

**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 AND EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2022

TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES ACT OF 1934

FOR THE TRANSITION PERIOD FROM TO

Commission file number 001-14775

DMC Global Inc.

(Exact name of Registrant as Specified in its Charter)

Delaware
(State of Incorporation or Organization)

84-0608431
(I.R.S. Employer Identification No.)

11800 Ridge Parkway, Suite 300, Broomfield, Colorado 80021
(Address of principal executive offices, including zip code)

(303) 665-5700
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, \$.05 Par Value	BOOM	The Nasdaq Global Select Market

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 15(d) of the Act from their obligations under those sections. Yes No

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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.

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

The approximate aggregate market value of the voting stock held by non-affiliates of the registrant was \$94,214,598 as of June 30, 2022.

The number of shares of Common Stock outstanding was 19,625,378 as of February 20, 2023.

Certain information required by Items 10, 11, 12, 13 and 14 of Form 10-K is incorporated by reference into Part III hereof from the registrant's proxy statement for its 2023 Annual Meeting of Stockholders, which is expected to be filed with the Securities and Exchange Commission ("SEC") within 120 days of the close of the registrant's fiscal year ended December 31, 2022.



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PART I

ITEM 1. Business

References made in this Annual Report on Form 10-K to “we”, “our”, “us”, “DMC”, “DMC Global” and the “Company” refer to DMC Global Inc. and its consolidated subsidiaries. Unless stated otherwise, all dollar figures in this report are presented in thousands (000s).

Overview

DMC Global Inc. (“DMC”, “we”, “us”, “our”, or the “Company”) owns and operates Arcadia, DynaEnergetics and NobelClad, three innovative, asset-light manufacturing businesses that provide differentiated products and engineered solutions to niche segments of the construction, energy, industrial processing and transportation markets. Arcadia supplies architectural building products, including exterior and interior framing systems, curtain walls, windows, doors, and interior partitions to the commercial construction market; it also supplies customized windows and doors to the high-end residential construction market. DynaEnergetics designs, manufactures and distributes highly engineered products utilized by the global oil and gas industry principally for the perforation of oil and gas wells. NobelClad is a leader in the production of explosion-welded clad metal plates for use in the construction of corrosion resistant industrial processing equipment, as well as specialized transition joints for use in construction of commuter rail cars, ships, and liquified natural gas (LNG) processing equipment.

Arcadia’s products are sold in the United States through a network of service centers and distributors, while DynaEnergetics and NobelClad operate globally through an international network of manufacturing, distribution and sales facilities. Refer to Note 11 within Item 8 — Financial Statements and Supplementary Data for net sales, operating income, and total assets for each of our segments.

Our Strategy

Each of our businesses provides a unique suite of highly engineered products and differentiated solutions, and each has established a leadership position in its respective market. Our businesses seek to capitalize on their product and service differentiation to grow market share, expand profit margins, increase cash flow and enhance shareholder value.

Our businesses follow a clear and compelling strategy and are led by excellent leadership teams that we support with business resources and capital. We take a focused approach to capital allocation and work with our business leaders to identify investments that will advance their operating strategies and generate attractive returns. Our approach helps our portfolio companies grow their core businesses, launch new initiatives, upgrade technologies and systems, expand their markets and improve their competitive positions. Our culture is to foster local innovation versus centralized control.

On December 23, 2021, we expanded our portfolio of differentiated businesses by acquiring a 60% controlling interest in Arcadia. Consideration for the purchased interest on the date of acquisition was \$282.7 million and consisted of cash of approximately \$261.0 million and approximately \$21.7 million in shares of the Company’s common stock, subject to certain adjustments for working capital, cash and indebtedness, among other items. We have the right, and may be obligated, to acquire the remaining 40% of Arcadia on or after December 23, 2024, through a three-year put and call option. Refer to Note 3 within Item 8 — Financial Statements and Supplementary Data for a full description of the transaction and put and call option.

