial markets may become limited, the perception of us in the view of our customers, suppliers and security holders may worsen and as a result, we may be adversely affected.

We have significant operating lease obligations and our failure to meet those obligations could adversely affect our financial condition.

We lease many of our manufacturing and distribution branch facilities, and certain capital equipment. Our rental expense in 2022 under these operating leases was \$13.9 million. A failure to pay our rental obligations would constitute a default allowing the applicable landlord to pursue any remedy available to it under applicable law, which would include taking possession of our property and, in the case of real property, evicting us. These leases are categorized as operating leases and are not considered indebtedness for purposes of our debt instruments.

Human Capital Risks

We depend on the services of key individuals and relationships, the loss of which could materially harm us.

Our success will depend, in part, on the efforts of our key leadership, including key operational, technical, commercial, manufacturing and financial personnel. Our business leadership teams have served a vast majority of their careers in, and are deeply experienced in, the industries we operate. Our future success will also depend on, among other factors, our ability to retain or attract other qualified personnel. The loss of the services of any of our key employees or the failure to retain or attract employees could have a material adverse effect on us.

We may be subject to further unionization and work stoppages at our facilities or our customers may be subject to work stoppages, which could seriously impact the profitability of our business.

As of December 31, 2022, we have one facility, located in Commerce, California, where our hourly employees operate under a collective bargaining agreement, and which represents 12% of our employees located in the United States. We have five facilities outside of the United States where our employees are affiliated with state-controlled or trade unions, which covers 48% of our non-U.S. employees. In 2021 we entered a three-year collective bargaining agreement with the United Automobile, Aerospace and Agricultural Implement Workers of America at our TriMas Aerospace facility in Commerce, California, which expires in August 2024. We are not aware of any present active union organizing drives at any of our other facilities. We cannot predict the impact of any further unionization of our workplace.

Many of our direct or indirect customers have unionized work forces. Strikes, work stoppages or slowdowns experienced by these customers or their suppliers could result in slowdowns or closures of assembly plants where our products are utilized. In addition, organizations responsible for shipping our customers' products may be impacted by occasional strikes or other activity. Any interruption in delivery of our customers' products may reduce demand for our products and have a material adverse effect on us.

Healthcare costs for active employees may exceed projections and may negatively affect our financial results.

We maintain a range of healthcare benefits for our active employees pursuant to labor contracts and otherwise. Healthcare benefits for active employees are provided through comprehensive hospital, surgical and major medical benefit provisions or through health maintenance organizations, all of which are subject to various cost-sharing features. Some of these benefits are provided for in fixed amounts negotiated in labor contracts with the respective unions. If our costs under our benefit programs for active employees exceed our projections, our business and financial results could be materially adversely affected. Additionally, foreign competitors and many domestic competitors provide fewer benefits to their employees, and this difference in cost could adversely impact our competitive position.

Item 1B. Unresolved Staff Comments

Not applicable.

Item 2. Properties

Our principal manufacturing facilities range in size from approximately 10,000 square feet to approximately 255,000 square feet. Except as set forth in the table below, all of our manufacturing facilities are owned. The leases for our manufacturing facilities have terms that expire from 2023 through 2032 and are generally renewable, at our option, for various terms, provided that we are not in default under the lease agreements. Substantially all of our owned U.S. real properties are subject to liens in connection with our credit facility. TriMas' corporate executive office is located in Bloomfield Hills, Michigan, which is leased through February 2028. Our buildings have been generally well maintained, are in good operating condition and are adequate for current production requirements.

The following list sets forth the location of our principal owned and leased manufacturing and other facilities used in continuing operations and identifies the principal segment utilizing such facilities as of December 31, 2022:

	<u>Packaging</u>	<u>Aerospace</u>	<u>Specialty Products</u>
United States:			
Alabama			Huntsville
Arkansas	Atkins ⁽¹⁾		
Arizona		Mesa ⁽¹⁾ Tolleson	
California	Irwindale ⁽¹⁾ Rohnert Park ⁽¹⁾	City of Industry Commerce ⁽¹⁾ Simi Valley ⁽¹⁾	
Colorado	Denver ⁽¹⁾		
Illinois	Woodridge ⁽¹⁾		
Indiana	Auburn Hamilton ⁽¹⁾ Indianapolis ⁽¹⁾		
Kansas		Ottawa	
Michigan	Clinton Township ⁽¹⁾		
Ohio	New Albany ⁽¹⁾		
Oklahoma			Tulsa
Texas			Longview
International:			
Canada		Orangeville ⁽¹⁾	
China	Haining City ⁽¹⁾ Hangzhou ⁽¹⁾		
Germany	Neunkirchen		
India	Baddi New Delhi ⁽¹⁾		
Italy	Borgo San Giovanni ⁽¹⁾ Forli Pieve Fissiraga ⁽¹⁾ Povolaro		
Mexico	San Miguel de Allende ⁽¹⁾		
Slovakia	Levice ⁽¹⁾		
United Kingdom	Leicester		
Vietnam	Thu Dau Mot ⁽¹⁾		

⁽¹⁾ Represents a leased facility. All such leases are operating leases.

Item 3. Legal Proceedings

See Note 16, "*Commitments and Contingencies*" included in Item 8, "*Financial Statements and Supplementary Data*," within this Form 10-K.

Item 4. Mine Safety Disclosures

Not applicable.

Supplementary Item. Information about our Executive Officers

As of December 31, 2022, the following were executive officers of the Company:

Thomas A. Amato. Mr. Amato, age 59, was appointed the Company's President and Chief Executive Officer in July 2016. Previously, he served as Chief Executive Officer and President of Metaldyne, LLC, an international engineered products manufacturing company, from 2009 through 2015, and Co-President and Chief Integration Officer of Metaldyne Performance Group, a global manufacturing company formed in mid-2014 and taken public in the same year, from August 2014 through December 2015. Prior to 2009, he served as Chairman, Chief Executive Officer and President of Metaldyne Corporation, a global components manufacturer, and Co-Chief Executive Officer of Asahi Tec, a publicly traded Japanese casting and forging company. Prior to this, Mr. Amato worked at MascoTech in positions of increasing responsibility, and successfully completed several acquisitions and divestitures. During this time, one of his roles was Vice President of Corporate Development for TriMas. From 1987 to 1994, Mr. Amato worked at Imperial Chemical Industries, a large multinational chemical company, as an applications development engineer and, eventually, a group leader. Mr. Amato also serves on the Board of Directors of Ametek, a publicly traded diversified industrial manufacturing company, and is appointed as its Compensation Committee Chair.

Scott A. Mell. Mr. Mell, age 51, was appointed the Company's Chief Financial Officer in May 2021. Prior to joining the Company, Mr. Mell served as Managing Director of recovery and transformation services for Riveron, a national business advisory firm, from October 2018 through April 2021. In his role with Riveron, Mr. Mell led projects at TriMas to support continuous improvement efforts within TriMas' Packaging and Aerospace segments. Mr. Mell has more than 25 years of leadership experience providing strategic, financial and operational advisory services focused on value creation and transformational change management. Prior to Riveron, Mr. Mell served as Managing Director at Ernst & Young from October 2017 to October 2018. Mr. Mell also served as Vice President of Corporate Strategy at Motus Integrated Technologies from January 2017 to October 2017. Mr. Mell has held senior leadership positions within several global consulting firms including McKinsey & Company and AlixPartners. Mr. Mell's previous experience also includes serving in multiple C-suite roles for both public and privately held companies in the industrial manufacturing, aerospace and energy industries.

Fabio L. Matheus Salik. Mr. Salik, age 54, was appointed President of TriMas Packaging in July 2020. He has more than 20 years of global management experience working for a variety of plastic packaging companies. From 2012 to 2020, he worked for Logoplaste, a Carlyle Group-owned company which is headquartered in Portugal. In his last assignment as CEO of Americas from July 2017 to May 2020, and as Chief Operating Officer from December 2016 to July 2017, Mr. Salik had full P&L responsibility for more than 20 facilities, servicing blue-chip consumer packaged goods companies including P&G, Nestle, L'Oreal, Dannon, Reckitt Benckiser and Henkel. Prior to his tenure at Logoplaste, he was President of Valmari, a Brazilian skincare company. He also worked for Rexam in the United States, France and Brazil, where he served in a number of roles of increasing responsibility, including positions such as Managing Director worldwide for Rexam Make Up and Managing Director worldwide for Rexam Healthcare - Primary Packaging and Prescription Divisions.

John P. Schaefer. Mr. Schaefer, age 51, was appointed President of TriMas Aerospace in December 2016. Previously, he served in various strategic advisory capacities for private equity firms focused in the Aerospace & Defense industry. From 2010 through 2015, he served in operations and general management executive roles with TransDigm Group. Prior to his leadership roles at TransDigm, he served from 2005 through 2009 as an operating executive with Meggitt PLC. Mr. Schaefer is also a 22-year veteran and retired as a Lieutenant Colonel of the United States Marine Corps.

PART II

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

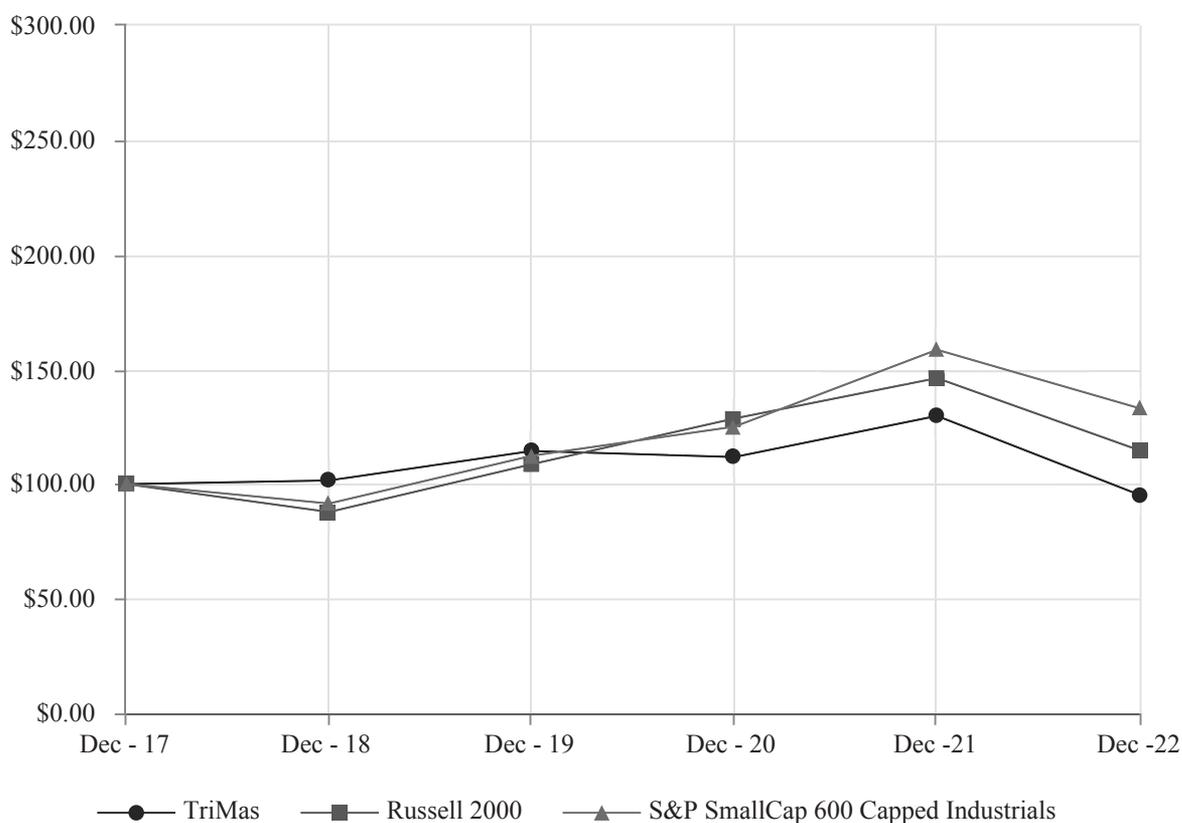
Our common stock, par value \$0.01 per share, is listed for trading on the NASDAQ Global Select Market under the symbol "TRS." As of February 20, 2023, there were 153 holders of record of our common stock.

In 2021, our Board of Directors declared the first dividend since our initial public offering in 2007. Since the fourth quarter of 2021, we have declared dividends of \$0.04 per share of common stock each quarter, and total dividends declared and paid on common shares during 2022 and 2021 were \$6.9 million and \$1.7 million, respectively. Holders of common stock are entitled to dividends at the discretion of our Board of Directors.

See the discussion under Item 7, "*Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources*" and Note 19 to the Company's financial statements captioned "*Earnings per Share*," included in Item 8, "*Financial Statements and Supplementary Data*," within this Form 10-K.

Performance Graph

The following graph compares the cumulative total stockholder return from December 31, 2017 through December 31, 2022 for TriMas common stock, the Russell 2000 Index and the S&P SmallCap 600 Capped Industrials Index. We have assumed that dividends have been reinvested and returns have been weighted-averaged based on market capitalization. The graph assumes that \$100 was invested on December 31, 2017 in each of TriMas common stock, the stocks comprising the Russell 2000 Index and the stocks comprising the S&P SmallCap 600 Capped Industrials Index.



Issuer Purchases of Equity Securities

The following table provides information about purchases made by the Company, or on behalf of the Company by an affiliated purchaser, of shares of the Company's common stock during the three months ended December 31, 2022.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs ⁽¹⁾	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Program ⁽¹⁾
October 1, 2022 to October 31, 2022	28,231	\$ 25.47	28,231	\$ 111,938,743
November 1, 2022 to November 30, 2022	58,400	\$ 25.04	58,400	\$ 110,476,558
December 1, 2022 to December 31, 2022	173,303	\$ 27.59	173,303	\$ 105,694,663
Total	<u>259,934</u>	\$ 26.79	<u>259,934</u>	\$ 105,694,663

⁽¹⁾ In March 2020, the Company announced its Board of Directors had authorized the Company to increase the purchase of its common stock up to \$250 million in the aggregate from its previous authorization of \$150 million. The increased authorization includes the value of shares already purchased under the previous authorization. Pursuant to this share repurchase program, during the three months ended December 31, 2022, the Company repurchased 259,934 shares of its common stock at a cost of \$7.0 million. The share repurchase program is effective and has no expiration date.

Item 6. [Reserved]

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

The statements in the discussion and analysis regarding industry outlook, our expectations regarding the performance of our business and the other non-historical statements in the discussion and analysis are forward-looking statements. These forward-looking statements are subject to numerous risks and uncertainties, including, but not limited to, the risks and uncertainties described in Item 1A "Risk Factors." Our actual results may differ materially from those contained in or implied by any forward-looking statements. You should read the following discussion together with Item 8, "Financial Statements and Supplementary Data."

Introduction

TriMas designs, develops and manufactures a diverse set of products primarily for the consumer products, aerospace & defense and industrial markets through its TriMas Packaging, TriMas Aerospace and Specialty Products groups. Our wide range of innovative products are designed and engineered to solve application-specific challenges that our customers face. We believe our businesses share important and distinguishing characteristics, including: well-recognized and leading brand names in the focused markets we serve; innovative product technologies and features; a high-degree of customer approved processes and qualifications; established distribution networks; relatively low ongoing capital investment requirements; strong cash flow conversion and long-term growth opportunities. While the majority of our revenue is in the United States, we manufacture and supply products globally to a wide range of companies. We report our business activity in three segments: Packaging, Aerospace and Specialty Products.

Key Factors Affecting Our Reported Results

Our businesses and results of operations depend upon general economic conditions. We serve customers in industries that are highly competitive, cyclical and that may be significantly impacted by changes in economic or geopolitical conditions.

Our results of operations have been materially impacted over the past few years by macro-economic factors, first by the onset and proliferation of the coronavirus ("COVID-19") pandemic, then further from increased energy costs and supply chain disruptions from the Russia-Ukraine conflict, and more recently by cost inflation (raw materials, wage rates and freight). These factors significantly affected each of our businesses and how we operate, albeit in different ways and magnitudes. Sales in our Packaging segment for dispensing and closure products used in applications to help fight the spread of germs have experienced extreme volatility in demand, with demand spiking to record highs after the onset of the pandemic, demand abating as expected from those high levels over the past year, and in the second half of 2022 demand abruptly falling as a result of some of our large consumer goods customers' choices to rebalance on-hand inventory levels given the current macro-economic environment. Sales of certain of our industrial and aerospace-related products were significantly depressed from historical levels during 2020 and 2021, but demand has significantly increased in 2022, to where the industrial demand in our Specialty Products segment has rebounded to pre-pandemic levels, while demand in our Aerospace segment continues to increase (and more quickly than expected) as air travel has picked-up and new aircraft build rates improve. Altogether, this significant level of volatility in demand levels, input costs and supply chain availability, as well as internal labor availability, all have pressured our ability to operate efficiently and at historical margin levels.

Overall, 2022 net sales increased \$26.7 million, or 3.1%, compared to 2021. Sales increased within our Specialty Products segment as a result of increased industrial demand and higher oil-field activity in North America. Sales also increased as a result of recent acquisitions in our Packaging and Aerospace segments, as well as from sales of products used in food and beverage markets within our Packaging segment. These factors were partially offset by an abrupt reduction in demand, which we believe is temporary, for personal care, home care and certain industrial products in the second half of 2022 in our Packaging segment, as well as unfavorable currency exchange.

The most significant drivers affecting our financial results in 2022 compared with 2021, other than as directly impacted by sales changes or as a result of the labor-related availability and inefficiencies, were gains on the sale of non-core real estate, the settlement of our cross currency swaps, the impact of higher energy and other input costs, non-cash charges to update our asbestos liability to actuarial valuations, the year-over-year impact of our realignment actions, the impact of our 2021 debt refinancing activities, and the impact of a change in effective tax rates from 2021 to 2022.

In February 2022, we acquired Intertech Plastics LLC and related companies (collectively, "Intertech"), a manufacturer of custom injection molded products used in medical applications, as well as products and assemblies for consumer and industrial applications, for an aggregate amount of \$64.1 million, net of cash acquired. Intertech, which is reported in the Company's Packaging segment, has two manufacturing facilities located in the Denver, Colorado area. Intertech contributed \$28.7 million of net sales during 2022.

In December 2021, we completed the acquisition of Omega Plastics ("Omega"), which specializes in manufacturing custom components and devices for drug delivery, diagnostic and orthopedic medical applications, as well as components for industrial applications, for an aggregate amount of \$22.5 million, net of cash acquired. Omega, which is reported in the Company's Packaging segment, is located in Clinton Township, Michigan. Omega contributed \$15.0 million of acquisition-related sales growth during the period January through November 2022.

In December 2021, we acquired TFI Aerospace ("TFI"), a manufacturer and supplier of specialty fasteners used in a variety of applications, predominately for the aerospace end market, for an aggregate amount of \$11.8 million, with additional contingent consideration ranging from zero to \$12.0 million to be paid based on 2023 and 2024 earnings per the purchase agreement. On the acquisition date, we recorded \$3.7 million as our best estimate of fair value of the additional contingent consideration; however, based on a detailed fourth quarter 2022 review of TFI's updated forecasted operating results, we determined the likelihood of the contingent consideration being paid was remote, and therefore reversed the liability, with such adjustment being included in other income (expense), net. TFI, which is reported in the Company's Aerospace segment, is located near Toronto, Canada. TFI contributed \$4.9 million of acquisition-related sales growth during the period January through November 2022.

In the fourth quarter of 2022, we sold a non-core facility in City of Industry, California for net cash proceeds of \$23.3 million. The Company recognized a \$17.6 million gain on the sale, which is included in the Corporate operating loss for 2022.

In the third quarter of 2022, we completed the sale of vacant land adjacent to our Tolleson, Arizona manufacturing facility for net cash proceeds of \$5.0 million, and recognized a \$4.8 million gain on the sale, which is included within our Aerospace segment.

In 2022, we terminated our existing cross-currency swap agreements, de-designating the swaps as net investment hedges and received \$26.2 million of cash. The cross-currency swap agreements had notional amounts totaling \$250.0 million, which declined to \$25.0 million over various contract periods ending between October 15, 2023 and October 15, 2027.

We also experienced a significant increase in the cost of energy, primarily in our Europe-based operations, as well as for other input costs in 2022 compared with 2021. Energy costs began to rise during late 2021, and further increased into 2022, which we believe is primarily due to geopolitical tensions associated with the Russia-Ukraine conflict, as well as realized and expected energy supply constraints. Energy costs were more than \$5 million higher in 2022 than in 2021. While these costs have begun to stabilize and even recede at the end of 2022, we expect there could be additional cost and supply chain pressures going forward as a result of the uncertainty surrounding the conflict in Eastern Europe.

In 2022 and 2021, we commissioned our actuary to update our asbestos study, and upon completion we recorded non-cash, pre-tax charges of \$5.6 million and \$1.5 million, respectively, which are included in selling, general and administrative expenses.

We have been executing certain realignment actions in response to current and expected future end market demand, as well as for the move to our new Packaging facility in New Albany, Ohio. We recorded pre-tax facility move/consolidation and employee-related costs of \$2.7 million and \$2.3 million, respectively, in 2022. In 2021, we recorded pre-tax facility consolidation and employee separation costs of \$3.5 million and \$6.2 million, respectively.

In March 2021, we refinanced our long-term debt, issuing \$400 million principal amount of 4.125% senior unsecured notes due April 15, 2029 ("2029 Senior Notes") at par value in a private placement offering and amending our existing credit agreement ("Credit Agreement"), extending the maturity to March 2026. We used the proceeds from the 2029 Senior Notes offering to pay fees and expenses of \$5.1 million related to the offering and \$1.1 million related to amending the Credit Agreement. The remaining cash proceeds from the 2029 Senior Notes were used for general corporate purposes, including repaying all outstanding revolving credit facility borrowings. In April 2021, we completed the refinancing, redeeming all of our outstanding senior notes due October 2025 ("2025 Senior Notes"), paying cash for the entire \$300.0 million outstanding principal amount plus \$7.3 million as a redemption premium. The \$5.1 million of fees and expenses related to the 2029 Senior Notes were capitalized as debt issuance costs, while the \$7.3 million redemption premium as well as \$3.0 million of unamortized debt issuance costs associated with the 2025 Senior Notes were expensed in the second quarter of 2021.

Our effective tax rate for 2022 and 2021 was 24.5%, and 17.1%, respectively. The rate for 2022 is higher primarily as a result of the recognition of \$3.0 million of deferred tax benefits in Italy during the 2021, the majority of which related to a reduction in deferred tax liabilities in connection with certain tax incentives.

Additional Key Risks that May Affect Our Reported Results

We have executed significant realignment actions since the onset of the COVID-19 pandemic, primarily in our Aerospace and Specialty Products segments, and also in certain Packaging product areas where demand has fallen. We will continue to assess further actions if required. However, as a result of the current period of macroeconomic inflation and uncertainty, the continued impact of the COVID-19 pandemic, and the potential impact of such factors to our future results of operations, as well as if there is an impact to TriMas' market capitalization, we may record additional cash and non-cash charges related to incremental realignment actions, asset impairments as well as for uncollectible customer account balances, excess inventory and idle production equipment.