On January 17, 2023, we announced the departure of Chief Executive Officer, Kevin Longe. Our Board of Directors (“Board”) appointed Michael Kuta, our current Chief Financial Officer, who has delayed his previously announced retirement, and former Chairman of the Board and Director, David Aldous, as interim co-Presidents and Chief Executive Officers to replace Mr. Longe. On January 20, 2023, we appointed Eric Walter as our next Chief Financial Officer, effective as of the business day following the filing of this Form 10-K for the year ended December 31, 2022. Mr. Aldous, Mr. Kuta and Mr. Walter will oversee implementation of our strategy while a search for a permanent Chief Executive Officer occurs. Refer to Outlook in Item 7 - Management’s Discussion and Analysis of Financial Condition and Results of Operations for a description of near-term priorities.

Business Segments

Arcadia

Arcadia is a leading provider of architectural building products and operates in two divisions – Commercial and Residential

Arcadia Commercial

The Arcadia Commercial division is comprised of its exteriors business (“Arcadia Commercial Exteriors”) and Wilson Partitions. The Arcadia Commercial Exteriors business designs, engineers, fabricates and finishes aluminum framing systems, windows, curtain walls, storefronts and entrance systems comprising the exterior of buildings. It operates as an integrated network of facilities, with anodized and painted aluminum component products manufactured in Vernon, California, and multiple locations providing localized support. This business focuses on products targeted to regional needs and preferences, and product availability with short lead times. Arcadia Commercial Exteriors locations serve a loyal customer base consisting primarily of glazing contractors, subcontractors, commercial architects, and designers in growing commercial markets in the western and southwestern U.S. In 2022, Arcadia Commercial Exteriors division accounted for approximately 71% of Arcadia’s net sales.

Arcadia’s commercial interiors business, which operates under the name “Wilson Partitions,” serves commercial framing and partitions markets across the U.S. It provides interior framing systems, aluminum doors, sliding systems and glazing systems. It is supported by manufacturing facilities in California, Connecticut and Texas. Wilson Partitions provides products for new construction and for repairs and remodels, and focuses on product capabilities, including noise control, fire rating, built-to-order custom finishes, and other functional and aesthetic features. Wilson Partitions has a national market base, which is supported by leveraging its facilities and a national sales force. In 2022, Wilson Partitions accounted for approximately 12% of Arcadia’s net sales.

Residential

The Arcadia residential business, referred to as “Arcadia Custom,” serves the national high-end residential real estate market and is supported by facilities in Arizona, California, and Connecticut. Arcadia Custom provides a complete offering of custom, fully fabricated aluminum, steel and wood windows and doors to luxury homes and mixed-use markets. The Arcadia Custom team works closely with architects, owners, contractors and installers to provide support throughout the planning, design and installation phases of a residential construction process. In 2022, Arcadia Custom accounted for approximately 17% of Arcadia’s net sales.

Business Strategy

Arcadia’s strategy is to use its efficient manufacturing base to provide high-quality products that meet customers’ needs and preferences at attractive margins. The Arcadia Commercial division maintains a strong focus on customer service, high product quality, a complete product offering, product availability, and industry-leading lead times. This has allowed the Arcadia Commercial division to cultivate a highly diversified and long-tenured customer base. Arcadia seeks to continue to drive strong margins through increased productivity, cost management, integration and supply chain optimization and to deliver long-term organic growth through capacity expansion and growing Arcadia’s presence and market share in targeted geographic markets.

In Arcadia Custom, we strive to provide a broad offering of high quality products for luxury homes, while focusing on improving manufacturing efficiency and driving margin improvement. Arcadia Custom plans to deliver growth by removing capacity constraints and optimizing our sales force and dealer network.

Historically, Arcadia has looked to strategic acquisitions to broaden its product offerings and broaden access to markets, and management plans to continue to monitor opportunities for strategic acquisitions.

Environmental Sustainability

Arcadia operates its businesses with an ongoing focus on environmental sustainability, including hazardous waste recycling and initiatives aimed at reducing waste. All of Arcadia’s commercial building products and many of our residential products are made from aluminum and can be specified with recycled aluminum content. A substantial portion of Arcadia’s residential projects use steel (the most recycled building material in the world), and most of its steel products are recyclable.

Many of our architectural products help architects, developers, and building owners achieve their energy-efficiency and sustainability goals, by improving energy performance, thereby reducing greenhouse gas emissions, providing daylight and natural ventilation, and increasing comfort and safety for occupants. Arcadia offers high-performance products that comply with the Leadership in Energy and Environmental Design (LEED) Green Building Rating System. In addition, we offer a wide range of renovation solutions to help modernize aging buildings, providing significantly improved energy performance. Arcadia is committed to continuing to develop more energy efficient products for our customers.

Operations

Arcadia is headquartered in Vernon, California and operates four manufacturing facilities and 11 fabrication and distribution facilities. Anodized and painted aluminum components are manufactured in Arcadia's Vernon, California facilities, with additional painting and manufacturing capacity in its Tucson, Arizona and Connecticut facilities.

During the year ended December 31, 2022, Arcadia represented approximately 46% of our consolidated net sales.

Products

The Arcadia Commercial Exterior division manufactures, assembles and sells aluminum window and door systems, as well as architectural components. These include architectural framing systems, curtain and window walls, entrances and sun control products. Our product offerings allow architects to create distinctive looks for buildings such as office towers, airports, hotels, education and athletic facilities, health care facilities, government buildings, retail centers, mixed use and multi-family residential buildings, while also meeting functional requirements such as energy efficiency, hurricane, blast and other impact resistance and/or sound control.

Wilson Partitions manufactures and sells door framing systems, aluminum doors, sliding systems and glazing systems.

Arcadia Custom designs and manufactures thermally broken steel and aluminum windows and doors and custom wood doors and windows. Custom windows are often sold with glass included.

We offer product and service warranties that we believe are competitive for the markets in which our products are sold. The nature and extent of these warranties depend upon the product, the market and, in some cases, the customer being served.

Suppliers and Raw Materials

The raw materials used in each of Arcadia's businesses are primarily commodities. Specifically, Arcadia uses aluminum in our commercial products and glass, aluminum, steel and wood in our residential products. The availability, quality, and costs of many of these commodities have fluctuated, and may continue to fluctuate, over time and are primarily sourced in North America. Generally, we have been able to address price increases in our product pricing to customers. The results of operations can be impacted by a delay between the time of a raw material cost increase and our price capture.

Raw materials are generally available from numerous sources. Aluminum is our most important raw material, and we currently source from several major suppliers. We generally have good relationships with our suppliers and strive to proactively manage raw materials availability and pricing.

Competition

Arcadia Commercial

The North American commercial construction market is highly fragmented. Competitive factors include price, product quality, product attributes and performance, reliable service, regional satellites, local availability, lead-time, on-time delivery, project management, technical engineering and design services. To protect and enhance our competitive position, we maintain strong relationships with our customers and strive to provide value to all persons in the value chain. There is a great deal of competition in the North American commercial window and storefront manufacturing industry, and the Arcadia Commercial division competes against several national, regional and local aluminum window and storefront manufacturers, as well as regional paint and anodizing finishing companies.

With respect to Arcadia Commercial, we believe our low-cost manufacturing platform, supply chain management, broad product offering, product quality and availability, industry-leading lead times and highly diversified and long-tenured customer base, create significant competitive advantages relative to many other exterior building products manufacturers.

Arcadia Custom

Arcadia Custom faces competition nationally from several large, well-known competitors and from many smaller, regional competitors. Competitive factors include product quality and design, aesthetics, dealer relationships and relationships with architects and luxury home builders.