Other critical factors affecting our ability to succeed include: our ability to create organic growth through product development, cross-selling and extending product-line offerings, and our ability to quickly and cost-effectively introduce and successfully launch new products; our ability to acquire and integrate companies or products that supplement existing product lines, add new distribution channels or customers, expand our geographic coverage or enable better absorption of overhead costs; our ability to manage our cost structure more efficiently via supply chain management, internal sourcing and/or purchasing of materials, selective outsourcing and/or purchasing of support functions, working capital management, and greater leverage of our administrative functions; and our ability to absorb, or recover via commercial actions, inflationary or other cost increases.

Our overall business does not experience significant seasonal fluctuation, other than our fourth quarter, which has tended to be the lowest net sales quarter of the year due to holiday shutdowns at certain customers or other customers deferring capital spending to the following year. Given the short-cycle nature of most of our businesses, we do not consider sales order backlog to be a material factor. A growing amount of our sales is derived from international sources, which exposes us to certain risks, including currency risks.

We are sensitive to price movements and availability of our raw materials supply. Our largest raw material purchases are for resins (such as polypropylene and polyethylene), steel, aluminum and other metal and non-metal-based purchased components. In addition to the pandemic and inflation-related factors affecting our 2021 and 2022 results, there has also been some volatility over the past two years as a direct and indirect result of foreign trade policy, where tariffs on certain of our commodity-based products sourced from Asia have been instituted, and certain North American suppliers have opportunistically increased their prices. We will continue to take actions to mitigate such increases, including implementing commercial pricing adjustments, resourcing to alternate suppliers and insourcing of previously sourced products to better leverage our global manufacturing footprint. Although we believe we are generally able to mitigate the impact of higher commodity costs over time, we may experience additional material costs and disruptions in supply in the future and may not be able to pass along higher costs to our customers in the form of price increases or otherwise mitigate the impacts to our operating results.

Although we have escalator/de-escalator clauses in commercial contracts with certain of our customers, or can modify prices based on market conditions to recover higher costs, our price increases generally lag the underlying material cost increase, and we cannot be assured of full cost recovery in the open market. If input costs increase at rapid rates, as they did during 2021, our ability to recover cost increases on a timely basis is made more difficult by the lag nature of these contracts.

Our Arrow Engine business in our Specialty Products segment is sensitive to the demand for natural gas and crude oil in North America. For example, demand for engine, pump jack and compressor products are impacted by active oil and gas rig counts and wellhead investment activities. Separately, oil-based commodity costs are a significant driver of raw materials and purchased components used within our Packaging segment.

Each year, as a core tenet of the TriMas Business Model, our businesses target cost savings from Kaizen and continuous improvement initiatives in an effort to reduce, or otherwise offset, the impact of increased input and conversion costs through increased throughput and yield rates, with a goal of at least covering inflationary and market cost increases. In addition, we continuously review our operating cost structures to ensure alignment with current market demand.

We continue to evaluate alternatives to redeploy the cash generated by our businesses, one of which includes returning capital to our shareholders. In 2020, our Board of Directors increased the authorization of share repurchases to a cumulative amount of \$250 million. During 2022, we purchased 1,264,088 shares of our outstanding common stock for an aggregate purchase price of \$36.9 million. As of December 31, 2022, we had \$105.7 million remaining under the repurchase authorization.

In addition, in 2022, we declared quarterly dividends of \$0.04 per share of common stock, aggregating to dividends declared and paid on common shares during 2022 of \$6.9 million. We will continue to evaluate opportunities to return capital to shareholders through the purchase of our common stock, as well as dividends, depending on market conditions and other factors.

Segment Information and Supplemental Analysis

The following table summarizes financial information for our three reportable segments (dollars in thousands):

	Year ended December 31,					
	2022	As a Percentage of Net Sales	2021	As a Percentage of Net Sales	2020	As a Percentage of Net Sales
Net Sales						
Packaging	\$ 522,180	59.1 %	\$ 533,260	62.2 %	\$ 488,340	63.4 %
Aerospace	188,090	21.3 %	183,340	21.4 %	167,740	21.8 %
Specialty Products	173,560	19.6 %	140,510	16.4 %	113,890	14.8 %
Total	<u>\$ 883,830</u>	<u>100.0 %</u>	<u>\$ 857,110</u>	<u>100.0 %</u>	<u>\$ 769,970</u>	<u>100.0 %</u>
Gross Profit						
Packaging	\$ 137,030	26.2 %	\$ 145,750	27.3 %	\$ 142,410	29.2 %
Aerospace	32,240	17.1 %	39,970	21.8 %	27,020	16.1 %
Specialty Products	39,030	22.5 %	31,470	22.4 %	12,650	11.1 %
Total	<u>\$ 208,300</u>	<u>23.6 %</u>	<u>\$ 217,190</u>	<u>25.3 %</u>	<u>\$ 182,080</u>	<u>23.6 %</u>
Selling, General and Administrative						
Packaging	\$ 55,670	10.7 %	\$ 49,110	9.2 %	\$ 47,850	9.8 %
Aerospace	28,990	15.4 %	26,690	14.6 %	25,550	15.2 %
Specialty Products	8,680	5.0 %	8,950	6.4 %	7,890	6.9 %
Corporate expenses	37,850	N/A	37,220	N/A	53,190	N/A
Total	<u>\$ 131,190</u>	<u>14.8 %</u>	<u>\$ 121,970</u>	<u>14.2 %</u>	<u>\$ 134,480</u>	<u>17.5 %</u>
Operating Profit (Loss)						
Packaging	\$ 81,000	15.5 %	\$ 96,490	18.1 %	\$ 93,990	19.2 %
Aerospace	8,060	4.3 %	13,270	7.2 %	(133,440)	(79.6)%
Specialty Products	30,250	17.4 %	22,550	16.0 %	4,350	3.8 %
Corporate	(20,250)	N/A	(37,220)	N/A	(53,190)	N/A
Total	<u>\$ 99,060</u>	<u>11.2 %</u>	<u>\$ 95,090</u>	<u>11.1 %</u>	<u>\$ (88,290)</u>	<u>(11.5)%</u>
Capital Expenditures						
Packaging	\$ 33,170	6.4 %	\$ 34,080	6.4 %	\$ 30,730	6.3 %
Aerospace	6,900	3.7 %	5,390	2.9 %	5,770	3.4 %
Specialty Products	5,860	3.4 %	5,500	3.9 %	3,890	3.4 %
Corporate	30	N/A	90	N/A	90	N/A
Total	<u>\$ 45,960</u>	<u>5.2 %</u>	<u>\$ 45,060</u>	<u>5.3 %</u>	<u>\$ 40,480</u>	<u>5.3 %</u>
Depreciation						
Packaging	\$ 22,720	4.4 %	\$ 20,950	3.9 %	\$ 18,330	3.8 %
Aerospace	7,590	4.0 %	7,140	3.9 %	7,110	4.2 %
Specialty Products	3,680	2.1 %	3,670	2.6 %	3,450	3.0 %
Corporate	130	N/A	130	N/A	130	N/A
Total	<u>\$ 34,120</u>	<u>3.9 %</u>	<u>\$ 31,890</u>	<u>3.7 %</u>	<u>\$ 29,020</u>	<u>3.8 %</u>
Amortization						
Packaging	\$ 6,620	1.3 %	\$ 9,550	1.8 %	\$ 9,270	1.9 %
Aerospace	12,030	6.4 %	11,560	6.3 %	11,020	6.6 %
Specialty Products	450	0.3 %	450	0.3 %	460	0.4 %
Corporate	—	N/A	—	N/A	—	N/A
Total	<u>\$ 19,100</u>	<u>2.2 %</u>	<u>\$ 21,560</u>	<u>2.5 %</u>	<u>\$ 20,750</u>	<u>2.7 %</u>

The following “Results of Operations Year Ended December 31, 2022 Compared with Year Ended December 31, 2021” section presents an analysis of our consolidated operating results displayed in the Consolidated Statement of Operations. A discussion regarding our financial condition and results of operations for the year ended December 31, 2021 compared to the year ended December 31, 2020 can be found under Item 7 in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021, filed with the Securities and Exchange Commission on March 1, 2022.

Results of Operations

Year Ended December 31, 2022 Compared with Year Ended December 31, 2021

The principal factors impacting us during the year ended December 31, 2022, compared with the year ended December 31, 2021 were:

- the significant level of uncertainty and volatility in the markets we serve, whether impacted by the COVID-19 pandemic, the Russia-Ukraine conflict or other general inflationary pressures;
- reduced sales of our Packaging segment's products used in beauty and personal care and home care applications as a result of the abatement from peak demand levels following the pandemic, as well from an abrupt second-half 2022 demand reduction from large consumer packaged goods customers due to their choice to rebalance inventory levels;
- increases in sales in our Specialty Products segment as a result of a significant increase in industrial demand in 2022;
- the impact of recent acquisitions, primarily Omega and TFI in December 2021, and Intertech in February 2022;
- gains on the sale of non-core properties in City of Industry, California and Tolleson, Arizona;
- the impact of higher energy costs;
- expenses associated with our asbestos exposure to update the liability to recent actuarial studies;
- realignment expenses in response to reduced end-market demand following the outbreak of the COVID-19 pandemic;
- the impact of our debt refinancing activities; and
- the impact of a increase in our effective tax rate from 2021 to 2022.

Overall, net sales increased \$26.7 million, or 3.1%, to \$883.8 million in 2022, as compared to \$857.1 million in 2021, primarily as a result of Intertech, Omega and TFI, which collectively added \$48.6 million of acquisition-related sales. Organic sales, excluding the impact of currency exchange and acquisitions, decreased \$4.0 million, as increases in sales of our industrial products in our Specialty Products segment as well as for food and beverage products in our Packaging segment were more than offset by declines in dispensing products for personal and home care applications, as demand for these products abated from peak levels following the pandemic, as well as the expected decline in sales of customers' stocking orders for highly-engineered fasteners in our Aerospace segment fulfilled in 2021. In addition, net sales decreased \$17.9 million due to currency exchange, as our reported results in U.S. dollars were unfavorably impacted as a result of the strengthening U.S. dollar relative to foreign currencies.

Gross profit margin (gross profit as a percentage of sales) approximated 23.6% and 25.3% in 2022 and 2021, respectively. Gross profit margin decreased due to a less favorable sales mix, primarily as a result of lower sales of Aerospace segment customers' stocking orders for highly-engineered fasteners, and lower fixed cost absorption from the reduction in the Packaging segment's personal care, home care and certain industrial product sales. In addition, improved recovery of resin costs in our Packaging segment was offset by higher energy costs, primarily in our European Packaging segment facilities, higher steel costs in our Specialty Products segment, labor and production inefficiencies in our Aerospace segment, and unfavorable currency exchange.

Operating profit margin (operating profit as a percentage of sales) approximated 11.2% and 11.1% in 2022 and 2021, respectively. Operating profit increased \$4.0 million, to \$99.1 million in 2022, as compared to \$95.1 million in 2021, primarily due to \$22.4 million of gains on the sale of non-core properties in City of Industry, California and Tolleson, Arizona, improved recovery of resin costs, higher sales in our Specialty Products segment, and \$4.7 million of lower realignment charges, partially offset by less favorable product sales mix, lower fixed cost absorption in our Packaging segment, \$4.1 million of additional pre-tax charges related to updating our asbestos studies in 2022 compared with 2021, production inefficiencies resulting from supply chain constraints and labor volatility, and unfavorable currency exchange.

Interest expense decreased \$0.4 million, to \$14.1 million in 2022, as compared to \$14.5 million in 2021, due to a lower effective interest rate and a decrease in our weighted average borrowings.

We incurred \$10.5 million of debt financing and related expense in 2021, of which \$10.3 million was related to expenses incurred associated with the redemption of our 2025 Senior Notes and \$0.2 million related to the write-off of previously capitalized deferred financing fees associated with our Credit Agreement.

Other income (expense) increased \$3.7 million to other income of \$2.7 million in 2022, from other expense of \$1.0 million in 2021, primarily due to the reversal of the TFI contingent consideration liability in 2022.

The effective income tax rate for 2022 was 24.5%, compared to 17.1% for 2021. We recorded income tax expense of \$21.5 million in 2022, as compared to income tax expense of \$11.8 million in 2021. During 2022, we reported domestic and foreign pre-tax income of \$56.8 million and \$30.9 million, respectively, as compared to a domestic and foreign pre-tax income of \$28.4 million and \$40.7 million in 2021. The rate for 2022 is higher primarily as a result of the recognition of \$3.0 million of deferred tax benefits in Italy during the 2021, the majority of which related to a reduction in deferred tax liabilities in connection with certain tax incentives.

Net income increased \$8.9 million to \$66.2 million in 2022, compared to a net income of \$57.3 million in 2021. This increase was primarily a result of an increase in operating profit of \$4.0 million, the year-over-year impact of the \$10.5 million debt financing and related expenses in 2021, a \$3.7 million increase in other income, as well as a decrease in interest expense of \$0.4 million, partially offset by an increase in income tax expense in 2022.

See below for a discussion of operating results by segment.

Packaging. Net sales decreased \$11.1 million, or 2.1%, to \$522.2 million in 2022, as compared to \$533.3 million in 2021. Acquisition-related sales growth was \$43.7 million, comprised of \$28.7 million of sales from our February 2022 acquisition of Intertech and \$15.0 million resulting from the January through November 2022 sales of our December 2021 acquisition of Omega. Sales of products used in food and beverage markets increased by \$13.9 million, primarily due to strong demand for closures, dispensers and bag-in-box packaging as the hospitality sector continues to rebound from prior COVID-19 pandemic-related shutdowns. Sales of products used in industrial markets decreased by \$3.6 million, primarily as a result of lower demand for drum and pail closure products in North America. Sales of dispensing products used in personal care and home care applications decreased by \$46.5 million, as COVID-19-related demand levels have abated for these products from the peak levels, as well as more recently due to further temporary lower demand from large consumer goods customers who we believe are rebalancing on-hand inventory levels given first half 2022 over-ordering to protect supply and as a result of the current macro-economic environment. Net sales decreased by \$17.9 million due to currency exchange, as our reported results in U.S. dollars were unfavorably impacted as a result of the strengthening U.S. dollar relative to foreign currencies, as compared to 2021.

Packaging's gross profit decreased \$8.7 million to \$137.0 million, or 26.2% of sales, in 2022, as compared to \$145.8 million, or 27.3% of sales, in 2021. During 2021, we were impacted by \$11 million of higher resin costs than we were able to recover via commercial actions. We have generally recovered such costs during 2022, as market prices have generally stabilized. Gross profit from improved material cost recovery was more than offset by \$4.1 million of higher energy costs, primarily in our European manufacturing facilities, lower sales levels, as well as \$5.0 million of currency exchange, as our reported results in U.S. dollars were unfavorably impacted as a result of the strengthening U.S. dollar relative to foreign currencies. In addition, gross profit margin declined as a result of a less favorable product sales mix and lower fixed cost absorption primarily associated with the decline in personal care, home care and industrial products.

Packaging's selling, general and administrative expenses increased \$6.6 million to \$55.7 million, or 10.7% of sales, in 2022, as compared to \$49.1 million, or 9.2% of sales, in 2021, primarily due to higher ongoing selling, general and administrative costs associated with our acquisitions as we integrate them into our portfolio, as well as higher realignment costs of \$1.8 million primarily related to employee-related actions. The increase was partially offset by lower intangible asset amortization expense due to certain assets becoming fully amortized as well as lower employee-related costs.

Packaging's operating profit decreased \$15.5 million to \$81.0 million, or 15.5% of sales, in 2022, as compared to \$96.5 million, or 18.1% of sales, in 2021, as the impact of improved year-over-year recovery of material costs was more than offset by a less favorable product sales mix, lower fixed cost absorption, higher energy costs, higher selling, general and administrative expenses and the impact of \$2.6 million of unfavorable currency exchange.

Aerospace. Net sales increased \$4.8 million, or 2.6%, to \$188.1 million in 2022, as compared to \$183.3 million in 2021. TFI, acquired in December 2021, added \$4.9 million of sales from January through November 2022. Sales of our fasteners products decreased by \$0.4 million, as increases in demand for fasteners used in new aircraft builds, and market share gains, were more than offset by the expected loss of \$29.4 million of sales of customers' stocking orders for highly-engineered fasteners fulfilled in 2021. Sales of our engineered components products increased by \$0.3 million.

Gross profit within Aerospace decreased \$7.7 million to \$32.2 million, or 17.1% of sales, in 2022, from \$40.0 million, or 21.8% of sales, in 2021, primarily due to a less favorable product sales mix in 2022, with lower sales of the customers' stocking orders for highly-engineered fasteners, as well as production inefficiencies resulting from supply chain and labor constraints.

Selling, general and administrative expenses increased \$2.3 million to \$29.0 million, or 15.4% of sales, in 2022, as compared to \$26.7 million, or 14.6% of sales, in 2021, primarily due to higher ongoing selling, general and administrative costs associated with our acquisition of TFI and higher employee-related costs.

Operating profit within Aerospace decreased \$5.2 million to \$8.1 million, or 4.3% of sales, in 2022, as compared to \$13.3 million, or 7.2% of sales, in 2021, as the impact of a \$4.8 million pre-tax gain on the sale of vacant land adjacent to the Tolleson, Arizona, manufacturing facility in 2022, as well as higher sales levels, was more than offset by a less favorable product sales mix, production inefficiencies resulting from supply chain constraints and volatility in labor availability and higher selling, general and administrative expenses.

Specialty Products. Net sales increased \$33.1 million, or 23.5%, to \$173.6 million in 2022, as compared to \$140.5 million in 2021. Sales of our cylinder products increased by \$19.4 million due to a higher demand for steel cylinders in North America as industrial activity continues to increase from depressed levels as a result of the COVID-19 pandemic. Sales of engines, compressors and related parts used in stationary power generation and assistance applications for natural gas and crude oil extraction increased by \$13.7 million primarily as a result of higher oil-field activity in North America.

Gross profit within Specialty Products increased \$7.6 million to \$39.0 million, or 22.5% of sales, in 2022, as compared to \$31.5 million, or 22.4% of sales, in 2021. Gross profit increased due to higher sales levels and leverage of our fixed cost footprint, partially offset by higher steel and labor costs.

Selling, general and administrative expenses within Specialty Products decreased \$0.3 million to \$8.7 million, or 5.0% of sales, in 2022, as compared to \$9.0 million, or 6.4% of net sales, in 2021, primarily due to lower employee-related costs.

Operating profit within Specialty Products increased \$7.7 million to \$30.3 million, or 17.4% of sales, in 2022, as compared to \$22.6 million, or 16.0% of sales, in 2021, primarily due to increased sales levels.

Corporate Expenses. Corporate expenses included in operating profit consist of the following (dollars in millions):

	Year ended December 31,	
	2022	2021
Corporate operating expenses	\$ 22.4	\$ 26.1
Non-cash stock compensation	9.8	9.5
Legacy (income) expenses, net	5.7	1.6
(Gain) loss on disposition of assets	(17.6)	—
Corporate expenses	<u>\$ 20.3</u>	<u>\$ 37.2</u>

Corporate operating loss decreased \$17.0 million to \$20.3 million in 2022, from \$37.2 million in 2021, primarily as a result of a \$17.6 million gain on the sale of a non-core facility in City of Industry, California, and a \$3.7 million decrease in corporate operating expenses as a result of the realignment charges related to the corporate office legal and finance groups in 2021. These amounts were partially offset by \$4.1 million of additional pre-tax non-cash charges related to updating our asbestos studies in 2022 compared with 2021.

Liquidity and Capital Resources

Cash Flows

Cash flows provided by operating activities in 2022 were \$72.6 million, as compared to \$134.2 million in 2021. Significant changes in cash flows provided by operating activities and the reasons for such changes are as follows:

- In 2022, the Company generated \$109.2 million in cash flows, based on the reported net income of \$66.2 million and after considering the effects of non-cash items related to depreciation, amortization, (gain) loss on dispositions of assets, changes in deferred income taxes, stock-based compensation, change in legacy liability estimate, and other operating activities. In 2021, the Company generated \$139.2 million in cash flows based on the reported net income of \$57.3 million and after considering the effects of similar non-cash items and debt financing and related expenses.
- Increases in accounts receivable resulted in a use of cash of \$6.7 million and \$11.2 million in 2022 and 2021, respectively. The increased use of cash for 2022 and 2021 is due primarily to the timing of sales and collection of cash related thereto with the periods. Days sales outstanding of receivables increased by five days through 2022, and remained relatively consistent through 2021.
- We increased our investment in inventory by \$7.0 million and \$1.0 million in 2022 and 2021, respectively. Our days sales in inventory increased by seven days in 2022, primarily as a result of proactively investing in certain raw materials and purchased components to protect against supply chain disruptions and potential cost increases. Our days sales in inventory decreased by nine days in 2021, through active inventory management and selling through certain inventory items that were at elevated levels at the end of 2020 due to lower demand as a result of the COVID-19 pandemic.
- Decreases in prepaid expenses and other assets resulted in a source of cash of \$6.1 million and \$5.0 million in 2022 and 2021, respectively. The changes in 2022 and 2021 are primarily as a result of the timing of payments made for income taxes and certain operating expenses.
- Decreases in accounts payable and accrued liabilities resulted in a use of cash of \$29.1 million in 2022, while increases in accounts payable and accrued liabilities resulted in a source of cash of \$2.1 million in 2021. Our days accounts payable on hand remained consistent through 2022 and increased by five days through 2021. Our days accounts payable on hand fluctuate primarily as a result of the timing of payments made to suppliers and the mix of vendors and related terms.

Net cash used for investing activities was \$55.0 million and \$79.2 million in 2022 and 2021, respectively. During 2022, we paid \$64.1 million, net of cash acquired, to acquire Intertech. We invested \$46.0 million in capital expenditures as we have continued our investment in growth, capacity and productivity-related capital projects. We received proceeds of \$26.2 million from the termination of our cross-currency swap agreements. We also received proceeds of \$28.8 million from the disposition of property and equipment, primarily related to the sale of vacant land adjacent to one of our manufacturing facilities and the sale of a non-core facility in California. During 2021, we paid \$34.3 million, net of cash acquired, to acquire Omega and TFI. In 2021, we invested \$45.1 million in capital expenditures and received cash from the disposition of business, property and equipment of \$0.2 million.

Net cash used for financing activities was \$46.2 million in 2022, while net cash provided by financing activities was \$11.8 million in 2021. During 2022, we purchased \$36.9 million of outstanding common stock, used a net cash amount of \$2.4 million related to our stock compensation arrangements and paid dividends of \$6.9 million. During 2021, we issued \$400.0 million principal amount of the 2029 Senior Notes, made net repayments of \$48.6 million on our revolving credit facilities, and redeemed \$300.0 million principal amount of the 2025 Senior Notes. In connection with refinancing our long-term debt, we paid \$13.6 million of debt financing fees and redemption premium. We also purchased \$19.1 million of outstanding common stock, used a net cash amount of \$5.2 million related to our stock compensation arrangements and paid dividends of \$1.7 million.