Marketing, Sales, Distribution

The Arcadia Commercial division relies on a reputation for strong customer service, quality products and competitive lead times to maintain and attract customers. It has strong relationships with local glaziers, installers, and subcontractors.

Wilson Partitions sells through a national in-house sales force.

Arcadia Custom's sales strategy focuses on direct selling through a national internal sales team and select dealer network that market our products to architects and luxury home builders. The sales network focuses on attracting and retaining dealers by striving to consistently provide exceptional customer service, leading product designs and quality, technical expertise, and competitive pricing.

Ownership and Management

Following the closing of the Arcadia acquisition, the Company (through its direct ownership and indirect ownership through our subsidiary DMC Korea) owns 60% of Arcadia and the remaining 40% is owned by New Arcadia Holdings, Inc., which is wholly-owned by Synergex Group LLC, Trustee of the Munera Family ESBT, and previously the majority owner of Arcadia, Inc. ("Munera"). Arcadia is governed by an Operating Agreement among the Company, Arcadia and Munera (the "Operating Agreement"). Pursuant to the Operating Agreement, the Company has the right to appoint four directors to Arcadia's board of directors (the "Arcadia Board"), one of whom will serve as Chairman of the Arcadia Board, and Munera will have the right to appoint three directors. If Munera's ownership in Arcadia declines, the number of directors it has the right to appoint will be reduced in the manner set forth in the Operating Agreement. The Arcadia Board will generally act by majority vote of the directors, but certain matters specified in the Operating Agreement will require the affirmative vote of 80% of the directors.

At any time at or after the third anniversary of the effective date of the Operating Agreement, Munera shall have the right (but not the obligation) to require the Company to purchase (the "Put Option") its interests in Arcadia for a price based on the higher of (a) a value based on the Acquisition purchase price and (b) a multiple of Arcadia's average EBITDA for the preceding two fiscal years and its projected EBITDA for the then-current fiscal year (the "Option Purchase Price"), and the Company shall have the right (but not the obligation) to purchase all of Munera's interests for the same price (the "Call Option"). If the Put Option is exercised, the Option Purchase Price will be paid, at DMC's option, (i) in cash or (ii) 20% in cash and 80% in shares of preferred stock of the Company. If the Company exercises the Call Option, the Option Purchase Price will be paid in cash. The Operating Agreement also provides for rights of first refusal and "drag-along" rights pursuant to which we could, in certain circumstances, acquire Munera's interests prior to the third anniversary of the effective date of the agreement.

DynaEnergetics

DynaEnergetics designs, manufactures, markets and sells perforating systems and associated hardware for the global oil and gas industry. During the well drilling process, steel casing is inserted into the well and cemented in place to isolate and support the integrity of the wellbore. A perforating system, which contains a series of specialized explosive shaped charges, is used to punch holes through the casing and cement liner of the well and into the geologic formation surrounding the well bore. The channels created by the shaped charges allow hydrocarbons to flow back into the wellbore. When hydraulic fracturing is employed, the perforations and channels also provide a path for the fracturing fluid to enter and return from the formation.

In unconventional wells, multiple perforating systems, which generally range from seven inches to three feet in length, are connected end-to-end into a perforating "string." The string is lowered into the well and then pumped by fluid across the horizontal lateral to the target location within the shale formation. When the perforating system is initiated via an electronic or digital signal from the surface, the shaped charges detonate. DynaEnergetics designs, manufactures and sells all five primary components of a perforating system: the initiation system, shaped charges, detonating cord, gun hardware, and a control panel.

In North America's well-completion industry, perforating components traditionally have been assembled by highly trained personnel at the well site or nearby assembly facility. In 2015, DynaEnergetics began assembling its perforating systems

in a controlled environment at its manufacturing facilities. The systems, marketed as DynaStage® (DS) Factory-Assembled, Performance-Assured™ perforating systems, are shipped directly to the customers' remote shop or well site. Since 2015, DynaEnergetics has added several new DS products to accommodate evolving industry conditions and needs.