Our Debt and Other Commitments

In March 2021, we issued the 2029 Senior Notes in a private placement under Rule 144A of the Securities Act of 1933, as amended. We used the proceeds from the 2029 Senior Notes offering to pay fees and expenses of \$5.1 million related to the offering and pay fees and expenses of \$1.1 million related to amending our Credit Agreement. In connection with the issuance, we completed the redemption of our 2025 Senior Notes, paying \$300.0 million to retire the outstanding principal amount plus \$7.3 million as a redemption premium. The remaining cash proceeds from the 2029 Senior Notes were used for general corporate purposes, including repaying all outstanding revolving credit facility borrowings. The \$5.1 million of fees and expenses related to the 2029 Senior Notes were capitalized as debt issuance costs, while the \$7.3 million redemption premium, as well as \$3.0 million of unamortized debt issuance costs associated with the 2025 Senior Notes were recorded as expense within debt financing and related expenses in the accompanying consolidated statement of operations.

The 2029 Senior Notes accrue interest at a rate of 4.125% per annum, payable semi-annually in arrears on April 15 and October 15. The payment of principal and interest is jointly and severally guaranteed, on a senior unsecured basis by certain named subsidiaries of the Company. The 2029 Senior Notes are *pari passu* in right of payment with all existing and future senior indebtedness and subordinated to all existing and future secured indebtedness to the extent of the value of the assets securing such indebtedness. In 2022, our consolidated subsidiaries that do not guarantee the Senior Notes represented 24% of the total guarantor and non-guarantor net sales, treating each as a consolidated group and excluding intercompany transactions between guarantor and non-guarantor subsidiaries. In addition, our non-guarantor subsidiaries represented 37% and 14% of the total guarantor and non-guarantor assets and liabilities, respectively, as of December 31, 2022, treating the guarantor and non-guarantor subsidiaries each as a consolidated group.

Prior to April 15, 2024, we may redeem up to 40% of the principal amount of the 2029 Senior Notes at a redemption price of 104.125% of the principal amount, plus accrued and unpaid interest, if any, to the redemption date, with the net cash proceeds of one or more equity offerings provided that each such redemption occurs within 90 days of the date of closing of each such equity offering. In addition, prior to April 15, 2024, we may redeem all or part of the 2029 Senior Notes at a redemption price equal to 100% of the principal amount thereof, plus accrued and unpaid interest, if any, to the redemption date, plus a "make whole" premium.

In March 2021, we amended our Credit Agreement in connection with the issuance of the 2029 Senior Notes to extend the maturity date. We incurred fees and expenses of \$1.1 million related to the amendment, all of which were capitalized as debt issuance costs. We also recorded \$0.2 million of non-cash expense related to the write-off of previously capitalized deferred financing fees. The Credit Agreement consists of a \$300.0 million senior secured revolving credit facility, which permits borrowings denominated in specific foreign currencies, subject to a \$125.0 million sub limit, maturing on March 29, 2026.

In November 2021, we amended the Credit Agreement to replace LIBOR with a benchmark interest rate determined based on the currency denomination of borrowings. Effective January 1, 2022, the amendment replaced the reference rate terms for U.S. dollar LIBOR borrowings to the Secured Overnight Financing Rate ("SOFR"), British pound sterling LIBOR borrowings to the Sterling Overnight Index Average ("SONIA") and Euro LIBOR borrowings to the Euro Short Term Rate ("ESTR"), all plus a spread of 1.50%. The interest rate spread is based upon the leverage ratio, as defined, as of the most recent determination date.

The Credit Agreement provides for incremental revolving credit commitments in an amount not to exceed the greater of \$200 million and an amount such that, after giving effect to such incremental commitments and the incurrence of any other indebtedness substantially simultaneously with the making of such commitments, the senior secured net leverage ratio, as defined in the Credit Agreement, is no greater than 3.00 to 1.00. The terms and conditions of any incremental revolving credit facility commitments must be no more favorable than the existing credit facility.

Amounts drawn under our revolving credit facility fluctuate daily based upon our working capital and other ordinary course needs. Availability under our revolving credit facility depends upon, among other things, compliance with our Credit Agreement's financial covenants. Our Credit Agreement contains various negative and affirmative covenants and other requirements affecting us and our subsidiaries, including the ability to, subject to certain exceptions and limitations, incur debt, liens, mergers, investments, loans, advances, guarantee obligations, acquisitions, assets dispositions, sale-leaseback transactions, hedging agreements, dividends and other restricted payments, transactions with affiliates, restrictive agreements and amendments to charters, bylaws, and other material documents. The terms of our Credit Agreement require us and our subsidiaries to meet certain restrictive financial covenants and ratios computed quarterly, including a maximum total net leverage ratio (total consolidated indebtedness plus outstanding amounts under any accounts receivable securitization facility, less the aggregate amount of certain unrestricted cash and unrestricted permitted investments, as defined, over consolidated EBITDA, as defined) and a minimum interest expense coverage ratio (consolidated EBITDA, as defined, over the sum of consolidated cash interest expense, as defined, and preferred dividends, as defined). Our permitted total net leverage ratio under the Credit Agreement is 4.00 to 1.00 as of December 31, 2022. If we were to complete an acquisition which qualifies for a Covenant Holiday Period, as defined in our Credit Agreement, then our permitted total net leverage ratio cannot exceed 4.50 to 1.00 during that period. Our actual total net leverage ratio was 1.86 to 1.00 at December 31, 2022. Our permitted interest expense coverage ratio under the Credit Agreement is 3.00 to 1.00, and our actual interest expense coverage ratio was 12.72 to 1.00 as of December 31, 2022. At December 31, 2022, we were in compliance with our financial covenants.

The following is a reconciliation of net income, as reported, which is a GAAP measure of our operating results, to Consolidated Bank EBITDA, as defined in our Credit Agreement, for the year ended December 31, 2022. We present Consolidated Bank EBITDA to show our performance under our financial covenants. Dollars are in thousands in the below tables.

	Year ended December 31, 2022
Net income	\$ 66,170
Bank stipulated adjustments:	
Interest expense, net (as defined)	14,110
Income tax expense	21,500
Depreciation and amortization	53,220
Non-cash compensation expense ⁽¹⁾	9,840
Other non-cash expenses or losses	570
Non-recurring expenses or costs ⁽²⁾	9,960
Extraordinary, non-recurring or unusual gains or losses	5,590
Effects of purchase accounting adjustments	1,160
Business and asset dispositions	(21,950)
Permitted acquisitions	710
Currency gains and losses	(720)
Consolidated Bank EBITDA, as defined	<u>\$ 160,160</u>

	December 31, 2022
Total Indebtedness, as defined	\$ 297,910
Consolidated Bank EBITDA, as defined	160,160
Actual total net leverage ratio	<u>1.86 x</u>
Covenant requirement	<u>4.00 x</u>

	Year ended December 31, 2022
Interest expense, as defined	\$ 14,110
Bank stipulated adjustments:	
Interest income	(610)
Non-cash amounts attributable to amortization of financing costs	(910)
Total Consolidated Cash Interest Expense, as defined	<u>\$ 12,590</u>

	<u>December 31, 2022</u>
Consolidated Bank EBITDA, as defined	\$ 160,160
Total Consolidated Cash Interest Expense, as defined	<u>12,590</u>
Actual interest expense coverage ratio	<u>12.72 x</u>
Covenant requirement	<u><u>3.00 x</u></u>

⁽¹⁾ Non-cash compensation expenses resulting from the grant of equity awards.

⁽²⁾ Non-recurring costs and expenses relating to diligence and transaction costs, purchase accounting costs, severance, relocation, restructuring and curtailment expenses.

The Credit Agreement allows issuance of letters of credit, not to exceed \$40.0 million in aggregate, against revolving credit facility commitments. As of December 31, 2021, we placed cash on deposit with a financial institution to be held as cash collateral for our outstanding letters of credit; effectively, as of December 31, 2021, we had no letters of credit issued against our revolving credit facility. At December 31, 2022, we had no amounts outstanding under our revolving credit facility and had \$293.9 million potentially available after giving effect to \$6.1 million of letters of credit issued and outstanding. At December 31, 2021, we had no amounts outstanding under our revolving credit facility and had \$300.0 million potentially available. Our letters of credit, or corresponding restricted cash deposits, are used for a variety of purposes, including support of certain operating lease agreements, vendor payment terms and other subsidiary operating activities, and to meet various states' requirements to self-insure workers' compensation claims, including incurred but not reported claims. Our borrowing capacity was not reduced by leverage restrictions contained in the Credit Agreement as of December 31, 2022 and December 31, 2021.

We rely upon our cash flow from operations and available liquidity under our revolving credit facility to fund our debt service obligations and other contractual commitments, working capital and capital expenditure requirements. At the end of each quarter, we have historically used cash on hand from our domestic and certain foreign subsidiaries to pay down amounts outstanding under our revolving credit facility, as applicable.

Our weighted average borrowings were \$400.1 million during 2022, compared to \$401.9 million during 2021, primarily due to a higher aggregate principal balance on our senior notes due to the issuance of the 2029 Senior Notes and the redemption of the 2025 Senior Notes during 2021.

In May 2021, we, through one of our non-U.S. subsidiaries, entered into a revolving loan facility with a borrowing capacity of \$4 million. The facility is guaranteed by TriMas Corporation. There were no borrowings on this loan facility as of December 31, 2022 and 2021.

Cash management related to our revolving credit facility is centralized. We monitor our cash position and available liquidity on a daily basis and forecast our cash needs on a weekly basis within the current quarter and on a monthly basis outside the current quarter over the remainder of the year. Our business and related cash forecasts are updated monthly.

In considering the economic uncertainty surrounding the potential business impacts from the COVID-19 pandemic with respect to our operations, supply chains, distribution channels, and end-market customers, we took certain defensive actions during 2020 as we monitored our cash position and available liquidity. These actions included suspending our repurchase of our common stock, borrowing on our revolving credit facility, tightening our capital expenditures, advanced monitoring of our accounts receivable balances and flexing cost structures of operations expected to be most impacted by COVID-19. Given strong cash generation and our current liquidity position, we subsequently relaxed certain of these actions, choosing to further invest in capital expenditures, resume purchasing shares of our common stock and initiating a cash dividend.

The majority of our cash on hand as of December 31, 2022 is located within the United States, and given available funding under our revolving credit facility of \$300.0 million at December 31, 2022 (after consideration of the aforementioned leverage restrictions) and based on forecasted cash sources and requirements inherent in our business plans, we believe that our liquidity and capital resources, including anticipated cash flows from operations, will be sufficient to meet our debt service, capital expenditure and other short-term and long-term obligation needs for the next 12 months and for the foreseeable future, as well as dividends and share repurchases.

We are subject to variable interest rates on our revolving credit facility, which is subject to a benchmark interest rate determined based on the currency denomination of borrowings. At December 31, 2022, we had no amounts outstanding on our revolving credit facility and, therefore, no variable rate-based borrowings outstanding.

In addition to our long-term debt, we have other cash commitments related to leases. We account for these lease transactions as operating leases, and incurred rent expense for continuing operations related thereto of \$13.9 million in 2022. We continue to be party to non-cancelable leases for certain facilities we have exited as part of restructuring activities, and have entered into sublease agreements to minimize our net lease payments. We expect leasing will continue to be an available financing option to fund future capital expenditure requirements.

In March 2020, we announced our Board of Directors had authorized us to increase the purchase of our common stock up to \$250 million in the aggregate, an increase of \$100 million from the previous authorization. During 2022, 2021 and 2020, we purchased 1,264,088, 596,084 and 1,582,049 shares of our outstanding common stock for \$36.9 million, \$19.1 million and \$39.4 million, respectively. Since the initial authorization through December 31, 2022, we have purchased 5,114,903 shares of our outstanding common stock for an aggregate purchase price of \$144.3 million. We will continue to evaluate opportunities to return capital to shareholders through the purchase of our common stock, depending on market conditions, including the potential impact of the COVID-19 pandemic, and other factors.

Under various agreements, we are obligated to make future cash payments in fixed amounts. These include payments under our long-term debt agreements, rent payments required under operating lease agreements, certain benefit obligations and interest obligations on our long-term debt. The following table summarizes our material contractual cash obligations as of December 31, 2022 (dollars in thousands).

	Payments Due by Periods				
	Total	Less than One Year	1 - 3 Years	3 - 5 Years	More than 5 Years
Contractual and other cash obligations:					
Long-term debt	\$ 400,000	\$ —	\$ —	\$ —	\$ 400,000
Operating lease obligations	55,530	9,970	16,960	14,380	14,220
Benefit obligations	14,940	1,220	2,550	2,760	8,410
Interest obligations ^(a)	107,250	16,500	33,000	33,000	24,750
Total contractual and other cash obligations	<u>\$ 577,720</u>	<u>\$ 27,690</u>	<u>\$ 52,510</u>	<u>\$ 50,140</u>	<u>\$ 447,380</u>

^(a) Our Senior Notes bear interest at 4.125%. The future interest obligations calculation excludes the impact of our cross-currency swap agreements. See Note 13, "Derivative Instruments," included in Item 8, "Financial Statements and Supplementary Data," within this Form 10-K for additional information.

The liability related to unrecognized tax benefits has been excluded from the contractual obligations table because a reasonable estimate of the timing and amount of cash flows from future tax settlements cannot be determined. For additional information, refer to Note 22, "Income Taxes," included in Item 8, "Financial Statements and Supplementary Data," within this Form 10-K.

Market Risk

We conduct business in various locations throughout the world and are subject to market risk due to changes in the value of foreign currencies. The functional currencies of our foreign subsidiaries are primarily the local currency in the country of domicile. We manage these operating activities at the local level and revenues and costs are generally denominated in local currencies; however, results of operations and assets and liabilities reported in U.S. dollars will fluctuate with changes in exchange rates between such local currencies and the U.S. dollar.

We use derivative financial instruments to manage currency risks associated with our procurement activities denominated in currencies other than the functional currency of our subsidiaries and the impact of currency rate volatility on our earnings. As of December 31, 2022, we were party to foreign exchange forward and swap contracts to hedge changes in foreign currency exchange rates with notional amounts of \$127.2 million. We also use cross-currency swap agreements to mitigate currency risks associated with the net investment in certain of our foreign subsidiaries. See Note 13, "Derivative Instruments," included in Item 8, "Financial Statements and Supplementary Data," within this Form 10-K for additional information.

We are also subject to interest risk as it relates to our long-term debt. We have historically used interest rate swap agreements to fix the variable portion of our debt to manage this risk. See Note 13, "Derivative Instruments," included in Item 8, "Financial Statements and Supplementary Data," within this Form 10-K for additional information.

Common Stock

TriMas is listed in the NASDAQ Global Select MarketSM. Our stock trades under the symbol "TRS."

Credit Rating

We and certain of our outstanding debt obligations are rated by Standard & Poor's and Moody's. On March 29, 2022, Moody's affirmed a Ba3 rating to our 2029 Senior Notes, as presented in Note 12, "Long-term Debt" included in Item 8, "Financial Statements and Supplementary Data" within this Form 10-K. Moody's also affirmed a Ba2 Corporate Family Rating and maintained its outlook as stable. On May 12, 2022, Standard & Poor's affirmed a BB- rating to our 2029 Senior Notes. Standard & Poor's also affirmed a BB corporate credit rating and maintained its outlook as stable. If our credit ratings were to decline, our ability to access certain financial markets may become limited, our cost of borrowings may increase, the perception of us in the view of our customers, suppliers and security holders may worsen and as a result, we may be adversely affected.

Outlook

Since the onset of the COVID-19 pandemic in 2020, each of our businesses has been impacted by significant macro-economic factors. Sales in our Packaging segment for dispensing and closure products we supply that are used in applications to fight the spread of germs spiked in 2020 and early 2021, and have now abated from those peak levels in 2022. Sales in our Specialty Products segment had been depressed by low levels of industrial activity in the U.S. during 2020, but have since strongly rebounded in 2022. Sales in our Aerospace segment were significantly depressed at the onset of the pandemic and for many quarters thereafter, but demand began to significantly increase during 2022.

Following the pandemic and now the Russia-Ukraine conflict, there have been significant challenges in inflationary pressures, supply chain disruptions, labor availability, as well as significant volatility in our customers' order patterns. We believe this period of uncertainty will continue to persist in the near-term. However, no matter the outcome of these factors, we expect to continue to mitigate, as much as practical, the impact of these challenges, executing on realignment actions and taking other proactive actions as necessary, to maintain our strong balance sheet and generate cash in support of our capital allocation strategy.

We believe our capital structure remains strong and that we have sufficient headroom under our financial covenants, and ample cash and available liquidity under our revolving credit facility, to meet our debt service, capital expenditure and other short-term and long-term obligations for the next 12 months and for the foreseeable future, as well as fund dividends, share repurchases and bolt-on acquisitions consistent with our capital allocation strategy.

We expect to continue to leverage the tenets of our TriMas Business Model to manage our multi-industry businesses on a longer-term basis, to achieve our growth plans, execute continuous improvement initiatives to offset inflationary pressures, and seek lower-cost sources for input costs, all while continuously assessing the appropriateness of our manufacturing footprint and fixed-cost structure.

Impact of New Accounting Standards

See Note 2, "*New Accounting Pronouncements*," included in Item 8, "*Financial Statements and Supplementary Data*," within this Form 10-K.

Critical Accounting Policies

The following discussion of accounting policies is intended to supplement the accounting policies presented in Note 3, "*Summary of Significant Accounting Policies*" included in Item 8, "*Financial Statements and Supplementary Data*," within this Form 10-K. Certain of our accounting policies require the application of significant judgment by management in selecting the appropriate assumptions for calculating financial estimates. By their nature, these judgments are subject to an inherent degree of uncertainty. These judgments are based on our historical experience, our evaluation of business and macroeconomic trends, and information from other outside sources, as appropriate.

Receivables. Receivables are presented net of allowances for doubtful accounts of \$1.7 million and \$1.6 million at December 31, 2022 and 2021, respectively. We monitor our exposure for credit losses and maintain adequate allowances for doubtful accounts. We determine these allowances based on our historical write-off experience and/or specific customer circumstances and provide such allowances when amounts are reasonably estimable and it is probable a loss has been incurred. Although we have been growing business with certain of our larger customers, and there has been some industry consolidation where certain of our customers are merging, we do not believe that significant credit risk exists or that we have a significant concentration of accounts receivable with a single customer or group of customers due to our diverse customer base. See Item 1A, "*Risk Factors*," for additional information regarding risks associated with a concentrated customer base.

Depreciation and Amortization. Depreciation is computed principally using the straight-line method over the estimated useful lives of the assets. Annual depreciation rates are as follows: building and land/building improvements three to 40 years, and machinery and equipment, three to 15 years. Capitalized debt issuance costs are amortized over the underlying terms of the related debt securities. Customer relationship intangibles are amortized over periods ranging from five to 25 years, while technology and other intangibles are amortized over periods ranging from one to 30 years.

Impairment of Long-Lived Assets and Definite-Lived Intangible Assets. We review, on at least a quarterly basis, the financial performance of each business unit for indicators of impairment. In reviewing for impairment indicators, we also consider events or changes in circumstances such as business prospects, customer retention, market trends, potential product obsolescence, competitive activities and other economic factors. An impairment loss is recognized when the carrying value of an asset group exceeds the future net undiscounted cash flows expected to be generated by that asset group. The impairment loss recognized is the amount by which the carrying value of the asset group exceeds its fair value.

Goodwill and Indefinite-Lived Intangibles. We assess goodwill and indefinite-lived intangible assets for impairment at the reporting unit level on an annual basis as of October 1, by reviewing relevant qualitative and quantitative factors. More frequent evaluations may be required if we experience changes in our business climate or as a result of other triggering events that take place. An impairment loss is recognized when the carrying value of the asset exceeds its fair value.

We determine our reporting units at the individual operating segment level, or one level below, when there is discrete financial information available that is regularly reviewed by segment management for evaluating operating results. For purposes of our 2022 goodwill impairment test, we had six reporting units, four of which had goodwill, within our three reportable segments.

We first perform a qualitative assessment for our annual goodwill impairment test and for our indefinite-lived intangible asset impairment test, which involves significant use of management's judgment and assumptions to determine whether it is more likely than not that the fair value of a reporting unit or indefinite-lived intangible asset is less than its carrying amount. In conducting the qualitative assessment, we consider macroeconomic conditions, industry and market considerations, overall financial performance, entity and reporting unit specific events, capital markets pricing, recent fair value estimates and carrying amounts, as well as legal, regulatory, and contractual factors. These factors are all considered in reaching a conclusion about whether it is more likely than not that the fair values of the intangible assets are less than the carrying values. If we conclude that further testing is required, we would perform a quantitative valuation to estimate the fair value of our intangible assets.

For purposes of the 2022 annual impairment tests, based on the qualitative assessments, we determined there were no indications that the fair value of a reporting unit or indefinite-lived intangible asset was less than its carrying amount; therefore, we determined that quantitative assessments were not required.

Future declines in sales and/or operating profit, declines in our stock price, or other changes in our business or the markets for our products could result in further impairments of our goodwill and indefinite-lived intangible assets.

Pension Benefits. We engage independent actuaries to compute the amounts of liabilities and expenses under defined benefit pension plans, subject to the assumptions that we determine are appropriate based on historical trends, current market rates and future projections as of the measurement date. Annually, we review the actual experience compared to the most significant assumptions used and makes adjustments to the assumptions, if warranted. Discount rates are based upon an expected benefit payments duration analysis and the equivalent average yield rate for high-quality fixed-income investments. Pension benefits are funded through deposits with trustees and the expected long-term rate of return on plan assets is based upon actual historical returns modified for known changes in the market and any expected change in investment policy. Certain accounting guidance, including the guidance applicable to pensions, does not require immediate recognition of the effects of a deviation between actual and assumed experience or the revision of an estimate. This approach allows the favorable and unfavorable effects that fall within an acceptable range to be netted.

Income Taxes. We compute income taxes using the asset and liability method, whereby deferred income taxes using current enacted tax rates are provided for the temporary differences between the financial reporting basis and the tax basis of assets and liabilities and for operating loss and tax credit carryforwards. We determine valuation allowances based on an assessment of positive and negative evidence on a jurisdiction-by-jurisdiction basis and record a valuation allowance to reduce deferred tax assets to the amount more likely than not to be realized. 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. We record interest and penalties related to unrecognized tax benefits in income tax expense.

Asbestos-related Matters. We accrue loss reserves for asbestos-related matters based upon an estimate of the ultimate liability for claims incurred, whether reported or not, including an estimate of future settlement costs and costs to defend. We utilize known facts and historical trends for Company-specific and general market asbestos-related activity, as well as an actuarial valuation in determining estimated required reserves which we believe are probable and reasonably estimable. Asbestos-related accruals are assessed at each balance sheet date to determine if the liability remains reasonably stated. Accruals for asbestos-related matters are included in the consolidated balance sheet in “Accrued liabilities” and “Other long-term liabilities.”