Operations

The DynaEnergetics segment seeks to build on its products and technologies, as well as its sales, supply chain and distribution network. During the three years ended December 31, 2022, 2021 and 2020, the DynaEnergetics segment represented approximately 40%, 67% and 64% of our consolidated net sales, respectively.

DynaEnergetics' operates manufacturing facilities in Germany and the United States. In Troisdorf, Germany, DynaEnergetics has six IS2™ detonator manufacturing lines, two shaped charge lines and a detonating cord manufacturing line. In Liebenscheid, Germany, DynaEnergetics operates a manufacturing facility for perforating guns and associated hardware. In the United States, DynaEnergetics has three shaped charge manufacturing lines in Blum, Texas where product assembly and metal fabricating also occur. We have a second metal fabricating facility in Whitney, Texas. These locations provide us with global capacity for shaped charge and perforating gun production and enhance our delivery and customer service capabilities in our key markets.

Products

IS2: DynaEnergetics has focused on the advancement of safe and selective perforating products for use in North America's shale, or onshore, unconventional, oil and gas industry. Among these products are the IS2™ Intrinsically Safe Initiating Systems, which include the IS2™ Customer Assembled (CA) detonator and the wire-free, plug-in, IS2 Top Fire (TF) detonator. The IS2 TF detonator is the key enabling technology in DynaEnergetics' family of DS Factory-Assembled, Performance-Assured perforating systems. The IS2 detonators require a specific digital code for firing and are immune from induced currents and voltages, static electricity and high-frequency irradiation. These safety features substantially reduce the risk of unintentional detonation and enable concurrent perforating and hydraulic fracturing operations at well sites with multiple wellbores, improving operating efficiencies for customers. In response to the exacting needs of our customers, we worked throughout 2022 to expand and enhance the IS2 product line, including adding an IS2 MS igniter specifically designed for our DS MicroSet™. We also began a transition to our most technically advanced detonator, the IS2 Xpress.

DS Systems: Our DS Infinity™ Factory-Assembled, Performance-Assured perforating systems combine all of our advanced technologies into a preassembled perforating gun that is armed at the well site with our Plug-and-Go™ IS2 TF detonator. The IS2 TF detonator is wire-free and eliminates the customary process of wiring the detonator into the perforating system at the well site. All DS systems are operated using our in-house designed and manufactured Infinity™ Control Panel. The Infinity Panel is highly intuitive and allows the gun string to be safely tested and monitored throughout the pump-down operation. The system also incorporates a shot detection function resulting in significant time and cost savings. Recent design advancements to the IS2 line of initiation products enable customers to safely and reliably fire up to 100 systems and set a plug in a single run. All DS systems can be tested before going down hole using our Infinity Surface Tester, reducing the risk of lost time, mishaps, misruns and misfires due to a system fault.

DynaEnergetics has expanded the family of DS perforating systems with various models: DS Echo™, for re-frac applications; DS Gravity™, a self-orienting system for oriented perforating; and DS LoneStar™, a single-shot system that delivers large, ultra-consistent entry holes. DS Trinity™, an ultra-compact system that features three explosive shaped charges on a single or dual radial plane; and DS NLine™, an oriented systems that features several shaped charges on a lateral plane. During 2022, DynaEnergetics continued to refine its systems to further improve reliability and worked to expand our product offerings. In 2022, we successfully launched an expanded 3.5" diameter product building on the success of DS Lonestar™.