Other Loss Reserves. We have other loss exposures related to insurance, litigation and environmental claims. Establishing loss reserves for these matters requires the use of estimates and judgment in regard to risk exposure and ultimate liability. We are generally party to high deductible insurance programs for losses and liabilities related principally to workers' compensation, health and welfare claims and comprehensive general, product and vehicle liability. Generally, we are responsible for up to \$0.8 million per occurrence under our retention program for workers' compensation, up to \$1.5 million per occurrence under our retention programs for comprehensive general, product and vehicle liability, and have a \$0.4 million per occurrence stop-loss limit with respect to our self-insured group medical plan. We accrue loss reserves up to our retention amounts based upon our estimates of the ultimate liability for claims incurred, including an estimate of related litigation defense costs, and an estimate of claims incurred but not reported using actuarial assumptions about future events. We accrue for such items when such amounts are reasonably estimable and probable. We utilize known facts and historical trends, as well as actuarial valuations in determining estimated required reserves. Changes in assumptions for factors such as medical costs and actual experience could cause these estimates to change significantly.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

In the normal course of business, we are exposed to market risk associated with fluctuations in commodity prices, insurable risks due to property damage, employee and liability claims, and other uncertainties in the financial and credit markets, which may impact demand for our products.

We conduct business in various locations throughout the world and are subject to market risk due to changes in the value of foreign currencies. The functional currencies of our foreign subsidiaries are primarily the local currency in the country of domicile. We manage these operating activities at the local level and revenues and costs are generally denominated in local currencies; however, results of operations and assets and liabilities reported in U.S. dollars will fluctuate with changes in exchange rates between such local currencies and the U.S. dollar. We use derivative financial instruments to manage currency risks associated with our procurement activities denominated in currencies other than the functional currency of our subsidiaries and the impact of currency rate volatility on our earnings.

We may also be subject to interest risk as it relates to long-term debt, for which we have historically and may prospectively employ derivative instruments such as interest rate swaps to mitigate the risk of variable interest rates. See Item 7 "*Management's Discussion and Analysis of Financial Condition and Results of Operations*" for details about our primary market risks, and the objectives and strategies used to manage these risks. Also see Note 12, "*Long-term Debt*," and Note 13, "*Derivative Instruments*," included in Item 8, "*Financial Statements and Supplementary Data*," within this Form 10-K for additional information.

Item 8. Financial Statements and Supplementary Data

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of TriMas Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of TriMas Corporation and subsidiaries (the "Company") as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive income, shareholders' equity, and cash flows, for each of the three years in the period ended December 31, 2022, and the related notes and the schedule listed in the Index at Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of 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 have also 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 and our report dated February 23, 2023 expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the 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 financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

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

Goodwill – Aerospace Fasteners Reporting Unit — Refer to Notes 3 and 8 to the financial statements

Critical Audit Matter Description

The Company's evaluation of goodwill impairment involves a qualitative assessment to determine whether it is more likely than not that the fair value of the reporting unit is less than its carrying amount. The qualitative assessment involves significant use of management's judgment and assumptions related to macroeconomic conditions, industry and market considerations, overall financial performance, entity and reporting unit specific events, capital markets pricing, as well as legal, regulatory, and contractual factors. The Company also considers recent valuations of its reporting units, including the difference between the most recent fair value estimate and the carrying amount. Changes in these assumptions could have a significant effect on management's conclusion about whether a quantitative goodwill impairment test is necessary to estimate the fair value of its reporting units.

The Company's goodwill balance was \$340 million as of December 31, 2022, of which \$70 million was allocated to the Aerospace Fasteners Reporting Unit ("Aerospace Fasteners"). The Company concluded there were no indications that the fair value of any reporting unit was less than the carrying amount, therefore a quantitative assessment was not performed, and no impairment was recognized.

Given the nature of the Aerospace Fasteners operations, the assumptions used in the qualitative assessment, and the difference between the most recent fair value estimate and the carrying amount of Aerospace Fasteners, auditing management's judgments related to the impact of macroeconomic conditions, overall financial performance for Aerospace Fasteners, and capital markets pricing involved especially subjective judgment.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to management's qualitative evaluation of goodwill impairment for Aerospace Fasteners included the following, among others:

- We tested the effectiveness of controls over goodwill, including those over management's judgments and assumptions related to macroeconomic conditions, industry and market considerations, overall financial performance, entity and reporting unit specific events, capital markets pricing, and recent fair value estimates and carrying amounts.
- We evaluated management's ability to accurately forecast future revenues and EBITDA margins by comparing actual results to management's historical forecasts.
- We evaluated the reasonableness of management's qualitative assessment of factors affecting revenue and EBITDA margin forecasts by comparing the forecasts to:
 - i. Historical revenues and EBITDA.
 - ii. Internal communications to management and the Board of Directors.
 - iii. Forecasted information included in industry reports for the Company and certain of its peer companies.
- We evaluated the impact of changes in management's forecasts from the October 1, 2022, annual measurement date to December 31, 2022.
- With the assistance of our fair value specialists, we evaluated the reasonableness of management's qualitative assessment by performing the following: (1) Researching GDP growth, inflation and/or other macroeconomic variables, as well as industry growth rates; (2) Estimate industry discount rates; (3) Research and analyze valuation multiple of guideline public companies to understand valuation trends, and research trends in growth and margins in guideline public companies; and (4) Obtain information to analyze the trend of market capitalization of the entity and public peer companies.

/s/ Deloitte & Touche LLP

Detroit, Michigan
February 23, 2023

We have served as the Company's auditor since 2013.

TriMas Corporation
Consolidated Balance Sheet
(Dollars in thousands)

	December 31,	
	2022	2021
Assets		
Current assets:		
Cash and cash equivalents	\$ 112,090	\$ 140,740
Receivables, net	132,370	125,630
Inventories	163,360	152,450
Prepaid expenses and other current assets	14,840	12,950
Total current assets	422,660	431,770
Property and equipment, net	277,750	265,630
Operating lease right-of-use assets	47,280	50,650
Goodwill	339,810	315,490
Other intangibles, net	188,110	196,730
Deferred income taxes	9,400	9,740
Other assets	19,990	33,630
Total assets	\$ 1,305,000	\$ 1,303,640
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable	\$ 85,210	\$ 87,800
Accrued liabilities	46,660	58,980
Operating lease liabilities, current portion	8,280	8,120
Total current liabilities	140,150	154,900
Long-term debt, net	394,730	393,820
Operating lease liabilities	41,010	43,780
Deferred income taxes	20,940	21,260
Other long-term liabilities	56,340	59,030
Total liabilities	653,170	672,790
Preferred stock \$0.01 par: Authorized 100,000,000 shares; Issued and outstanding: None	—	—
Common stock, \$0.01 par: Authorized 400,000,000 shares; Issued and outstanding: 41,724,762 shares at December 31, 2022 and 42,836,574 shares at December 31, 2021	420	430
Paid-in capital	696,160	732,490
Accumulated deficit	(36,130)	(102,300)
Accumulated other comprehensive income (loss)	(8,620)	230
Total shareholders' equity	651,830	630,850
Total liabilities and shareholders' equity	\$ 1,305,000	\$ 1,303,640

The accompanying notes are an integral part of these financial statements.

TriMas Corporation
Consolidated Statement of Operations
(Dollars in thousands, except per share amounts)

	Year ended December 31,		
	2022	2021	2020
Net sales	\$ 883,830	\$ 857,110	\$ 769,970
Cost of sales	(675,530)	(639,920)	(587,890)
Gross profit	208,300	217,190	182,080
Selling, general and administrative expenses	(131,190)	(121,970)	(134,480)
Net gain (loss) on dispositions of assets	21,950	(130)	(1,290)
Impairment of goodwill and indefinite-lived intangible assets	—	—	(134,600)
Operating profit (loss)	99,060	95,090	(88,290)
Other expense, net:			
Interest expense	(14,110)	(14,510)	(14,660)
Debt financing and related expenses	—	(10,520)	—
Other income (expense), net	2,720	(950)	240
Other expense, net	(11,390)	(25,980)	(14,420)
Income (loss) before income taxes	87,670	69,110	(102,710)
Income tax benefit (expense)	(21,500)	(11,800)	22,950
Net income (loss)	\$ 66,170	\$ 57,310	\$ (79,760)
Basic earnings (loss) per share:			
Net income (loss) per share	\$ 1.57	\$ 1.33	\$ (1.83)
Weighted average common shares - basic	42,249,244	43,006,922	43,581,232
Diluted earnings (loss) per share:			
Net income (loss) per share	\$ 1.56	\$ 1.32	\$ (1.83)
Weighted average common shares - diluted	42,478,015	43,281,076	43,581,232

The accompanying notes are an integral part of these financial statements.

TriMas Corporation
Consolidated Statement of Comprehensive Income
(Dollars in thousands)

	Year ended December 31,		
	2022	2021	2020
Net income (loss)	\$ 66,170	\$ 57,310	\$ (79,760)
Other comprehensive income (loss):			
Defined benefit plans (Note 17)	(550)	3,790	1,310
Foreign currency translation	(17,710)	(7,430)	6,880
Derivative instruments (Note 13)	9,410	9,490	(7,810)
Total other comprehensive income (loss)	(8,850)	5,850	380
Total comprehensive income (loss)	<u>\$ 57,320</u>	<u>\$ 63,160</u>	<u>\$ (79,380)</u>

The accompanying notes are an integral part of these financial statements.

TriMas Corporation
Consolidated Statement of Cash Flows
(Dollars in thousands)

	Year ended December 31,		
	2022	2021	2020
Cash Flows from Operating Activities:			
Net income (loss)	\$ 66,170	\$ 57,310	\$ (79,760)
Adjustments to reconcile net income (loss) to net cash provided by operating activities, net of acquisition impact:			
Impairment of goodwill and indefinite-lived intangible assets	—	—	134,600
(Gain) loss on dispositions of assets	(21,950)	130	1,290
Depreciation	34,120	31,890	29,020
Amortization of intangible assets	19,100	21,560	20,750
Amortization of debt issue costs	910	960	1,150
Deferred income taxes	(1,400)	1,680	(33,710)
Non-cash compensation expense	9,840	9,500	8,170
Debt financing and related expenses	—	10,520	—
Change in legacy liability estimate	5,590	1,450	23,400
(Increase) decrease in receivables	(6,650)	(11,180)	9,580
(Increase) decrease in inventories	(6,970)	(960)	3,980
Decrease in prepaid expenses and other assets	6,120	5,030	4,400
Increase (decrease) in accounts payable and accrued liabilities	(29,130)	2,120	4,490
Other operating activities	(3,180)	4,210	50
Net cash provided by operating activities	<u>72,570</u>	<u>134,220</u>	<u>127,410</u>
Cash Flows from Investing Activities:			
Capital expenditures	(45,960)	(45,060)	(40,480)
Acquisition of businesses, net of cash acquired	(64,100)	(34,340)	(193,540)
Cross-currency swap terminations	26,230	—	—
Net proceeds from dispositions of property and equipment	28,790	220	1,950
Net cash used for investing activities	<u>(55,040)</u>	<u>(79,180)</u>	<u>(232,070)</u>
Cash Flows from Financing Activities:			
Retirement of senior notes	—	(300,000)	—
Proceeds from issuance of senior notes	—	400,000	—
Proceeds from borrowings on revolving credit facilities	12,000	—	367,280
Repayments of borrowings on revolving credit facilities	(12,000)	(48,620)	(319,120)
Debt financing fees and senior notes redemption premium	—	(13,570)	—
Payments to purchase common stock	(36,920)	(19,090)	(39,420)
Shares surrendered upon exercise and vesting of equity awards to cover taxes	(2,380)	(5,230)	(2,600)
Dividends paid	(6,880)	(1,740)	—
Net cash provided by (used for) financing activities	<u>(46,180)</u>	<u>11,750</u>	<u>6,140</u>
Cash and Cash Equivalents:			
Increase (decrease) for the year	(28,650)	66,790	(98,520)
At beginning of year	140,740	73,950	172,470
At end of year	<u>\$ 112,090</u>	<u>\$ 140,740</u>	<u>\$ 73,950</u>
Supplemental disclosure of cash flow information:			
Cash paid for interest	<u>\$ 12,960</u>	<u>\$ 13,280</u>	<u>\$ 13,210</u>
Cash paid for income taxes	<u>\$ 20,060</u>	<u>\$ 10,520</u>	<u>\$ 9,060</u>

The accompanying notes are an integral part of these financial statements.

TriMas Corporation
Consolidated Statement of Shareholders' Equity
Years Ended December 31, 2022, 2021 and 2020
(Dollars in thousands)

	Common Stock	Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total
Balances at December 31, 2019	\$ 450	\$ 782,880	\$ (79,850)	\$ (6,000)	\$ 697,480
Net loss	—	—	(79,760)	—	(79,760)
Other comprehensive income	—	—	—	380	380
Purchase of common stock	(30)	(39,390)	—	—	(39,420)
Shares surrendered upon exercise and vesting of equity awards to cover taxes	—	(2,600)	—	—	(2,600)
Non-cash compensation expense	10	8,160	—	—	8,170
Balances at December 31, 2020	\$ 430	\$ 749,050	\$ (159,610)	\$ (5,620)	\$ 584,250
Net income	—	—	57,310	—	57,310
Other comprehensive income	—	—	—	5,850	5,850
Purchase of common stock	—	(19,090)	—	—	(19,090)
Shares surrendered upon exercise and vesting of equity awards to cover taxes	—	(5,230)	—	—	(5,230)
Non-cash compensation expense	—	9,500	—	—	9,500
Dividends declared	—	(1,740)	—	—	(1,740)
Balances at December 31, 2021	\$ 430	\$ 732,490	\$ (102,300)	\$ 230	\$ 630,850
Net income	—	—	66,170	—	66,170
Other comprehensive loss	—	—	—	(8,850)	(8,850)
Purchase of common stock	(10)	(36,910)	—	—	(36,920)
Shares surrendered upon exercise and vesting of equity awards to cover taxes	—	(2,380)	—	—	(2,380)
Non-cash compensation expense	—	9,840	—	—	9,840
Dividends declared	—	(6,880)	—	—	(6,880)
Balances at December 31, 2022	\$ 420	\$ 696,160	\$ (36,130)	\$ (8,620)	\$ 651,830

The accompanying notes are an integral part of these financial statements.

TRIMAS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Basis of Presentation

TriMas Corporation ("TriMas" or the "Company"), and its consolidated subsidiaries, designs, engineers and manufactures innovative products under leading brand names for customers primarily in the consumer products, aerospace & defense, and industrial markets.

The preparation of financial statements requires management of the Company to make estimates and assumptions that affect the reported amounts of assets and liabilities. Actual results may differ from such estimates and assumptions due to risks and uncertainties, including uncertainty and volatility in the current economic environment due to input cost inflation, supply chain disruptions, and shortages in global markets for commodities, logistics and labor, all of which have followed outbreak of the coronavirus and related variants ("COVID-19") since early 2020. To the extent there are differences between these estimates and actual results, the Company's consolidated financial statements may be materially affected.

2. New Accounting Pronouncements

Recently Adopted Accounting Pronouncements

In November 2021, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2021-10, "Government Assistance (Topic 832): Disclosures by Business Entities about Government Assistance" ("ASU 2021-10"), which requires annual disclosures to increase transparency around government assistance received by companies. ASU 2021-10 is effective for fiscal years beginning after December 15, 2021. The Company adopted ASU 2021-10 in the fourth quarter of 2022. Certain country, state and local governments in which the Company operates offer or have offered various business incentives related to investment and/or job creation. The Company's participation in these government incentive programs is accounted for by applying a grant or contribution model by analogy; however, the Company determined that the adoption of ASU 2021-10 did not have a material impact on its consolidated financial statements.

In October 2021, the FASB issued ASU 2021-08, "Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers" ("ASU 2021-08"), which requires that an acquirer recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with Topic 606, "Revenue from Contracts with Customers." ASU 2021-08 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2022, with early adoption permitted. The Company adopted ASU 2021-08 in the fourth quarter of 2022, which did not have a significant impact on its consolidated financial statements.

3. Summary of Significant Accounting Policies

Principles of Consolidation. The accompanying consolidated financial statements include the accounts and transactions of TriMas and its subsidiaries. Intercompany transactions have been eliminated.

Use of Estimates. The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management of the Company to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements. Such estimates and assumptions also affect the reported amounts of revenues and expenses during the reporting periods. Significant items subject to such estimates and assumptions include the carrying amount of property and equipment, goodwill and other intangibles, valuation allowances for receivables, inventories and deferred income tax assets, valuation of derivatives, estimated fair value of contingent consideration resulting from business combinations, estimated future unrecoverable lease costs, reserves for asbestos and ordinary course litigation, assets and obligations related to employee benefits and estimated unrecognized tax benefits. Actual results may differ from such estimates and assumptions.

Cash and Cash Equivalents. The Company considers cash on hand and on deposit and investments in all highly liquid debt instruments with initial maturities of three months or less to be cash and cash equivalents. Cash and cash equivalents also includes restricted cash, if any, held on deposit with a financial institution as cash collateral for the Company's outstanding letters of credit. See Note 7, "Cash and Cash Equivalents," for further details regarding the Company's cash and cash equivalents.

Receivables. Receivables are presented net of allowances for doubtful accounts of \$1.7 million and \$1.6 million at December 31, 2022 and 2021, respectively. The Company monitors its exposure for credit losses and maintains allowances for doubtful accounts based upon the Company's best estimate of probable losses inherent in the accounts receivable balances. The Company does not believe that significant credit risk exists due to its diverse customer base.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Inventories. Inventories are stated at the lower of cost or net realizable value, with cost determined using the first-in, first-out method. Direct materials, direct labor and allocations of variable and fixed manufacturing-related overhead are included in inventory cost.

Property and Equipment. Property and equipment additions, including significant improvements, are recorded at cost. Upon retirement or disposal of property and equipment, the cost and accumulated depreciation are removed from the accounts, and any gain or loss is included in the accompanying statement of operations. Repair and maintenance costs are charged to expense as incurred.

Depreciation and Amortization. Depreciation is computed principally using the straight-line method over the estimated useful lives of the assets. Annual depreciation rates are as follows: building and land/building improvements three to 40 years, and machinery and equipment, three to 15 years. Capitalized debt issuance costs are amortized over the underlying terms of the related debt securities. Customer relationship intangibles are amortized over periods ranging from five to 25 years, while technology and other intangibles are amortized over periods ranging from one to 30 years.

Impairment of Long-Lived Assets and Definite-Lived Intangible Assets. The Company reviews, on at least a quarterly basis, the financial performance of its businesses for indicators of impairment. In reviewing for impairment indicators, the Company also considers events or changes in circumstances such as business prospects, customer retention, market trends, potential product obsolescence, competitive activities and other economic factors. An impairment loss is recognized when the carrying value of an asset group exceeds the future net undiscounted cash flows expected to be generated by that asset group. The impairment loss recognized is the amount by which the carrying value of the asset group exceeds its fair value.

Goodwill. The Company assesses goodwill for impairment on an annual basis (October 1 test date) by reviewing relevant qualitative and quantitative factors. More frequent evaluations may be required if the Company experiences changes in its business climate or as a result of other triggering events that take place. An impairment loss is recognized when the carrying value of a reporting unit's goodwill exceeds its fair value.

The Company determines its reporting units at the individual operating segment level, or one level below, when there is discrete financial information available that is regularly reviewed by segment management to evaluate operating results. For purposes of the Company's 2022 goodwill impairment test, the Company had six reporting units, four of which had goodwill, within its three reportable segments.

The Company begins its goodwill reviews by conducting a qualitative assessment, considering relevant events and circumstances that affect the fair value or carrying amount of a reporting unit. Such events and circumstances can include macroeconomic conditions, industry and market considerations, overall financial performance, entity and reporting unit specific events, and capital markets pricing. The Company considers the extent to which any identified adverse events and circumstances affect the comparison of a reporting unit's fair value with its carrying amount. The Company places more weight on the events and circumstances that most affect a reporting unit's fair value or the carrying amount of its net assets. The Company considers positive and mitigating events and circumstances that may affect its determination of whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. The Company also considers its most recent valuations of its reporting units, including the difference between the most recent fair value estimate and the carrying amount. Each of these factors is considered by management in reaching its conclusion about whether a quantitative goodwill impairment test is necessary to estimate the fair value of its reporting units.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

If the Company concludes that conducting a quantitative assessment is required, the Company determines the fair value of the reporting unit being evaluated utilizing a combination of three valuation techniques: discounted cash flow (income approach), market comparable method (market approach) and market capitalization (direct market data method). The income approach is based on management's operating plan and internal five-year forecast and utilizes forward-looking assumptions and projections, on a discounted basis, but considers factors unique to each reporting unit and related long-range plans that may not be comparable to other companies and that are not yet public. The market approach considers potentially comparable companies and transactions within the industries where the Company's reporting units participate, and applies their trading multiples to the financial projections of the Company's reporting units. This approach utilizes data from actual marketplace transactions, but reliance on its results is limited by difficulty in identifying companies that are specifically comparable to the Company's reporting units, considering the diversity of the Company's businesses, the relative sizes and levels of complexity. The Company also uses the direct market data method by comparing its book value and the estimates of fair value of the reporting units to the Company's market capitalization. Management uses this comparison as additional evidence of the fair value of the Company, as its market capitalization may be suppressed by other factors such as the control premium associated with a controlling shareholder, the Company's degree of leverage and the float of the Company's common stock. Management evaluates and weights the results based on a combination of the income and market approaches, and, in situations where the income approach results differ significantly from the market and direct data approaches, management re-evaluates and adjusts, if necessary, its assumptions.

Based on the quantitative test, if it is determined that the carrying value of the reporting unit is higher than its fair value, goodwill is impaired and is written down to the fair value amount; however, the loss recognized will not exceed the total amount of goodwill allocated to the reporting unit. See Note 8, "*Goodwill and Other Intangible Assets*," for further details regarding the Company's goodwill impairment testing.

Indefinite-Lived Intangibles. The Company assesses indefinite-lived intangible assets (primarily trademark/trade names) for impairment on an annual basis (October 1 test date) by reviewing relevant qualitative and quantitative factors. More frequent evaluations may be required if the Company experiences changes in its business climate or as a result of other triggering events that take place. An impairment loss is recognized when the carrying value of the asset exceeds its fair value.

In conducting a qualitative assessment, the Company considers relevant events and circumstances to determine whether it is more likely than not that the fair values of the indefinite-lived intangible assets are less than the carrying values. In addition to the events and circumstances that the Company considers above in its qualitative analysis for potential goodwill impairment, the Company also considers legal, regulatory and contractual factors that could affect the fair value or carrying amount of the Company's indefinite-lived intangible assets. The Company also considers its most recent valuations of its indefinite-lived intangible assets, including the difference between the most recent fair value estimates and the carrying amounts. These factors are all considered by management in reaching its conclusion about whether it is more likely than not that the fair values of the indefinite-lived intangible assets are less than the carrying values. If management concludes that further testing is required, the Company performs a quantitative valuation to estimate the fair value of its indefinite-lived intangible assets. In conducting the quantitative impairment analysis, the Company determines the fair value of its indefinite-lived intangible assets using the relief-from-royalty method. The relief-from-royalty method involves the estimation of appropriate market royalty rates for the indefinite-lived intangible assets and the application of these royalty rates to forecasted net sales attributable to the intangible assets. The resulting cash flows are then discounted to present value, using a rate appropriately reflecting the risks inherent in the cash flows, which then is compared to the carrying value of the assets. If the carrying value exceeds fair value, an impairment is recorded. See Note 8, "*Goodwill and Other Intangible Assets*," for further details regarding the Company's indefinite-lived intangible asset impairment testing.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

High Deductible Insurance. The Company generally has high deductible insurance programs for losses and liabilities related to workers' compensation, health and welfare claims and comprehensive general, product and vehicle liability. The Company is generally responsible for up to \$0.8 million per occurrence under its retention program for workers' compensation, up to \$1.5 million per occurrence under its retention programs for comprehensive general, product and vehicle liability, and has a \$0.4 million per occurrence stop-loss limit with respect to its group medical plan. Total insurance limits under these retention programs vary by year for comprehensive general, product and vehicle liability and extend to the applicable statutory limits for workers' compensation. Reserves for claims losses, including an estimate of related litigation defense costs, are recorded based upon the Company's estimates of the aggregate liability for claims incurred using actuarial assumptions about future events. Changes in assumptions for factors such as medical costs and actual experience could cause these estimates to change.

Pension Plans. The Company engages independent actuaries to compute the amounts of liabilities and expenses under defined benefit pension plans, subject to the assumptions that the Company determines are appropriate based on historical trends, current market rates and future projections. Assumptions used in the actuarial calculations could have a significant impact on plan obligations, and a lesser impact on current period expense. Annually, the Company reviews the actual experience compared to the significant assumptions used and makes adjustments to the assumptions, if warranted. Discount rates are based on an expected benefit payments duration analysis and the equivalent average yield rate for high-quality fixed-income investments. Pension benefits are funded through deposits with trustees and the expected long-term rate of return on fund assets is based on actual historical returns and a review of other public company pension asset return data, modified for known changes in the market and any expected change in investment policy. See Note 17, "Employee Benefit Plans," for further information.

Asbestos-related Matters. The Company accrues loss reserves for asbestos-related matters based upon an estimate of the ultimate liability for claims incurred, whether reported or not, including an estimate of future settlement costs and costs to defend. The Company utilizes known facts and historical trends for Company-specific and general market asbestos-related activity, as well as an actuarial valuation in determining estimated required reserves which it believes are probable and reasonably estimable. Asbestos-related accruals are assessed at each balance sheet date to determine if the liability remains reasonably stated. Accruals for asbestos-related matters are included in the consolidated balance sheet in "Accrued liabilities" and "Other long-term liabilities." See Note 16, "Commitments and Contingencies," for further information.

Revenue Recognition. Revenue is recognized when control of promised goods is transferred to customers, which generally occurs when products are shipped from the Company's facilities to its customers. The amount of revenue recorded reflects the consideration the Company expects to be entitled to receive in exchange for transferring those goods. Net sales are comprised of gross revenues, based on observed stand-alone selling prices, less estimates of expected returns, trade discounts and customer allowances, which include incentives such as volume and other discounts in connection with various supply programs. Such deductions are estimated and recorded during the period the related revenue is recognized. The Company may adjust these estimates when the expected amount of consideration changes based on sales volumes or other contractual terms. Sales and other consumption taxes the Company collects from customers and remits to government agencies are excluded from revenue. The Company accounts for freight and shipping costs that occur after control of the related goods transfer to the customer as a fulfillment cost within cost of sales. The nature and timing of the Company's revenue transactions are similar, as substantially all revenue is based on point-in-time transactions with customers under industry-standard payment terms. The Company may require shortened payment terms, including cash-in-advance, on an individual customer basis depending on its assessment of the customer's credit worthiness.

Cost of Sales. Cost of sales includes material, labor and overhead costs incurred in the manufacture of products sold in the period. Material costs include raw material, purchased components, outside processing and freight costs. Overhead costs consist of variable and fixed manufacturing costs, wages and fringe benefits, and purchasing, receiving and inspection costs.

Selling, General and Administrative Expenses. Selling, general and administrative expenses include the following: costs related to the advertising, sale, marketing and distribution of the Company's products, amortization of customer intangible assets, costs of finance, human resources, legal functions, executive management costs and other administrative expenses.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Income Taxes. The Company computes income taxes using the asset and liability method, whereby deferred income taxes using current enacted tax rates are provided for the temporary differences between the financial reporting basis and the tax basis of assets and liabilities and for operating loss and tax credit carryforwards. The Company determines valuation allowances based on an assessment of positive and negative evidence on a jurisdiction-by-jurisdiction basis and records a valuation allowance to reduce deferred tax assets to the amount more likely than not to be realized. 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. The Company records interest and penalties related to unrecognized tax benefits in income tax expense. See Note 22, "Income Taxes," for further information.

Foreign Currency Translation. The financial statements of subsidiaries located outside of the United States are measured using the currency of the primary economic environment in which they operate as the functional currency. When translating into U.S. dollars, income and expense items are translated at average monthly exchange rates and assets and liabilities are translated at exchange rates in effect at the balance sheet date. Adjustments resulting from translating the functional currency into U.S. dollars are deferred as a component of accumulated other comprehensive income (loss) ("AOCI") in the consolidated statement of shareholders' equity. The impact of net foreign currency transactions was a gain of \$0.7 million for the year ended December 31, 2022, a loss of \$0.9 million for the year ended December 31, 2021 and a gain of \$0.6 million for the year ended 2020, and are included in other expense, net in the accompanying consolidated statement of operations.

Derivative Financial Instruments. The Company records derivative financial instruments at fair value on the balance sheet as either assets or liabilities, and changes in their fair values are immediately recognized in earnings if the derivatives do not qualify as effective hedges. If a derivative is designated as a fair value hedge, then changes in the fair value of the derivative are offset against the changes in the fair value of the underlying hedged item. If a derivative is designated as a cash flow hedge, then the effective portion of the changes in the fair value of the derivative is recognized as a component of other comprehensive income until the underlying hedged item is recognized in earnings or the forecasted transaction is no longer probable of occurring. If a derivative is designated as a net investment hedge, then the effective portion of the changes in the fair value of the derivative is recognized in other comprehensive income and will be subsequently reclassified to earnings when the hedged net investment is either sold or substantially liquidated. The Company formally documents hedging relationships for its derivative transactions and the underlying hedged items, as well as its risk management objectives and strategies for undertaking the hedge transactions. See Note 13, "Derivative Instruments," for further information.

Fair Value of Financial Instruments. In accounting for and disclosing the fair value of financial instruments, the Company uses the following hierarchy:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the Company has the ability to access at the measurement date;
- Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly; and
- Level 3 inputs are unobservable inputs for the asset or liability.

Valuation of the Company's cross-currency swaps are based on the income approach, which uses observable inputs such as interest rate yield curves and forward currency exchange rates, as applicable.

The carrying value of financial instruments reported in the balance sheet for current assets and current liabilities approximates fair value due to the short maturity of these instruments.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Business Combinations. The Company records assets acquired and liabilities assumed from acquisitions at fair value. The fair value of working capital accounts generally approximates book value. The valuation of inventory, property, plant and equipment, and intangible assets requires significant assumptions. Inventory is recorded at fair value based on the estimated selling price less costs to sell, including completion, disposal and holding period costs with a reasonable profit margin. Property and equipment is recorded at fair value using a combination of both the cost and market approaches for both the real and personal property acquired. Under the cost approach, consideration is given to the amount required to construct or purchase a new asset of equal value at current prices, with adjustments in value for physical deterioration, as well as functional and economic obsolescence. Under the market approach, recent transactions for similar types of assets are used as the basis for estimating fair value. For trademark/trade names and technology and other intangible assets, the estimated fair value is based on projected discounted future net cash flows using the relief-from-royalty method. For customer relationship intangible assets, the estimated fair value is based on projected discounted future cash flows using the excess earnings method. The relief-from-royalty and excess earnings method are both income approaches that utilize key assumptions such as forecasts of revenue and expenses over an extended period of time, royalty rate percentages, tax rates, and estimated costs of debt and equity capital to discount the projected cash flows.

Stock-based Compensation. The Company recognizes compensation expense related to equity awards based on their fair values as of the grant date. For awards with only a service condition, expense is recognized ratably over the vesting period. Performance-based equity awards may have targets tied to performance and/or market-based conditions. Market-based conditions are taken into consideration in determining the grant date fair value, and the related compensation expense is recognized regardless of whether the market condition is satisfied, provided the requisite service has been provided. For performance condition components, the Company periodically updates the probability that the performance conditions will be achieved and adjusts expense accordingly, reflecting the change from prior estimate, if any, in current period non-cash stock compensation expense. The disclosed number of awards granted considers only the targeted number of units until such time that the performance condition has been satisfied. If the performance conditions are not achieved, no award is earned. See Note 18, "Equity Awards," for further information.

Other Comprehensive Income (Loss). The Company refers to other comprehensive income (loss) as revenues, expenses, gains and losses that under accounting principles generally accepted in the United States of America are included in comprehensive income (loss) but are excluded from net earnings as these amounts are recorded directly as an adjustment to stockholders' equity. Other comprehensive income (loss) is comprised of foreign currency translation adjustments, amortization of prior service costs and unrecognized gains and losses in actuarial assumptions for pension and postretirement plans and changes in unrealized gains and losses on derivative instruments.

4. Acquisitions

2022 Acquisitions

On February 28, 2022, the Company acquired Intertech Plastics LLC and related companies (collectively, "Intertech") for a purchase price of \$64.1 million, net of cash acquired. Intertech is a manufacturer of custom injection molded products used in medical applications, as well as products and assemblies for consumer and industrial applications. The fair value of assets acquired and liabilities assumed included \$32.4 million of goodwill, \$13.5 million of intangible assets, \$12.2 million of property and equipment and \$6.0 million of net working capital. Intertech, which is reported in the Company's Packaging segment, has two manufacturing facilities located in the Denver, Colorado, area and historically generated \$32 million in annual revenue.

2021 Acquisitions

On December 17, 2021, the Company acquired Omega Plastics ("Omega"), which specializes in manufacturing custom components and devices for drug delivery, diagnostic and orthopedic medical applications, as well as components for industrial applications, for an aggregate amount of \$22.5 million, net of cash acquired. Omega, which is reported in the Company's Packaging segment, is located in Clinton Township, Michigan, and historically generated \$18 million in annual revenue.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

On December 5, 2021, the Company acquired TFI Aerospace ("TFI"), a manufacturer and supplier of specialty fasteners used in a variety of applications, predominately for the aerospace end market, for an aggregate amount of \$11.8 million, with additional contingent consideration ranging from zero to \$12.0 million to be paid based future earnings as defined in the purchase agreement. On the acquisition date, the Company recorded \$3.7 million as its best estimate of fair value of the additional contingent consideration, with such estimate based on Level 3 inputs under the fair value hierarchy, as defined. TFI, which is reported in the Company's Aerospace segment, is located near Toronto, Canada and historically generated \$6 million in annual revenue. Based on a detailed fourth quarter 2022 review of TFI's updated forecasted operating results, the Company determined the likelihood of the contingent consideration being paid was remote, and therefore reversed the liability, with such adjustment being included in other income (expense), net, in the accompanying consolidated statement of operations

2020 Acquisitions

On December 15, 2020, the Company acquired Affaba & Ferrari Srl ("Affaba & Ferrari"), which specializes in the design, development and manufacture of precision caps and closures for food & beverage and industrial product applications, for an aggregate amount of \$98.4 million, net of cash acquired. The fair value of assets acquired and liabilities assumed included \$49.1 million of goodwill, \$35.1 million of intangible assets, \$9.4 million of net working capital, \$17.4 million of property and equipment, and \$12.6 million of net deferred tax liabilities. Affaba & Ferrari, which is reported in the Company's Packaging segment, operates out of a highly automated manufacturing facility and support office located in Borgo San Giovanni, Italy and historically generated \$34 million in annual revenue.

On April 17, 2020, the Company acquired the Rapak® brand, including certain bag-in-box product lines and assets ("Rapak") for an aggregate amount of \$11.4 million. Rapak, which is reported in the Company's Packaging segment, has manufacturing locations in Indiana, California and Illinois, and historically generated \$30 million in annual revenue.

On February 27, 2020, the Company acquired RSA Engineered Products ("RSA"), a manufacturer of complex, highly-engineered and proprietary ducting, connectors and related products for air management systems used in aerospace and defense applications, for an aggregate amount of \$83.7 million, net of cash acquired. The fair value of assets acquired and liabilities assumed included \$43.3 million of goodwill, \$36.9 million of intangible assets, \$10.1 million of net working capital, \$2.1 million of property and equipment, and \$8.7 million of net deferred tax liabilities. RSA, which is reported in the Company's Aerospace segment, is located in Simi Valley, California and historically generated \$30 million in annual revenue.

5. Realignment Actions

2022 Realignment Actions

During 2022, the Company incurred realignment charges in its Packaging segment related to adjusting its labor force in facilities with lower demand, finalizing its Indianapolis, Indiana, facility consolidation, costs incurred to reorganize its benefit plans in the United Kingdom, and for costs incurred as part of the Company's start-up and relocation to a new, larger facility in New Albany, Ohio. The Company also completed the Aerospace segment footprint realignment which began in 2021. In connection with these actions, the Company recorded pre-tax realignment charges of \$5.0 million, of which \$2.7 million related to facility move and consolidation costs and \$2.3 million was for employee-related costs. During 2022, \$2.8 million of these charges were included in cost of sales, \$2.0 million of these charges were included in selling, general and administrative expenses and \$0.2 million of these charges were included in net gain (loss) on dispositions of assets in the accompanying consolidated statement of income.

2021 Realignment Actions

During 2021, the Company executed certain realignment actions in response to reductions in current and expected future end market demand. First, the Company closed its Packaging segment's Union City, California, manufacturing facility, consolidating the operation into its Indianapolis, Indiana, and Woodridge, Illinois, facilities. The Company also realigned its Aerospace segment footprint, consolidating certain activities previously in its Stanton, California, facilities into its Tolleson, Arizona, facility. In addition, the Company also reorganized its corporate office legal and finance groups. The Company recorded pre-tax realignment charges of \$9.7 million, of which \$3.5 million related to facility consolidations and \$6.2 million were for employee separation costs. As of December 31, 2021, \$2.4 million of the employee separation costs had been paid. During 2021, \$4.1 million of these charges were included in cost of sales and \$5.6 million were included in selling, general and administrative expenses, respectively, in the accompanying consolidated statement of operations.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

2020 Realignment Actions

During 2020, the Company executed certain realignment actions, primarily in its Aerospace and Specialty Products segments, in response to reductions in current and expected future end-market demand. The Company recorded non-cash charges of \$13.8 million related to inventory reductions, primarily as a result of a strategic decision in its Arrow Engine division to narrow its product line focus. The Company also recorded non-cash charges of \$2.3 million related to certain production equipment removed from service given reduced demand levels. In addition, the Company reduced its employment levels given lower customer demand, incurring \$3.8 million in severance charges, of which \$3.7 million was paid by December 31, 2020. During 2020, \$17.1 million of these charges were included in cost of sales and \$2.8 million were included in selling, general and administrative expenses in the accompanying consolidated statement of operations.

6. Revenue

The following table presents the Company's disaggregated net sales by primary market served (dollars in thousands):

Customer End Markets	Year ended December 31,		
	2022	2021	2020
Consumer Products	\$ 419,410	\$ 424,320	\$ 402,080
Aerospace & Defense	188,090	183,340	167,740
Industrial	276,330	249,450	200,150
Total net sales	<u>\$ 883,830</u>	<u>\$ 857,110</u>	<u>\$ 769,970</u>

The Company's Packaging segment earns revenues from the consumer products (comprised of the beauty and personal care, food and beverage, home care, pharmaceutical, nutraceutical and medical submarkets) and industrial markets. The Aerospace segment earns revenues from the aerospace & defense market (comprised of commercial, regional and business jet and military submarkets). The Specialty Products segment earns revenues from a variety of submarkets within the industrial market.

7. Cash and Cash Equivalents

Cash and cash equivalents consists of the following components (dollars in thousands):

	December 31, 2022	December 31, 2021
Cash and cash equivalents - unrestricted	\$ 112,090	\$ 129,790
Cash - restricted ^(a)	—	10,950
Total cash and cash equivalents	<u>\$ 112,090</u>	<u>\$ 140,740</u>

^(a) Includes cash placed on deposit with a financial institution to be held as cash collateral for the Company's outstanding letters of credit.

8. Goodwill and Other Intangible Assets

Goodwill

The Company performed a qualitative assessment as part of its 2022, 2021 and 2020 annual impairment tests (October 1 annual test date) for all reporting units, which included a review of the Company's market capitalization. Based on results of the qualitative assessments for the 2022, 2021 and 2020 annual impairment tests, the Company determined there were no indications that the fair value of a reporting unit was less than its carrying amount; therefore, the Company determined that quantitative goodwill impairment tests were not required.

During the third quarter of 2020, as a result of a decline in its aerospace-related business' financial results, a significant reduction in its financial projections for the remainder of 2020 compared with prior projections, and uncertainty around the duration and magnitude of the impact of the COVID-19 pandemic on future financial results given their dependence on future levels of air travel and new aircraft builds, the Company determined there was a triggering event requiring an interim quantitative goodwill impairment assessment of each of its two aerospace-related reporting units: Aerospace Fasteners and Aerospace Engineered Products.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Upon completion of the quantitative goodwill impairment tests, the Company determined that the carrying values of the Aerospace Fasteners and Aerospace Engineered Products reporting units exceeded their fair values, resulting in goodwill impairment charges of \$70.8 million in its Aerospace Fasteners reporting unit and \$56.0 million in its Aerospace Engineered Products reporting unit.

Changes in the carrying amount of goodwill for the years ended December 31, 2022 and 2021 are as follows (dollars in thousands):

	Packaging	Aerospace	Specialty Products	Total
Balance, December 31, 2020	\$ 234,560	\$ 62,850	\$ 6,560	\$ 303,970
Goodwill from acquisitions	10,550	7,220	—	17,770
Foreign currency translation and other	(6,370)	120	—	(6,250)
Balance, December 31, 2021	\$ 238,740	\$ 70,190	\$ 6,560	\$ 315,490
Goodwill from acquisitions	32,370	—	—	32,370
Foreign currency translation and other	(7,560)	(490)	—	(8,050)
Balance, December 31, 2022	<u>\$ 263,550</u>	<u>\$ 69,700</u>	<u>\$ 6,560</u>	<u>\$ 339,810</u>

Other Intangible Assets

For the purposes of the Company's 2022, 2021 and 2020 annual indefinite-lived intangible asset impairment tests (as of October 1), the Company performed a qualitative assessment to determine whether it was more likely than not that the fair values of the indefinite-lived intangible assets were less than the carrying values. Based on the qualitative assessment performed, the Company did not believe that it is more likely than not that the fair values of each of its indefinite-lived intangible assets were less than the carrying values; therefore, a fair value calculation of the indefinite-lived intangible assets was not required for the 2022, 2021 and 2020 annual indefinite-lived intangible asset impairment tests.

During the third quarter of 2020, as a result of the significant forecast reduction in the Company's aerospace-related businesses, the Company also performed an interim quantitative assessment for the indefinite-lived intangible assets within the Aerospace segment, using the relief-from-royalty method. Significant management assumptions used under the relief-from-royalty method reflected the Company's current assessment of the risks and uncertainties associated with the aerospace industry. Upon completion of the quantitative impairment test, the Company determined that certain of its aerospace-related trade names had carrying values that exceeded their fair values, and therefore recorded impairment charges of \$7.8 million.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The gross carrying amounts and accumulated amortization of the Company's other intangibles as of December 31, 2022 and 2021 are summarized below (dollars in thousands):

Intangible Category by Useful Life	As of December 31, 2022		As of December 31, 2021	
	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Finite-lived intangible assets:				
Customer relationships, 5 - 12 years	\$ 131,660	\$ (80,000)	\$ 124,310	\$ (71,150)
Customer relationships, 15 - 25 years	129,650	(74,380)	130,190	(68,190)
Total customer relationships	261,310	(154,380)	254,500	(139,340)
Technology and other, 1 - 15 years	56,860	(38,990)	57,060	(36,140)
Technology and other, 17 - 30 years	43,300	(40,330)	43,300	(39,920)
Total technology and other	100,160	(79,320)	100,360	(76,060)
Indefinite-lived intangible assets:				
Trademark/Trade names	60,340	—	57,270	—
Total other intangible assets	\$ 421,810	\$ (233,700)	\$ 412,130	\$ (215,400)

Amortization expense related to intangible assets as included in the accompanying consolidated statement of operations is summarized as follows (dollars in thousands):

	Year ended December 31,		
	2022	2021	2020
Technology and other, included in cost of sales	\$ 3,300	\$ 3,820	\$ 4,930
Customer relationships, included in selling, general and administrative expenses	15,800	17,740	15,820
Total amortization expense	\$ 19,100	\$ 21,560	\$ 20,750

Estimated amortization expense for the next five fiscal years beginning after December 31, 2022 is as follows (dollars in thousands):

Year ended December 31,	Estimated Amortization Expense
2023	\$ 17,990
2024	\$ 16,490
2025	\$ 16,140
2026	\$ 14,420
2027	\$ 14,360

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

9. Inventories

Inventories consist of the following components (dollars in thousands):

	December 31, 2022	December 31, 2021
Finished goods	\$ 74,280	\$ 74,600
Work in process	38,090	28,790
Raw materials	50,990	49,060
Total inventories	<u>\$ 163,360</u>	<u>\$ 152,450</u>

10. Property and Equipment, Net

Property and equipment consists of the following components (dollars in thousands):

	December 31, 2022	December 31, 2021
Land and land improvements	\$ 15,220	\$ 19,630
Building and building improvements	90,910	93,170
Machinery and equipment	461,480	422,500
	567,610	535,300
Less: Accumulated depreciation	289,860	269,670
Property and equipment, net	<u>\$ 277,750</u>	<u>\$ 265,630</u>

Depreciation expense as included in the accompanying consolidated statement of operations is as follows (dollars in thousands):

	Year ended December 31,		
	2022	2021	2020
Depreciation expense, included in cost of sales	\$ 33,130	\$ 30,770	\$ 27,920
Depreciation expense, included in selling, general and administrative expense	990	1,120	1,100
Total depreciation expense	<u>\$ 34,120</u>	<u>\$ 31,890</u>	<u>\$ 29,020</u>

11. Accrued Liabilities

Accrued liabilities consist of the following components (dollars in thousands):

	December 31, 2022	December 31, 2021
Accrued payroll	\$ 18,050	\$ 24,960
High deductible insurance	5,530	5,000
Other	23,080	29,020
Total accrued liabilities	<u>\$ 46,660</u>	<u>\$ 58,980</u>

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

12. Long-term Debt

The Company's long-term debt consists of the following (dollars in thousands):

	December 31, 2022	December 31, 2021
4.125% Senior Notes due April 2029	\$ 400,000	\$ 400,000
Debt issuance costs	(5,270)	(6,180)
Long-term debt, net	<u>\$ 394,730</u>	<u>\$ 393,820</u>

Senior Notes due 2029

In March 2021, the Company issued \$400.0 million aggregate principal amount of 4.125% senior notes outstanding due April 15, 2029 ("2029 Senior Notes") at par value in a private placement under Rule 144A of the Securities Act of 1933, as amended ("Securities Act"). The Company used the proceeds from the 2029 Senior Notes offering to pay fees and expenses of \$5.1 million related to the offering and pay fees and expenses of \$1.1 million related to amending its existing credit agreement. In connection with the issuance, the Company completed the redemption of its outstanding 4.875% senior notes due October 15, 2025 ("2025 Senior Notes"), paying \$300.0 million to retire the outstanding principal amount plus \$7.3 million as a redemption premium. The remaining cash proceeds from the 2029 Senior Notes were used for general corporate purposes, including repaying all outstanding revolving credit facility borrowings. The \$5.1 million of fees and expenses related to the 2029 Senior Notes were capitalized as debt issuance costs, while the \$7.3 million redemption premium, as well as \$3.0 million of unamortized debt issuance costs associated with the 2025 Senior Notes, were included in debt financing and related expenses in the accompanying consolidated statement of operations.

The 2029 Senior Notes accrue interest at a rate of 4.125% per annum, payable semi-annually in arrears on April 15 and October 15. The payment of principal and interest is jointly and severally guaranteed, on a senior unsecured basis, by certain subsidiaries of the Company. The 2029 Senior Notes are *pari passu* in right of payment with all existing and future senior indebtedness and effectively subordinated to all existing and future secured indebtedness to the extent of the value of the assets securing such indebtedness.

Prior to April 15, 2024, the Company may redeem up to 40% of the principal amount of the 2029 Senior Notes at a redemption price of 104.125% of the principal amount, plus accrued and unpaid interest, if any, to the redemption date, with the net cash proceeds of one or more equity offerings provided that each such redemption occurs within 90 days of the date of closing of each such equity offering. In addition, prior to April 15, 2024, the Company may redeem all or part of the 2029 Senior Notes at a redemption price equal to 100% of the principal amount thereof, plus accrued and unpaid interest, if any, to the redemption date, plus a "make whole" premium. On or after April 15, 2024, the Company may redeem all or part of the 2029 Senior Notes at the redemption prices (expressed as percentages of principal amount) set forth below, plus accrued and unpaid interest, if any, to the redemption date, if redeemed during the twelve-month period beginning on April 15 of the years indicated below:

Year	Percentage
2024	102.063 %
2025	101.031 %
2026 and thereafter	100.000 %

Senior Notes due 2025

In September 2017, the Company issued \$300.0 million aggregate principal amount of its 2025 Senior Notes at par value in a private placement under Rule 144A of the Securities Act. During the second quarter of 2021, and in connection with the issuance of the 2029 Senior Notes, the Company redeemed all of the outstanding 2025 Senior Notes, as permitted under the indenture, at a price of 102.438% of the principal amount.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Credit Agreement

In March 2021, the Company amended its existing credit agreement ("Credit Agreement") in connection with the issuance of the 2029 Senior Notes to extend the maturity date. The Company incurred fees and expenses of \$1.1 million related to the amendment, all of which was capitalized as debt issuance costs. The Company also recorded \$0.2 million of non-cash expense related to the write-off of previously capitalized deferred financing fees. The Credit Agreement consists of a \$300.0 million senior secured revolving credit facility, which permits borrowings denominated in specific foreign currencies, subject to a \$125.0 million sub limit, maturing on March 29, 2026.

In November 2021, the Company amended the Credit Agreement to replace LIBOR with a benchmark interest rate determined based on the currency denomination of borrowings. Effective January 1, 2022, the amendment replaced the reference rate terms for U.S. dollar LIBOR borrowings to the Secured Overnight Financing Rate ("SOFR"), British pound sterling LIBOR borrowings to the Sterling Overnight Index Average ("SONIA") and Euro LIBOR borrowings to the Euro Short Term Rate ("ESTR"), all plus a spread of 1.50%. The interest rate spread is based upon the leverage ratio, as defined, as of the most recent determination date.

The Credit Agreement also provides incremental revolving credit facility commitments in an amount not to exceed the greater of \$200.0 million and an amount such that, after giving effect to such incremental commitments and the incurrence of any other indebtedness substantially simultaneously with the making of such commitments, the senior secured net leverage ratio, as defined, is no greater than 3.00 to 1.00. The terms and conditions of any incremental revolving credit facility commitments must be no more favorable than the existing credit facility.

The Company's revolving credit facility allows for the issuance of letters of credit, not to exceed \$40.0 million in aggregate. As of December 31, 2021 the Company placed cash on deposit with a financial institution to be held as cash collateral for the Company's outstanding letters of credit; effectively, as of December 31, 2021, the Company had no letters of credit issued against its revolving credit facility. See Note 7, "*Cash and Cash Equivalents*," for further information on its cash deposits. At December 31, 2022, the Company had no amounts outstanding under its revolving credit facility and had \$293.9 million potentially available after giving effect to \$6.1 million of letters of credit issued and outstanding. At December 31, 2021, the Company had no amounts outstanding under its revolving credit facility and had \$300.0 million potentially available. The Company's borrowing capacity was not reduced by leverage restrictions contained in the Credit Agreement as of December 31, 2022 and December 31, 2021.

The debt under the Credit Agreement is an obligation of the Company and certain of its domestic subsidiaries and is secured by substantially all of the assets of such parties. Borrowings under the \$125.0 million (equivalent) foreign currency sub limit of the \$300.0 million senior secured revolving credit facility are secured by a cross-guarantee amongst, and a pledge of the assets of, the foreign subsidiary borrowers that are a party to the agreement. The Credit Agreement also contains various negative and affirmative covenants and other requirements affecting the Company and its subsidiaries, including the ability to, subject to certain exceptions and limitations, incur debt, liens, mergers, investments, loans, advances, guarantee obligations, acquisitions, assets dispositions, sale-leaseback transactions, hedging agreements, dividends and other restricted payments, transactions with affiliates, restrictive agreements and amendments to charters, bylaws, and other material documents. The terms of the Credit Agreement also require the Company and its restricted subsidiaries to meet certain restrictive financial covenants and ratios computed quarterly, including a maximum total net leverage ratio (total consolidated indebtedness plus outstanding amounts under any accounts receivable securitization facility, less the aggregate amount of certain unrestricted cash and unrestricted permitted investments, as defined, over consolidated EBITDA, as defined), a maximum senior secured net leverage ratio (total consolidated senior secured indebtedness, less the aggregate amount of certain unrestricted cash and unrestricted permitted investments, as defined, over consolidated EBITDA, as defined) and a minimum interest expense coverage ratio (consolidated EBITDA, as defined, over the sum of consolidated cash interest expense, as defined, and preferred dividends, as defined). At December 31, 2022, the Company was in compliance with the financial covenants contained in the Credit Agreement.

Other Revolving Loan Facility

In May 2021, the Company, through one of its non-U.S. subsidiaries, entered into a revolving loan facility with a borrowing capacity of \$4 million. The facility is guaranteed by TriMas Corporation. There were no borrowings outstanding on this loan facility as of December 31, 2022 or 2021.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Long-term Debt Maturities

Future maturities of the face value of long-term debt at December 31, 2022 are as follows (dollars in thousands):

Year Ending December 31:	Future Maturities
2023	\$ —
2024	—
2025	—
2026	—
2027	—
Thereafter	400,000
Total	\$ 400,000

Fair Value of Debt

The valuations of the Senior Notes and revolving credit facility were determined based on Level 2 inputs under the fair value hierarchy, as defined. The carrying amounts and fair values were as follows (dollars in thousands):

	December 31, 2022		December 31, 2021	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
4.125% Senior Notes due April 2029	\$ 400,000	\$ 344,000	\$ 400,000	\$ 399,000

Debt Issuance Costs

The Company's unamortized debt issuance costs approximated \$5.3 million and \$6.2 million at December 31, 2022 and 2021, respectively, and are included as a direct reduction from the related debt liability in the accompanying consolidated balance sheet. These amounts consisted primarily of legal, accounting and other transaction advisory fees as well as facility fees paid to the lenders. Amortization expense for these items was \$0.9 million, \$1.0 million and \$1.2 million in 2022, 2021 and 2020, respectively, and is included in interest expense in the accompanying consolidated statement of operations.

13. Derivative Instruments

Derivatives Designated as Hedging Instruments

In July 2022, the Company entered into cross-currency swap agreements to hedge its net investment in Euro-denominated assets against future volatility in the exchange rate between the U.S. dollar and the Euro. By doing so, the Company synthetically converts a portion of its U.S. dollar-based long-term debt into Euro-denominated long-term debt. The agreements have notional amounts totaling \$150.0 million, which decline to \$75.0 million over contract periods ending on October 15, 2023 and April 15, 2024. Under the terms of the agreements, the Company is to receive net interest payments at fixed rates of approximately 2.4% to 2.6% of the notional amounts. At inception, the cross-currency swaps were designated as net investment hedges.

In July 2022, immediately prior to entering into the new cross-currency swap agreements, the Company terminated its existing cross-currency swap agreements, de-designating the swaps as net investment hedges and receiving \$26.2 million of cash. The cross-currency swap agreements had notional amounts totaling \$250.0 million, which declined to \$25.0 million over various contract periods ending between October 15, 2023 and October 15, 2027. Under the terms of the agreements, the Company was to receive net interest payments at fixed rates ranging from approximately 0.8% to 2.9% of the notional amounts.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

As of December 31, 2022 and 2021, the fair value carrying amount of the Company's derivatives designated as hedging instruments are recorded as follows (dollars in thousands):

Derivatives designated as hedging instruments	Balance Sheet Caption	Asset / (Liability) Derivatives	
		December 31, 2022	December 31, 2021
Net Investment Hedges			
Cross-currency swaps	Other assets	\$ —	\$ 7,590
Cross-currency swaps	Other long-term liabilities	(7,090)	—

The following table summarizes the income recognized in AOCI on derivative contracts designated as hedging instruments as of December 31, 2022 and 2021, and the amounts reclassified from AOCI into earnings for the years ended December 31, 2022, 2021 and 2020 (dollars in thousands):

	Amount of Income (Loss) Recognized in AOCI on Derivative (Effective Portion, net of tax)		Location of Loss Reclassified from AOCI into Earnings (Effective Portion)	Amount of Loss Reclassified from AOCI into Earnings		
	As of December 31,			Year ended December 31,		
	2022	2021		2022	2021	2020
Net Investment Hedges						
Cross-currency swaps	\$ 15,320	\$ 5,910	Other expense, net	\$ —	\$ —	\$ —

Over the next 12 months, the Company does not expect to reclassify any pre-tax deferred amounts from AOCI into earnings.

Derivatives Not Designated as Hedging Instruments

As of December 31, 2022, the Company was party to foreign currency exchange forward contracts to economically hedge changes in foreign currency rates with notional amounts of \$127.2 million. The Company uses foreign exchange contracts to mitigate the risk associated with fluctuations in currency rates impacting cash flows related to certain of its receivables, payables and intercompany transactions denominated in foreign currencies. The foreign exchange contracts primarily mitigate currency exposures between the U.S. dollar and the Euro, Canadian dollar, Chinese yuan, and the Mexican peso, as well as between the Euro and British pound, and have various settlement dates through June 2023. These contracts are not designated as hedge instruments; therefore, gains and losses on these contracts are recognized each period directly into the consolidated statement of operations.

The following table summarizes the effects of derivatives not designated as hedging instruments on the Company's consolidated statement of operations (dollars in thousands):

Derivatives not designated as hedging instruments	Location of Income (Loss) Recognized in Earnings on Derivatives	Amount of Income (Loss) Recognized in Earnings on Derivatives		
		Year ended December 31,		
		2022	2021	2020
Foreign exchange contracts	Other income (expense), net	\$ 1,540	\$ 7,130	\$ (470)

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Fair Value of Derivatives

The fair value of the Company's derivative instruments are estimated using an income approach based on valuation techniques to convert future amounts to a single, discounted amount. Estimates of the fair value of the Company's cross-currency swaps and foreign exchange contracts use observable inputs such as interest rate yield curves and forward currency exchange rates. Fair value measurements and the fair value hierarchy level for the Company's assets and liabilities measured at fair value on a recurring basis as of December 31, 2022 and 2021 are as follows (dollars in thousands):

Description	Frequency	Asset / (Liability)	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
December 31, 2022					
Cross-currency swaps	Recurring	\$ (7,090)	\$ —	\$ (7,090)	\$ —
Foreign exchange contracts	Recurring	\$ (1,790)	\$ —	\$ (1,790)	\$ —
December 31, 2021					
Cross-currency swaps	Recurring	\$ 7,590	\$ —	\$ 7,590	\$ —
Foreign exchange contracts	Recurring	\$ (110)	\$ —	\$ (110)	\$ —

14. Leases

The Company leases certain equipment and facilities under non-cancelable operating leases. Leases with an initial term of 12 months or less are not recorded on the balance sheet; expense related to these leases is recognized on a straight-line basis over the lease term.

The components of lease expense are as follows (dollars in thousands):

	Year ended December 31,		
	2022	2021	2020
Operating lease cost	\$ 10,560	8,510	7,870
Short-term, variable and other lease costs	3,350	2,460	1,540
Total lease cost	\$ 13,910	\$ 10,970	\$ 9,410

Maturities of lease liabilities are as follows (dollars in thousands):

Year ended December 31,	Operating Leases ^(a)
2023	\$ 9,970
2024	9,130
2025	7,830
2026	7,730
2027	6,650
Thereafter	14,220
Total lease payments	55,530
Less: Imputed interest	(6,240)
Present value of lease liabilities	\$ 49,290

^(a) The maturity table excludes cash flows associated with exited lease facilities. Liabilities for exited lease facilities are included in accrued liabilities and other long-term liabilities in the accompanying consolidated balance sheet.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The weighted-average remaining term of the Company's operating leases as of December 31, 2022 is 6.7 years. The weighted-average discount rate as of December 31, 2022 is 3.7%.

Cash paid for amounts included in the measurement of operating lease liabilities was \$9.9 million, \$7.9 million and \$7.9 million during 2022, 2021 and 2020 respectively, and is included in cash flows provided by operating activities in the consolidated statement of cash flows.

Right-of-use assets obtained in exchange for lease liabilities were \$5.8 million and \$19.6 million during 2022 and 2021, respectively.

15. Other Long-term Liabilities

Other long-term liabilities consist of the following components (dollars in thousands):

	December 31, 2022	December 31, 2021
Non-current asbestos-related liabilities	\$ 26,370	\$ 25,210
Other long-term liabilities	29,970	33,820
Total other long-term liabilities	<u>\$ 56,340</u>	<u>\$ 59,030</u>

16. Commitments and Contingencies

Environmental

The Company is subject to increasingly stringent environmental laws and regulations, including those relating to air emissions, wastewater discharges and chemical and hazardous waste management and disposal. Some of these environmental laws hold owners or operators of land or businesses liable for their own and for previous owners' or operators' releases of hazardous or toxic substances or wastes. Other environmental laws and regulations require the obtainment and compliance with environmental permits. To date, costs of complying with environmental, health and safety requirements have not been material. However, the nature of the Company's operations and the long history of industrial activities at certain of the Company's current or former facilities, as well as those acquired, could potentially result in material environmental liabilities.

While the Company must comply with existing and pending climate change legislation, regulation and international treaties or accords, current laws and regulations have not had a material impact on the Company's business, capital expenditures or financial position. Future events, including those relating to climate change or greenhouse gas regulation, could require the Company to incur expenses related to the modification or curtailment of operations, installation of pollution control equipment or investigation and cleanup of contaminated sites.

Asbestos

As of December 31, 2022, the Company was a party to 426 pending cases involving an aggregate of 4,798 claimants primarily alleging personal injury from exposure to asbestos containing materials formerly used in gaskets (both encapsulated and otherwise) manufactured or distributed by its former Lamons division and certain other related subsidiaries for use primarily in the petrochemical refining and exploration industries. The following chart summarizes the number of claims, number of claims filed, number of claims dismissed, number of claims settled, the average settlement amount per claim and the total defense costs, at the applicable date and for the applicable periods:

	Claims pending at beginning of period	Claims filed during period	Claims dismissed during period	Claims settled during period	Claims pending at end of period	Average settlement amount per claim during period	Total defense costs during period
Fiscal year ended December 31, 2022	4,754	236	168	24	4,798	\$ 79,869	\$ 2,180,000
Fiscal year ended December 31, 2021	4,655	265	134	32	4,754	\$ 16,819	\$ 1,950,000
Fiscal year ended December 31, 2020	4,759	219	287	36	4,655	\$ 18,314	\$ 2,130,000

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

In addition, the Company acquired various companies to distribute its products that had distributed gaskets of other manufacturers prior to acquisition. The Company believes that many of the pending cases relate to locations at which none of its gaskets were distributed or used.

The Company may be subjected to significant additional asbestos-related claims in the future, and will aggressively defend or reasonably resolve, as appropriate. The cost of settling cases in which product identification can be made may increase, and the Company may be subjected to further claims in respect of the former activities of its acquired gasket distributors. The cost of claims varies as claims may be initially made in some jurisdictions without specifying the amount sought or by simply stating the requisite or maximum permissible monetary relief, and may be amended to alter the amount sought. The large majority of claims do not specify the amount sought. Of the 4,798 claims pending at December 31, 2022, 45 set forth specific amounts of damages (other than those stating the statutory minimum or maximum). At December 31, 2022, of the 45 claims that set forth specific amounts, there was no claim seeking more than \$5 million for punitive damages. Below is a breakdown of the compensatory damages sought for those claims seeking specific amounts:

Range of damages sought (in millions)	Compensatory		
	\$0.0 to \$0.6	\$0.6 to \$5.0	\$5.0+
Number of claims	—	3	42

Relatively few of the claims have reached the discovery stage and even fewer claims have gone past the discovery stage. Total settlement costs (exclusive of defense costs) for all such cases, some of which were filed over 25 years ago, have been \$12.5 million. All relief sought in the asbestos cases is monetary in nature. Based on the settlements made to date and the number of claims dismissed or withdrawn for lack of product identification, the Company believes that the relief sought (when specified) does not bear a reasonable relationship to its potential liability.

During the second quarter of 2020, the Company elected to change its method of accounting for asbestos-related defense costs from accruing for probable and reasonably estimable defense costs associated with known claims expected to settle to accrue for all future defense costs for both known and unknown claims, which the Company now believes are reasonably estimable. The Company believes this change is preferable, as asbestos-related defense costs represent expenditures related to legacy activities that do not contribute to current or future revenue generating activities, and recording an estimate of the full liability for asbestos-related costs, where estimable with reasonable precision, provides a more complete assessment of the liability associated with resolving asbestos-related claims.

This accounting change was reflected as a change in accounting estimate effected by a change in accounting principle. Following the change in accounting estimate, the Company's liability for asbestos-related claims will be based on a study from the Company's third-party actuary, the Company's review of the study, as well as the Company's own review of asbestos claims and claim resolution activity. After completing its study in the second quarter of 2020, the Company recorded a non-cash, pre-tax charge of \$23.4 million. In 2021, the Company commissioned its actuary to update the asbestos study based on data as of September 30, 2021. The Company recorded a non-cash, pre-tax charge of \$1.5 million to increase the liability estimate to \$28.2 million, at the low-end of the range of the 2021 study. These pre-tax charges for 2020 and 2021 are included in selling, general and administrative expenses in the accompanying consolidated statement of operations.

In 2022, the Company commissioned its actuary to update the asbestos study based on data as of September 30, 2022, which yielded a range of possible future liability of \$29.6 million to \$39.5 million. The Company did not believe any amount within the range of potential outcomes represented a better estimate than another given the many factors and assumptions inherent in the projections, and therefore recorded a non-cash, pre-tax charge of \$5.6 million to increase the liability estimate to \$29.6 million, at the low-end of the range. This charge is included in selling, general and administrative expenses in the accompanying consolidated statement of operations. As of December 31, 2022, the Company's total asbestos-related liability is \$29.1 million, and is included in accrued liabilities and other long-term liabilities, respectively, in the accompanying consolidated balance sheet.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The Company's primary insurance, which covered approximately 40% of historical costs related to settlement and defense of asbestos litigation, expired in November 2018, upon which the Company became solely responsible for defense costs and indemnity payments. The Company is party to a coverage-in-place agreement (entered into in 2006) with its first level excess carriers regarding the coverage to be provided to the Company for asbestos-related claims. The coverage-in-place agreement makes asbestos defense costs and indemnity insurance coverage available to the Company that might otherwise be disputed by the carriers and provides a methodology for the administration of such expenses. The Company will continue to be solely responsible for defense costs and indemnity payments prior to the commencement of coverage under this agreement, the duration of which would be subject to the scope of damage awards and settlements paid. Based upon the Company's review of the actuarial study, the Company does not believe it is probable that it will reach the threshold of qualified future settlements required to commence excess carrier insurance coverage under the coverage-in-place agreement.

Based upon the Company's experience to date, including the trend in annual defense and settlement costs incurred to date, and other available information (including the availability of excess insurance), the Company does not believe these cases will have a material adverse effect on its financial position, results of operations, or cash flows.

Claims and Litigation

The Company is subject to other claims and litigation in the ordinary course of business, but does not believe that any such claim or litigation will have a material adverse effect on its financial position and results of operations or cash flows.

17. Employee Benefit Plans

Pension and Profit-Sharing Benefits

The Company provides a defined contribution profit sharing plan for the benefit of substantially all the Company's domestic salaried and non-union hourly employees. The plan contains both contributory and noncontributory profit sharing arrangements, as defined. Aggregate charges included in the accompanying consolidated statement of operations under this plan were \$3.7 million in 2022 and \$3.4 million in each of 2021 and 2020, respectively. Certain of the Company's non-U.S. and union hourly employees participate in defined benefit pension plans.

Plan Assets, Expenses and Obligations

Net periodic pension benefit expense recorded in the Company's consolidated statement of operations for defined benefit pension plans include the following components (dollars in thousands):

	Pension Benefit		
	2022	2021	2020
Service cost	\$ 690	\$ 1,280	\$ 1,230
Interest cost	890	800	930
Expected return on plan assets	(1,590)	(1,530)	(1,450)
Settlements and curtailments	150	—	—
Amortization of net loss	570	910	890
Net periodic benefit expense	<u>\$ 710</u>	<u>\$ 1,460</u>	<u>\$ 1,600</u>

The service cost component of net periodic benefit expense is recorded in cost of goods sold and selling, general and administrative expenses, while non-service cost components are recorded in other income (expense), net in the accompanying consolidated statement of operations.

During the 2022, the Company recorded a non-cash curtailment expense of \$0.2 million, as it transitioned certain active employees previously participating in a defined benefit plan in the United Kingdom to a defined contribution plan, thereby eliminating future service cost accruals for all employees under this defined benefit plan.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Actuarial valuations of the Company's defined benefit pension plans were prepared as of December 31, 2022, 2021 and 2020. Weighted average assumptions used in accounting for the U.S. defined benefit pension plans are as follows:

	Pension Benefit		
	2022	2021	2020
Discount rate for obligations	5.24 %	3.06 %	2.79 %
Discount rate for benefit costs	3.06 %	2.79 %	3.41 %
Rate of increase in compensation levels	N/A	N/A	N/A
Expected long-term rate of return on plan assets	6.13 %	6.13 %	6.13 %

The Company utilizes a high-quality (Aa or greater) corporate bond yield curve as the basis for its domestic discount rate for its pension benefit plans. Management believes this yield curve removes the impact of including additional required corporate bond yields (potentially considered in the above-median curve) resulting from the uncertain economic climate that does not necessarily reflect the general trend in high-quality interest rates.

Weighted average assumptions used in accounting for the non-U.S. defined benefit pension plans are as follows:

	Pension Benefit		
	2022	2021	2020
Discount rate for obligations	4.90 %	2.10 %	1.50 %
Discount rate for benefit costs	2.10 %	1.50 %	2.10 %
Rate of increase in compensation levels	4.80 %	3.30 %	2.80 %
Expected long-term rate of return on plan assets	4.20 %	3.90 %	4.10 %

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The following provides a reconciliation of the changes in the Company's defined benefit pension plans' projected benefit obligations and fair value of assets for each of the years ended December 31, 2022 and 2021 and the funded status as of December 31, 2022 and 2021 (dollars in thousands):

	Pension Benefit	
	2022	2021
Changes in Projected Benefit Obligations		
Benefit obligations at January 1	\$ (37,560)	\$ (40,830)
Service cost	(690)	(1,280)
Interest cost	(890)	(800)
Participant contributions	(10)	(50)
Actuarial gain ^(a)	10,260	3,290
Benefit payments	1,310	1,840
Change in foreign currency	2,020	270
Projected benefit obligations at December 31	<u>\$ (25,560)</u>	<u>\$ (37,560)</u>
Changes in Plan Assets		
Fair value of plan assets at January 1	\$ 38,130	\$ 36,060
Actual return on plan assets	(10,070)	2,060
Employer contributions	1,520	2,050
Participant contributions	10	50
Benefit payments	(1,310)	(1,840)
Change in foreign currency	(2,810)	(250)
Fair value of plan assets at December 31	<u>\$ 25,470</u>	<u>\$ 38,130</u>
Funded status at December 31	<u>\$ (90)</u>	<u>\$ 570</u>

^(a) The actuarial gain for the year ended December 31, 2022 was primarily due to an increase in the discount rate utilized in measuring the projected benefit obligations, partially offset by experience losses. The actuarial gain for the year ended December 31, 2021 was primarily due to an increase in the discount rate utilized in measuring the projected benefit obligations as well as other assumptions and experience gains.

	Pension Benefit	
	2022	2021
Amounts Recognized in Balance Sheet		
Other assets	\$ 4,860	\$ 7,740
Current liabilities	(310)	(300)
Noncurrent liabilities	(4,640)	(6,870)
Net asset (liability) recognized at December 31	<u>\$ (90)</u>	<u>\$ 570</u>

	Pension Benefit	
	2022	2021
Amounts Recognized in Accumulated Other Comprehensive Loss		
Unrecognized prior service cost	\$ 160	\$ 310
Unrecognized net loss	7,370	6,550
Total accumulated other comprehensive loss recognized at December 31	<u>\$ 7,530</u>	<u>\$ 6,860</u>

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

	Accumulated Benefit Obligations		Projected Benefit Obligations	
	2022	2021	2022	2021
Benefit Obligations at December 31,				
Total benefit obligations	\$ (25,400)	\$ (35,970)	\$ (25,560)	\$ (37,560)
Plans with benefit obligations exceeding plan assets				
Benefit obligations	\$ (13,000)	\$ (16,630)	\$ (13,170)	\$ (16,780)
Plan assets	\$ 8,220	\$ 9,610	\$ 8,220	\$ 9,610

The assumptions regarding discount rates and expected return on plan assets can have a significant impact on amounts reported for benefit plans. A 25 basis point change in benefit obligation discount rates or 50 basis point change in expected return on plan assets would have the following effect (dollars in thousands):

	Pension Benefit	
	December 31, 2022 Benefit Obligation	2022 Expense
Discount rate		
25 basis point increase	\$ (810)	\$ (60)
25 basis point decrease	\$ 860	\$ 60
Expected return on assets		
50 basis point increase	N/A	\$ (160)
50 basis point decrease	N/A	\$ 160

The Company expects to make contributions of \$1.2 million to fund its pension plans during 2023.

Plan Assets

The Company's overall investment goal is to provide for capital growth with a moderate level of volatility by investing assets in targeted allocation ranges. Specific long term investment goals include total investment return, diversity to reduce volatility and risk, and to achieve an asset allocation profile that reflects the general nature and sensitivity of the plans' liabilities. Investment goals are established after a comprehensive review of current and projected financial statement requirements, plan assets and liability structure, market returns and risks as well as special requirements of the plans. The Company reviews investment goals and actual results annually to determine whether stated objectives are still relevant and the continued feasibility of achieving the objectives.

The actual weighted average asset allocation of the Company's domestic and foreign pension plans' assets at December 31, 2022 and 2021 and target allocations by class, were as follows:

	Domestic Pension			Foreign Pension		
	Target	Actual		Target	Actual	
		2022	2021		2022	2021
Equity securities	60 %	60 %	62 %	12 %	14 %	34 %
Fixed income	36 %	37 %	37 %	70 %	66 %	44 %
Diversified growth ^(a)	— %	— %	— %	18 %	19 %	22 %
Cash and other	4 %	3 %	1 %	—	1 %	— %
Total	100 %	100 %	100 %	100 %	100 %	100 %

^(a) Diversified growth funds invest in a broad range of asset classes including equities, investment grade and high yield bonds, commodities, property, private equity, infrastructure and currencies.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Actual allocations to each asset vary from target allocations due to periodic investment strategy changes, market value fluctuations and the timing of benefit payments and contributions. The expected long-term rate of return for both the domestic and foreign plans' total assets is based on the expected return of each of the above categories, weighted based on the target allocation for each class. Actual allocation is reviewed regularly and investments are rebalanced to their targeted allocation range when deemed appropriate.

In managing the plan assets, the Company reviews and manages risk associated with the funded status risk, interest rate risk, market risk, liquidity risk and operational risk. Investment policies reflect the unique circumstances of the respective plans and include requirements designed to mitigate these risks by including quality and diversification standards.

The following table summarizes the level under the fair value hierarchy (see Note 3, "*Summary of Significant Accounting Policies*") that the Company's pension plan assets are measured, on a recurring basis as of December 31, 2022 (dollars in thousands):

	<u>Total</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>
Plan assets subject to leveling				
Investment funds				
Equity securities	\$ 4,870	\$ 4,870	\$ —	\$ —
Fixed income	3,030	3,030	—	—
Cash and cash equivalents	160	160	—	—
Plan assets measured at net asset value^(a)				
Investment funds				
Equity securities	2,350			
Fixed income	11,410			
Diversified growth	3,330			
Cash and cash equivalents	320			
Total	<u><u>\$ 25,470</u></u>	<u><u>\$ 8,060</u></u>	<u><u>\$ —</u></u>	<u><u>\$ —</u></u>

^(a) Certain investments that are measured at fair value using the net asset value per share as a practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amount presented in the fair value of plan assets.

The following benefit payments, which reflect expected future service, as appropriate, are expected to be paid during the following years (dollars in thousands):

	<u>Pension Benefit</u>
2023	\$ 1,220
2024	1,240
2025	1,310
2026	1,340
2027	1,420
Years 2028-2032	8,410

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

18. Equity Awards

The Company maintains the following long-term equity incentive plans (collectively, the "Plans"):

Plan Names	Shares Approved for Issuance
TriMas Corporation 2017 Equity and Incentive Compensation Plan	2,000,000
TriMas Corporation Director Retainer Share Election Program	100,000

The Company awarded the following restricted stock units ("RSUs") during 2022, 2021, and 2020:

- granted 209,617, 131,198, and 190,650, RSUs, respectively, to certain employees, which are subject only to a service condition and vest ratably over three years so long as the employee remains with the Company;
- granted 22,554, 21,112 and 30,590 RSUs, respectively, to its non-employee independent directors, which vest one year from date of grant so long as the director and/or Company does not terminate their service prior to the vesting date; and
- issued 337, 1,792 and 3,673 RSUs, respectively, related to director fee deferrals as certain of the Company's directors elected to defer all or a portion of their directors fees and to receive the amount in Company common stock at a future date.

The Company awarded the following RSUs during 2022 and 2021:

- issued 260 and 49 RSUs, respectively, to certain employees related to dividend equivalent rights on existing equity awards.

The Company awarded the following RSUs during 2020:

- granted 31,816 RSUs to certain employees, which are subject only to a service condition and fully vest at the end of three years so long as the employee remains with the Company; and
- granted 2,558 RSUs to certain employees, which are subject only to a service condition and vest one year from the date of grant so long as the employee remains with the Company.

During 2022, the Company awarded 85,156 performance-based RSUs to certain key employees which vest three years from the grant date as long as the employee remains with the Company. These awards are earned 50% based upon the Company's achievement of an earnings per share compound annual growth rate ("EPS CAGR") metric over a period beginning January 1, 2022 and ending December 31, 2024. The remaining 50% of the awards are earned based on the Company's total shareholder return ("TSR") relative to the TSR of the common stock of a pre-defined industry peer-group, measured over the performance period. TSR is calculated as the Company's average closing stock price for the 20 trading days at the end of the performance period plus Company dividends, divided by the Company's average closing stock price for the 20 trading days prior to the start of the performance period. The Company estimates the grant-date fair value subject to a market condition using a Monte Carlo simulation model, using the following weighted average assumptions: risk-free rate of 1.88% and annualized volatility of 36.5%. Depending on the performance achieved for these two metrics, the amount of shares earned, if any, can vary for each metric from 0% of the target award to a maximum of 200% of the target award. The Company awarded 72,962 and 113,146 of similar performance-based RSUs in 2021 and 2020, respectively. For similar performance-based RSUs awarded in 2019, the Company attained 65.4% of the target on a weighted average basis, resulting in a decrease of 24,975 shares during 2022.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

During 2020, the Company awarded 87,034 performance-based RSUs to certain key divisional employees which vest three years from the grant date as long as the employee remains with the Company. These awards are earned based upon the Company's stock price performance over the period from January 1, 2020 and ending December 31, 2022. The stock price achievement is calculated based on the Company's average closing stock price for each quarter end for the 20 trading days up to and including March 31, June 30, September 30, and December 31, 2022, respectively. The Company estimates the grant-date fair value subject to a market condition using a Monte Carlo simulation model, using the following weighted average assumptions: risk free rate of 0.85% and annualized volatility of 25.2%. Depending on the performance achieved for this metric, the amount of shares earned, if any, can vary from 0% of the target award to a maximum of 160% of the target award, although it automatically is earned at the target award level if the Company's stock price is equal to or greater than a specified stock price for either five consecutive trading days or 20 total trading days during the performance period.

Information related to restricted shares as of and for the year ended December 31, 2022 is as follows:

	Number of Unvested Restricted Shares	Weighted Average Grant Date Fair Value	Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value
Outstanding at January 1, 2022	673,732	\$ 27.38		
Granted	317,924	32.87		
Vested	(231,170)	30.34		
Cancelled	(41,037)	35.25		
Outstanding at December 31, 2022	<u>719,449</u>	<u>\$ 28.40</u>	<u>0.9</u>	<u>\$ 19,957,515</u>

As of December 31, 2022, there was \$6.2 million of unrecognized compensation cost related to unvested restricted shares that is expected to be recorded over a weighted average period of 1.6 years.

The Company recognized stock-based compensation expense related to restricted shares of \$9.8 million, \$9.5 million and \$8.2 million in 2022, 2021 and 2020, respectively. The stock-based compensation expense is included in selling, general and administrative expenses in the accompanying statement of operations.

19. Earnings per Share

Net income is divided by the weighted average number of common shares outstanding during the year to calculate basic earnings per share. For the year ended December 31, 2020, no restricted shares or stock options were included in the computation of net income (loss) per share because to do so would be anti-dilutive. The following table summarizes the dilutive effect of RSUs and options to purchase common stock:

	Year ended December 31,		
	2022	2021	2020
Weighted average common shares—basic	42,249,244	43,006,922	43,581,232
Dilutive effect of restricted stock units	228,771	261,858	—
Dilutive effect of stock options	—	12,296	—
Weighted average common shares—diluted	<u>42,478,015</u>	<u>43,281,076</u>	<u>43,581,232</u>

In March 2020, the Company announced its Board of Directors had authorized the Company to increase the purchase of its common stock up to \$250 million in the aggregate. The initial authorization, approved in November 2015, authorized up to \$50 million of purchases in the aggregate of its common stock. During 2022, 2021 and 2020, the Company purchased 1,264,088, 596,084 and 1,582,049 shares of its outstanding common stock for \$36.9 million, \$19.1 million and \$39.4 million, respectively. As of December 31, 2022, the Company has \$105.7 million remaining under the repurchase authorization.

Holders of common stock are entitled to dividends at the discretion of the Company's Board of Directors. In 2021, the Company's Board of Directors declared the first dividend since the Company's initial public offering in 2007. Since the fourth quarter of 2021, we have declared dividends of \$0.04 per share of common stock in each quarter, and total dividends declared and paid on common shares during 2022 and 2021 were \$6.9 million and \$1.7 million, respectively.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

20. Other Comprehensive Income

Changes in AOCI by component for the year ended December 31, 2022 are summarized as follows, net of tax (dollars in thousands):

	Defined Benefit Plans	Derivative Instruments	Foreign Currency Translation	Total
Balance, December 31, 2021	\$ (4,830)	\$ 5,910	\$ (850)	\$ 230
Net unrealized gains (losses) arising during the period ^(a)	(1,070)	9,410	(17,710)	(9,370)
Less: Net realized losses reclassified to net income ^(b)	(520)	—	—	(520)
Net current-period other comprehensive income (loss)	(550)	9,410	(17,710)	(8,850)
Balance, December 31, 2022	<u>\$ (5,380)</u>	<u>\$ 15,320</u>	<u>\$ (18,560)</u>	<u>\$ (8,620)</u>

^(a) Defined benefit plans, net of income tax of \$0.3 million. See Note 17, "Employee Benefit Plans," for additional details. Derivative instruments, net of income tax of \$3.2 million. See Note 13, "Derivative Instruments," for further details.

^(b) Defined benefit plans, net of income tax of \$0.2 million. See Note 17, "Employee Benefit Plans," for additional details.

Changes in AOCI by component for the year ended December 31, 2021 are summarized as follows, net of tax (dollars in thousands):

	Defined Benefit Plans	Derivative Instruments	Foreign Currency Translation	Total
Balance, December 31, 2020	\$ (8,620)	\$ (3,580)	\$ 6,580	\$ (5,620)
Net unrealized gains (losses) arising during the period ^(a)	3,150	9,490	(7,430)	5,210
Less: Net realized losses reclassified to net income ^(b)	(640)	—	—	(640)
Net current-period other comprehensive income (loss)	3,790	9,490	(7,430)	5,850
Balance, December 31, 2021	<u>\$ (4,830)</u>	<u>\$ 5,910</u>	<u>\$ (850)</u>	<u>\$ 230</u>

^(a) Defined benefit plans, net of income tax of \$0.8 million. See Note 17, "Employee Benefit Plans," for additional details. Derivative instruments, net of income tax expense of \$3.1 million. See Note 13, "Derivative Instruments," for further details.

^(b) Defined benefit plans, net of income tax of \$0.2 million. See Note 17, "Employee Benefit Plans," for additional details.

21. Segment Information

TriMas reports its operations in three segments: Packaging, Aerospace and Specialty Products. Each of these segments has discrete financial information that is regularly evaluated by TriMas' president and chief executive officer (chief operating decision maker) in determining resource, personnel and capital allocation, as well as assessing strategy and performance. The Company utilizes its proprietary TriMas Business Model as its platform which is based upon a standardized set of processes to manage and drive results and strategy across its multi-industry businesses.

Within each of the Company's reportable segments, there are no individual products or product families for which reported net sales accounted for more than 10% of the Company's consolidated net sales. See below for more information regarding the types of products and services provided within each reportable segment:

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Packaging – TriMas' Packaging segment consists primarily of the Rieke® brand, as well as more recently acquired brands which include the Affaba & Ferrari™, Taplast™, Rapak®, Plastic Srl, Intertech and Omega brands. TriMas Packaging develops and manufactures a broad array of dispensing products (such as foaming pumps, lotion and hand soaps and sanitizer pumps, beverage dispensers, perfume sprayers, nasal sprayers and trigger sprayers), polymeric and steel caps and closures (such as food lids, flip-top closures, child resistance caps, beverage closures, drum and pail closures, and flexible spouts), polymeric jar products, fully integrated dispensers for fill-ready bag-in-box applications, and consumable vascular delivery and diagnostic test components, all for a variety of consumer products submarkets including, but not limited to, beauty and personal care, food and beverage, home care, and life sciences, including, but not limited to, pharmaceutical, nutraceutical and medical, as well as industrial markets (including agricultural).

Aerospace – TriMas' Aerospace segment, which includes the Monogram Aerospace Fasteners™, Allfast Fastening Systems®, Mac Fasteners™, TFI Aerospace, RSA Engineered Products and Martinic Engineering brands, develops, qualifies and manufactures highly-engineered, precision fasteners, tubular products and assemblies for fluid conveyance, and machined products and assemblies to serve the aerospace and defense market.

Specialty Products – TriMas' Specialty Products segment, which includes the Norris Cylinder™ and Arrow® Engine brands, designs, manufactures and distributes highly-engineered steel cylinders, wellhead engines and compression systems for use within industrial markets.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Segment activity is as follows (dollars in thousands):

	Year ended December 31,		
	2022	2021	2020
Net Sales			
Packaging	\$ 522,180	\$ 533,260	\$ 488,340
Aerospace	188,090	183,340	167,740
Specialty Products	173,560	140,510	113,890
Total	<u>\$ 883,830</u>	<u>\$ 857,110</u>	<u>\$ 769,970</u>
Operating Profit (Loss)			
Packaging	\$ 81,000	\$ 96,490	\$ 93,990
Aerospace ^(a)	8,060	13,270	(133,440)
Specialty Products	30,250	22,550	4,350
Corporate ^(b)	(20,250)	(37,220)	(53,190)
Total	<u>\$ 99,060</u>	<u>\$ 95,090</u>	<u>\$ (88,290)</u>
Capital Expenditures			
Packaging	\$ 33,170	\$ 34,080	\$ 30,730
Aerospace	6,900	5,390	5,770
Specialty Products	5,860	5,500	3,890
Corporate	30	90	90
Total	<u>\$ 45,960</u>	<u>\$ 45,060</u>	<u>\$ 40,480</u>
Depreciation and Amortization			
Packaging	\$ 29,340	\$ 30,500	\$ 27,600
Aerospace	19,620	18,700	18,130
Specialty Products	4,130	4,120	3,910
Corporate	130	130	130
Total	<u>\$ 53,220</u>	<u>\$ 53,450</u>	<u>\$ 49,770</u>
Total Assets			
Packaging	\$ 776,550	\$ 739,920	\$ 721,440
Aerospace	347,720	353,800	348,190
Specialty Products	86,290	73,260	65,520
Corporate	94,440	136,660	58,730
Total	<u>\$ 1,305,000</u>	<u>\$ 1,303,640</u>	<u>\$ 1,193,880</u>

^(a) In 2022, the Company completed the sale of vacant land adjacent to the Company's Tolleson, Arizona, manufacturing facility for net proceeds of \$5.0 million, and recognized a \$4.8 million gain on the sale, which is included within the Aerospace segment.

^(b) In 2022, the Company sold a non-core facility in City of Industry, California, for net proceeds of \$23.3 million, and recognized a \$17.6 million gain on the sale, which is included in Corporate operating loss for 2022 and included within net gain (loss) on disposition of assets in the accompanying consolidated statement of operations.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The following table presents the Company's net sales for each of the years ended December 31 and long-lived assets at each year ended December 31, attributed to each subsidiary's continent of domicile (dollars in thousands).

	As of December 31,					
	2022		2021		2020	
	Net Sales	Long-lived Assets	Net Sales	Long-lived Assets	Net Sales	Long-lived Assets
Non-U.S.						
Europe	\$ 139,780	\$ 192,600	\$ 160,650	\$ 209,380	\$ 116,350	\$ 225,120
Asia Pacific	35,260	29,720	41,310	37,080	46,350	41,140
Other Americas	18,040	41,840	15,290	42,000	11,740	19,510
Total non-U.S.	193,080	264,160	217,250	288,460	174,440	285,770
Total U.S.	690,750	541,510	639,860	489,390	595,530	477,460
Total	<u>\$ 883,830</u>	<u>\$ 805,670</u>	<u>\$ 857,110</u>	<u>\$ 777,850</u>	<u>\$ 769,970</u>	<u>\$ 763,230</u>

The Company's export sales from the U.S. approximated \$74.5 million, \$80.6 million and \$70.0 million in 2022, 2021 and 2020, respectively.

22. Income Taxes

The Company's income (loss) before income taxes and income tax expense (benefit), each by tax jurisdiction, consists of the following (dollars in thousands):

	Year ended December 31,		
	2022	2021	2020
Income (loss) before income taxes:			
Domestic	\$ 56,750	\$ 28,380	\$ (134,630)
Foreign	30,920	40,730	31,920
Total income (loss) before income taxes	<u>\$ 87,670</u>	<u>\$ 69,110</u>	<u>\$ (102,710)</u>
Current income tax expense:			
Federal	\$ 13,300	\$ 940	\$ 200
State and local	3,470	530	810
Foreign	6,170	8,840	7,750
Total current income tax expense	<u>22,940</u>	<u>10,310</u>	<u>8,760</u>
Deferred income tax expense (benefit):			
Federal	(1,780)	5,450	(16,900)
State and local	50	670	(4,430)
Foreign	290	(4,630)	(10,380)
Total deferred income tax expense (benefit)	<u>(1,440)</u>	<u>1,490</u>	<u>(31,710)</u>
Income tax expense (benefit)	<u>\$ 21,500</u>	<u>\$ 11,800</u>	<u>\$ (22,950)</u>

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The components of deferred taxes are as follows (dollars in thousands):

	December 31, 2022	December 31, 2021
Deferred tax assets:		
Accounts receivable	\$ 1,290	\$ 950
Inventories	5,640	5,330
Accrued liabilities and other long-term liabilities	14,580	15,320
Operating lease liability	12,670	13,440
Research and experimentation costs ^(a)	4,130	—
Tax loss and credit carryforwards	27,310	30,690
Other	110	340
Gross deferred tax asset	<u>65,730</u>	<u>66,070</u>
Valuation allowances	<u>(17,180)</u>	<u>(19,960)</u>
Net deferred tax asset	<u>48,550</u>	<u>46,110</u>
Deferred tax liabilities:		
Property and equipment	(25,100)	(23,920)
Right of use asset	(12,170)	(13,130)
Goodwill and other intangible assets	(22,050)	(20,160)
Investment in foreign affiliates, including withholding tax	(770)	(420)
Gross deferred tax liability	<u>(60,090)</u>	<u>(57,630)</u>
Net deferred tax liability	<u>\$ (11,540)</u>	<u>\$ (11,520)</u>

^(a) Effective for tax years beginning after December 31, 2021, research and experimentation expenditures are to be capitalized and amortized for tax-purposes as part of the Tax Cuts and Jobs Act of 2017.

The following is a reconciliation of income tax expense (benefit) computed at the U.S. federal statutory rate to income tax expense (benefit) allocated to income (loss) before income taxes (dollars in thousands):

	Year ended December 31,		
	2022	2021	2020
U.S. federal statutory rate	21%	21 %	21 %
Tax at U.S. federal statutory rate	\$ 18,380	\$ 14,550	\$ (21,570)
State and local taxes, net of federal tax benefit	2,790	960	(2,850)
Differences in statutory foreign tax rates	1,150	(1,690)	(1,500)
Change in recognized tax benefits	(600)	(550)	(920)
Goodwill and other intangible assets impairment	—	—	13,430
Tax credits and incentives	(1,260)	(5,060)	(2,130)
Net change in valuation allowance	340	2,100	(6,390)
Nondeductible compensation	990	2,280	260
Other, net	<u>\$ (290)</u>	<u>\$ (790)</u>	<u>\$ (1,280)</u>
Income tax expense (benefit)	<u>\$ 21,500</u>	<u>\$ 11,800</u>	<u>\$ (22,950)</u>

During 2020, the Company undertook certain tax-planning actions with respect to intercompany debt restructuring within the group. These actions resulted in the recognition of a \$6.4 million deferred tax benefit related to an interest limitation carryforward.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The Company has recorded deferred tax assets on \$21.3 million of various state operating loss carryforwards and \$54.3 million of various foreign operating loss carryforwards. The majority of the state tax loss carryforwards expire between 2026 and 2032 and the majority of the foreign losses have indefinite carryforward periods.

The Company has not made a provision for U.S. or additional foreign withholding taxes related to investments in foreign subsidiaries that are indefinitely reinvested since any excess of the amount for financial reporting over the tax basis in these investments is not significant as of December 31, 2022.

Unrecognized Tax Benefits

The Company had \$1.1 million and \$1.3 million of unrecognized tax benefits ("UTBs") as of December 31, 2022 and 2021, respectively. If the UTBs were recognized, the impact to the Company's effective tax rate would be to reduce reported income tax expense for the years ended December 31, 2022 and 2021 by \$1.1 million and \$1.1 million, respectively.

A reconciliation of the change in the UTBs for the years ended December 31, 2022 and 2021 is as follows (dollars in thousands):

	Unrecognized Tax Benefits
Balance at December 31, 2020	\$ 1,640
Tax positions related to current year:	
Additions	130
Tax positions related to prior years:	
Additions	20
Reductions	—
Settlements	—
Lapses in the statutes of limitations	(540)
Balance at December 31, 2021	\$ 1,250
Tax positions related to current year:	
Additions	140
Tax positions related to prior years:	
Additions	—
Reductions	(50)
Settlements	—
Lapses in the statutes of limitations	(230)
Balance at December 31, 2022	\$ 1,110

In addition to the UTBs summarized above, the Company has recorded \$0.8 million and \$0.8 million in potential interest and penalties associated with uncertain tax positions as of December 31, 2022 and 2021, respectively.

The Company is subject to U.S. federal, state and local, and certain non-U.S. income tax examinations for tax years 2015 through 2022. In addition, there are currently several state and foreign income tax examinations in process. The Company does not believe that the results of these examinations will have a significant impact on the Company's tax position or its effective tax rate.

Management monitors changes in tax statutes and regulations and the issuance of judicial decisions to determine the potential impact to UTBs and is not aware of, nor does it anticipate, any subsequent events that could have a significant impact on the Company's financial position during the next twelve months.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

23. Subsequent Events

On February 1, 2023, the Company acquired Aarts Packaging B.V. ("Aarts") for a purchase price of approximately €35 million, subject to customary closing conditions. Aarts is a luxury packaging solutions provider for beauty and lifestyle brands, as well as for customers in the food and life sciences end markets, and has annual net sales of approximately €23 million. Aarts will become part of the Packaging reportable segment.

On February 16, 2023, the Company announced that its Board of Directors had declared a cash dividend of \$0.04 per share of TriMas Corporation common stock, which will be payable on March 9, 2023 to shareholders of record as of the close of business on March 2, 2023.

On February 23, 2023, the Company announced it has signed an agreement to acquire the operating net assets of Weldmac Manufacturing Company ("Weldmac"), a leading designer and manufacturer of high-performance, complex metal fabricated components and assemblies for the aerospace, defense and space launch end markets with annual net sales of approximately \$33 million. Weldmac will become part of the Aerospace reportable segment upon closing, which the Company expects to be during second quarter 2022.

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

Not applicable.

Item 9A. Controls and Procedures

Evaluation of disclosure controls and procedures

As of December 31, 2022, an evaluation was carried out by management, with the participation of our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures (as such term is defined in Rule 13a-15(e) and Rule 15d-15(e) of the Securities Exchange Act of 1934 (the "Exchange Act")), pursuant to Rule 13a-15 of the Exchange Act. Our disclosure controls and procedures are designed only to provide reasonable assurance that they will meet their objectives. Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that as of December 31, 2022, the Company's disclosure controls and procedures were effective to provide reasonable assurance that they would meet their objectives.

We completed the acquisition of Intertech Plastics LLC and related companies (collectively, "Intertech") in February 2022 and have not yet included Intertech in our assessment of the effectiveness of our internal control over financial reporting. Accordingly, pursuant to the SEC's general guidance that an assessment of a recently acquired business may be omitted from the scope of an assessment in the year of acquisition, the scope of our assessment of the effectiveness of our disclosure controls and procedures does not include Intertech. For fiscal 2022, Intertech accounted for \$28.7 million of our total net sales, and as of December 31, 2022 had total assets of \$71.9 million.

Management's Annual Report on Internal Control Over Financial Reporting

Management is responsible for the preparation and fair presentation of the consolidated financial statements included in this annual report. The consolidated financial statements have been prepared in conformity with United States generally accepted accounting principles and reflect management's judgments and estimates concerning events and transactions that are accounted for or disclosed.

Management is also responsible for establishing and maintaining effective internal control over financial reporting. The Company's internal control over financial reporting includes those policies and procedures that pertain to the Company's ability to record, process, summarize, and report reliable financial data. Management recognizes that there are inherent limitations in the effectiveness of any internal control and effective internal control over financial reporting can provide only reasonable assurance with respect to financial statement preparation. Additionally, because of changes in conditions, the effectiveness of internal control over financial reporting may vary over time.

In order to ensure that the Company's internal control over financial reporting is effective, management regularly assesses such controls and did so most recently for its financial reporting as of December 31, 2022. Management's assessment of internal control over financial reporting as of December 31, 2022 excludes internal control over financial reporting related to Intertech (acquired in February 2022), which accounted for \$28.7 million of our total net sales, and as of December 31, 2022 had total assets of \$71.9 million. Management's assessment was based on criteria for effective internal control over financial reporting described in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management asserts that the Company has maintained effective internal control over financial reporting as of December 31, 2022.

Deloitte & Touche LLP, an independent registered public accounting firm, who audited the Company's consolidated financial statements, has also audited the effectiveness of the Company's internal control over financial reporting as of December 31, 2022, as stated in their report below.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of TriMas Corporation

Opinion on Internal Control over Financial Reporting

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

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements and financial statement schedule as of and for the year ended December 31, 2022, of the Company and our report dated February 23, 2023, expressed an unqualified opinion on those financial statements and financial statement schedule.

As described in Management's Annual Report on Internal Control over Financial Reporting, management excluded from its assessment the internal control over financial reporting at Intertech, which was acquired in February 2022, whose financial statements accounted for approximately \$71.9 million of total assets, and \$28.7 million of total net sales of the consolidated financial statements amounts as of and for the year ended December 31, 2022. Accordingly, our audit did not include the internal control over financial reporting at Intertech.

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 Management's Annual 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 the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit 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, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and 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/ Deloitte & Touche LLP

Detroit, Michigan
February 23, 2023

Changes in disclosure controls and procedures

There have been no changes in the Company's internal control over financial reporting during the quarter ended December 31, 2022 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information

Not applicable.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Information regarding our executive officers is included in Part I of this Form 10-K under the heading “*Information about our Executive Officers.*”

The Company's Code of Ethics and Business Conduct is applicable to its directors, officers and employees. The Code of Ethics and Business Conduct is available on the "Investors" portion of the Company's website under the "Corporate Governance" link. The Company's website address is www.trimascorp.com.

The information required by this item is incorporated by reference from our definitive proxy statement for the 2023 Annual Meeting of Shareholders.

Item 11. Executive Compensation

The information required by this item is incorporated by reference from our definitive proxy statement for the 2023 Annual Meeting of Shareholders.

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

The information required by this item is incorporated by reference from our definitive proxy statement for the 2023 Annual Meeting of Shareholders.

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

The information required by this item is incorporated by reference from our definitive proxy statement for the 2023 Annual Meeting of Shareholders.

Item 14. Principal Accountant Fees and Services

The information about aggregate fees billed to us by our principal accountant, Deloitte & Touche LLP (PCAOB ID No. 34), as required by this item, is incorporated by reference from our definitive proxy statement for the 2023 Annual Meeting of Shareholders.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) Listing of Documents

(1) Financial Statements

The Company's Financial Statements included in Item 8 hereof, as required at December 31, 2022 and December 31, 2021, and for the periods ended December 31, 2022, December 31, 2021 and December 31, 2020, consist of the following:

Balance Sheet
Statement of Operations
Statement of Comprehensive Income
Statement of Cash Flows
Statement of Shareholders' Equity
Notes to Financial Statements

(2) Financial Statement Schedules

Financial Statement Schedule of the Company appended hereto, as required for the periods ended December 31, 2022, December 31, 2021 and December 31, 2020, consists of the following:

Valuation and Qualifying Accounts

All other schedules are omitted because they are not applicable, not required, or the information is otherwise included in the financial statements or the notes thereto.

(3) Exhibits

All documents referenced below were filed pursuant to the Securities Exchange Act of 1934, as amended, by TriMas Corporation (File No. 001-10716), unless otherwise noted.

- 3.1 Fourth Amended and Restated Certificate of Incorporation of TriMas Corporation, incorporated by reference to Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q filed on August 3, 2007.
- 3.2 Third Amended and Restated By-laws of TriMas Corporation, incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on December 18, 2015.
- 4.1 Indenture, dated as of March 29, 2021, among TriMas Corporation, the Guarantors named therein and Wells Fargo Bank, National Association, as Trustee (including the Form of Note), incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on March 30, 2021.
- 4.2 Description of Securities of TriMas Corporation, incorporated by reference to Exhibit 4.2 to the Company's Annual Report on Form 10-K filed on February 27, 2020.
- 10.1 Credit Agreement, dated October 16, 2013, by and among TriMas Corporation, TriMas Company LLC and JPMorgan Chase Bank, N.A., as Administrative Agent and Collateral Agent, and the various lenders from time to time thereto, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on October 21, 2013.
- 10.2 Amendment to Credit Agreement, dated November 19, 2021, by and among TriMas Corporation, TriMas Company LLC and JPMorgan Chase Bank, N.A., as Administrative Agent and Collateral Agent, and the various lenders from time to time thereto, incorporated by reference to Exhibit 10.2 to the Company's Annual Report on Form 10-K filed on March 1, 2022.
- 10.3 Incremental Facility Agreement and Amendment dated as of October 17, 2014, among TriMas Company LLC, the other Loan Parties party thereto, JPMorgan Chase Bank, N.A., as administrative agent, the Incremental Tranche A Term Lenders and the other Lenders party thereto, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on October 20, 2014.
- 10.4 Replacement Facility Amendment, dated as of June 30, 2015, among TriMas Company LLC, the other Loan Parties party thereto, JPMorgan Chase Bank, N.A., as administrative agent, and the Lenders party thereto, incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K filed on July 6, 2015.

- 10.5 Foreign Subsidiary Borrowing Agreement and Amendment dated as of January 10, 2017, among TriMas Company LLC, TriMas Corporation, TriMas Corporation Limited, JPMorgan Chase Bank, N.A., as administrative agent for the Lenders (as defined therein) and as Fronting Lender, JPMorgan Chase Bank, N.A., Bank of America, N.A. and Wells Fargo Bank, National Association, J.P. Morgan Europe Limited, in its capacity as Foreign Currency Agent, and the Revolving Lenders party hereto, incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q filed on April 27, 2017.
- 10.6 Amendment, dated as of March 8, 2017 to the Credit Agreement, dated as of October 16, 2013 (as amended, amended and restated, supplemented or otherwise modified from time to time), among TriMas Corporation, TriMas Company LLC, the subsidiary borrowers from time to time parties thereto, the Lenders party thereto, JPMorgan Chase Bank, N.A., as administrative agent, and the other agents party thereto, incorporated by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q filed on April 27, 2017.
- 10.7 Replacement Facility Amendment, dated as September 20, 2017, among TriMas Company LLC, the other Loan Parties party thereto, JPMorgan Chase Bank, N.A., as administrative agent, and the Lenders party thereto, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on September 20, 2017.**
- 10.8 TriMas Corporation Long Term Equity Incentive Plan Non-Qualified Stock Option Agreement, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on March 6, 2009.*
- 10.9 Flexible Cash Allowance Policy, incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on December 10, 2009.*
- 10.10 TriMas Corporation 2017 Equity and Incentive Compensation Plan, incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed on July 27, 2017.*
- 10.11 2013 Form of Indemnification Agreement, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on November 13, 2013.*
- 10.12 Offer Letter between TriMas Corporation and Thomas A. Amato dated July 23, 2016, incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed on October 27, 2016.
- 10.13 Form of Special Performance Stock Units Agreement - 2019 LTI - under the 2017 Equity and Incentive Compensation Plan, incorporated by reference to Exhibit 10.37 to the Company's Annual Report on Form 10-K filed on February 27, 2020.*
- 10.14 Form of Performance Stock Units Agreement - 2020 LTI - under the 2017 Equity and Incentive Compensation Plan, incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed on April 30, 2020.*
- 10.15 Form of Restricted Stock Units Agreement - (Three Year Vest) - 2020 LTI - under the 2017 Equity and Incentive Compensation Plan, incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed on April 30, 2020.*
- 10.16 Form of Restricted Stock Units Agreement - (Board of Directors) (One-Year Vest) - 2020 LTI - under the 2017 Equity and Incentive Compensation Plan, incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed on April 30, 2020.*
- 10.17 Form of Performance Stock Units Agreement - 2021 LTI - under the 2017 Equity and Incentive Compensation Plan, incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed on April 29, 2021.*
- 10.18 Form of Restricted Stock Units Agreement - (Three Year Vest) - 2021 LTI - under the 2017 Equity and Incentive Compensation Plan, incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed on April 29, 2021.*
- 10.19 Form of Restricted Stock Units Agreement - (Board of Directors) (One-Year Vest) - 2021 LTI - under the 2017 Equity and Incentive Compensation Plan, incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed on April 29, 2021.*
- 10.20 Separation Agreement between TriMas Corporation and Joshua A. Sherbin dated February 26, 2021, incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q filed on April 29, 2021.*
- 10.21 Second Replacement Revolving Facility Amendment, dated as of March 29, 2021, among TriMas Corporation, TriMas Company LLC, the subsidiary borrowers party thereto, JPMorgan Chase Bank, N.A., as administrative agent, and the other agents and Lenders party thereto, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on March 30, 2021.**
- 10.22 Separation Agreement between TriMas Corporation and Robert J. Zalupski dated May 1, 2021, incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed on July 29, 2021.*
- 10.23 Offer Letter between TriMas Corporation and Scott Mell dated March 15, 2021, incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed on July 29, 2021.*
- 10.24 Executive Severance / Change in Control Policy, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on August 11, 2021.*

- 10.25 Form of Performance Stock Units Agreement - 2022 LTI - under the 2017 Equity and Incentive Compensation Plan, incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed on April 28, 2022.*
- 10.26 Form of Restricted Stock Units Agreement (Three-Year Vest) - 2022 LTI - under the 2017 Equity and Incentive Compensation Plan, incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed on April 28, 2022.*
- 10.27 Form of Restricted Stock Units Agreement (Board Of Directors) (One-Year Vest) - 2022 LTI - under the 2017 Equity and Incentive Compensation Plan, incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed on April 28, 2022.*
- 21.1 TriMas Corporation Subsidiary List.
- 23.1 Consent of Independent Registered Public Accounting Firm.
- 31.1 Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 31.2 Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 32.1 Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 32.2 Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 101 The following materials from TriMas Corporation's Annual Report on Form 10-K for the fiscal year ended December 31, 2022, formatted in Inline XBRL (eXtensible Business Reporting Language): (i) the Consolidated Balance Sheet, (ii) the Consolidated Statement of Operations, (iii) the Consolidated Statement of Comprehensive Income, (iv) the Consolidated Statement of Cash Flows, (v) the Consolidated Statement of Shareholders' Equity, (vi) Notes to Consolidated Financial Statements, and (vii) document and entity information.
- 104 Cover Page Interactive Data File (embedded within the Inline XBRL document).

*Management contracts and compensatory plans or arrangements required to be filed as an exhibit pursuant to Item 15(b) of Form 10-K.

** Certain exhibits and schedules have been omitted and the Company agrees to furnish supplementally to the Securities and Exchange Commission a copy of any omitted exhibits and schedules upon request.

Item 16. Form 10-K Summary

None.

SIGNATURES

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

TRIMAS CORPORATION
(Registrant)

BY: /s/ THOMAS A. AMATO

DATE:

February 23, 2023

Name: Thomas A. Amato

Title: *President and Chief Executive Officer*

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

<u>Name</u>	<u>Title</u>	<u>Date</u>
<u>/s/ THOMAS A. AMATO</u> Thomas A. Amato	President and Chief Executive Officer (Principal Executive Officer) and Director	February 23, 2023
<u>/s/ SCOTT A. MELL</u> Scott A. Mell	Chief Financial Officer (Principal Financial Officer)	February 23, 2023
<u>/s/ PAUL A. SWART</u> Paul A. Swart	Vice President Business Planning, Controller and Chief Accounting Officer (Principal Accounting Officer)	February 23, 2023
<u>/s/ SAMUEL VALENTI III</u> Samuel Valenti III	Chairman of the Board of Directors	February 23, 2023
<u>/s/ HOLLY M. BOEHNE</u> Holly M. Boehne	Director	February 23, 2023
<u>/s/ TERESA M. FINLEY</u> Teresa M. Finley	Director	February 23, 2023
<u>/s/ JEFFREY M. GREENE</u> Jeffrey M. Greene	Director	February 23, 2023
<u>/s/ HERBERT K. PARKER</u> Herbert K. Parker	Director	February 23, 2023
<u>/s/ NICK L. STANAGE</u> Nick L. Stanage	Director	February 23, 2023
<u>/s/ DANIEL P. TREDWELL</u> Daniel P. Tredwell	Director	February 23, 2023

SCHEDULE II
PURSUANT TO ITEM 15(a)(2)
OF FORM 10-K VALUATION AND QUALIFYING ACCOUNTS FOR THE YEARS ENDED
December 31, 2022, 2021 AND 2020

DESCRIPTION	BALANCE AT BEGINNING OF PERIOD	ADDITIONS		DEDUCTIONS ^(A)	BALANCE AT END OF PERIOD
		CHARGED TO COSTS AND EXPENSES	CHARGED (CREDITED) TO OTHER ACCOUNTS		
Allowance for doubtful accounts deducted from accounts receivable in the balance sheet					
Year ended December 31, 2022	\$ 1,570,000	\$ 1,480,000	\$ 80,000	\$ 1,400,000	\$ 1,730,000
Year ended December 31, 2021	\$ 2,120,000	\$ 830,000	\$ 190,000	\$ 1,570,000	\$ 1,570,000
Year ended December 31, 2020	\$ 2,060,000	\$ 2,080,000	\$ 100,000	\$ 2,120,000	\$ 2,120,000

^(A) Deductions, representing uncollectible accounts written-off, less recoveries of amounts reserved in prior years.

Corporate and Investor Information

BOARD OF DIRECTORS

Thomas A. Amato
President and Chief Executive Officer
TriMas Corporation

Jeffrey A. Fielkow
President and Chief Executive Officer
I.D. Images, LLC

Herbert K. Parker
Former Executive Vice President,
Operational Excellence, Harman International

Samuel Valenti III
Chairman, Chief Executive Officer
Valenti Capital

Teresa M. Finley
Former Chief Marketing & Business
Services Officer, United Parcel Service

Nick L. Stange
Chairman, Chief Executive Officer
and President, Hexcel Corporation

Holly M. Boehne
Former Chief Technology Officer
Andersen Corporation

Jeffrey M. Greene
Founder and Advisor
Orion Advisors Group

Daniel P. Tredwell
Managing Member, CoveView Advisors LLC
and CoveView Capital LLC

EXECUTIVE OFFICERS

Thomas A. Amato
President and Chief Executive Officer

Scott A. Mell
Chief Financial Officer

Fabio L. Matheus Salik
President, TriMas Packaging

CORPORATE OFFICERS

Jodi F. Robin
General Counsel
and Secretary

Paul A. Swart
Vice President Business Planning,
Controller and Chief Accounting Officer

Jan C. van Dijk
Vice President, Corporate
Development and Treasurer

Jill S. Stress
Chief Human Resource Officer

INVESTOR RELATIONS CONTACT

This annual report, along with a variety of other financial materials, can be viewed at <http://ir.trimascorp.com>. Additional inquiries can be directed to TriMas Investor Relations: 38505 Woodward Avenue, Suite 200, Bloomfield Hills, MI 48304
Phone: (248) 631-5506 Email: sherrylauderback@trimascorp.com

COMMITTED TO SUSTAINABILITY

Learn more about our Sustainability commitments and initiatives in our Sustainability Report at: www.trimascorp.com/sustainability/

STOCK LISTING

NASDAQ Stock Exchange Symbol: TRS

AUDITORS

Deloitte & Touche LLP

TRANSFER AGENT AND REGISTRAR

Inquiries regarding your account share balance, changes in registration or address, lost certificates and other shareholder account matters should be directed to: Computershare, PO Box 505000, Louisville, KY 40233-5000 Telephone: (800) 368-5948
Online inquiries: <https://www-us.computershare.com/investor/contact>

ANNUAL MEETING

TriMas' Annual Meeting of Shareholders will be held at 8:00 a.m. on May 9, 2023. The Annual Meeting will be a "virtual" meeting. The Company is making its proxy materials available electronically as the primary means of furnishing proxy materials to shareholders, who can participate in the meeting online at www.virtualshareholdermeeting.com/TRS2023 at the appointed date and time.

TriMas

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