Shaped Charges: DynaEnergetics develops and sells a wide range of shaped charges for use in its perforating systems, including the LoneStar and EchoFrac™ charges specifically designed for sale in their respective systems. DynaEnergetics also sells HaloFrac™ charges, which incorporate advancements in liner materials and shaped charge geometry to improve hydraulic fracturing performance, the FracTune™ family of shaped charges, which delivers uniform hole diameter in the well casing independent of shot phasing and gun positioning within the well bore, and the DPEX™ family of charges, which feature energetic liners. All three charge lines can be used with the DynaStage perforating system as well as conventional perforating gun systems across a range of gun diameters. In 2022, DynaEnergetics further expanded its portfolio of equal-entry hole shaped charges, in particular targeting the precise requirements of orientated perforating applications in the plug and perforating market. These charges enable exploration and production companies and their wireline service providers to choose from a variety of specifically designed shaped charges to match well completion design requirements.

TCP Systems: DynaEnergetics Tubing Conveyed Perforating ("TCP") systems are customized for individual customer needs and well applications. TCP enables perforating of conventional vertical wells, as well as highly deviated and horizontal wells. These types of wells are increasingly being drilled by the off-shore industry and in applications outside the U.S. TCP tools also perforate long intervals in a single trip, which significantly improves rig efficiency. Our TCP tool range includes mechanical and hydraulic firing systems, gun releases, redundant firing heads, under-balancing devices and auxiliary components. Our tools are designed to withstand downhole temperatures of up to 260 degrees Celsius (500 degrees Fahrenheit) for safe and quick assembly at the well site and to allow unrestricted total system length.

Setting and Ballistic Release Tools: DynaEnergetics also sells products that perform critical downhole functions associated with the perforating process. DS MicroSet™ is a compact, disposable setting tool used to install the frac plugs that isolate stages in a multi-stage, unconventional oil or gas well. DS Liberator™ is a ballistic release tool that enables the wireline service company to disengage from a perforating string that has become stuck in the well bore.

Plug and Abandonment: Our DynaSlot™ perforating system is designed for plug and abandonment (P&A) operations. During well abandonment, the wellbore is encased and permanently sealed so that layers of sedimentary rock, and in particular freshwater aquifers, are pressure isolated from each other and the wellbore. The DynaSlot perforating system facilitates this process by creating access to a full 360-degree area between the rock formations and the tubing and/or casing. Customers use the unique helical perforation pattern created by DynaSlot to perform cement squeeze operations that seal off the wellbore. DynaEnergetics maintains its DPU and XPU shaped charge lines, which are designed for P&A and well remediation applications and enable perforating through two or more layers of casing and into the formation. DynaEnergetics also has successfully developed an encapsulated DynaSlot charge specifically designed for cutting down hole control lines. Most recently, DynaEnergetics developed its next generation DynaSlot shaped charges, designed specifically for severing and cutting flat-pack control lines, which are mounted vertically behind the wellbore tubulars. Cutting control-lines without damaging the well's integrity is a critical step in the process of permanently decommissioning offshore wells.

Geothermal: In 2022, DynaEnergetics successfully developed and provided a complete perforating string-design for a new geothermal project in Europe. Applying its experience and latest perforating technology, DynaEnergetics was able to offer a solution to meet the requirements of the challenging well design and new application. DynaEnergetics plans to continue work on this application through 2023.

Mining Applications: In 2020, DynaEnergetics introduced Igneo™, a specialized initiating system for use in high-temperature mining applications. Igneo incorporates the same intrinsically safe features found in the IS2 initiating system used by the oil and gas industry.

Suppliers and Raw Materials

DynaEnergetics' product offering consists of complex components that require numerous high-end inputs. DynaEnergetics utilizes a variety of raw materials for the production of oilfield perforating and seismic products, including high-quality steel tubes, steel and copper, explosives, granulates, plastics and ancillary plastic product components. DynaEnergetics obtains its raw materials primarily from a number of different producers in Germany, other European countries, and the U.S., but also purchases materials from other international suppliers.

Competition

DynaEnergetics faces competition from independent manufacturers of perforating products and from the industry's three largest oil and gas service companies, which produce perforating systems for their own use but also buy systems and other perforating components and specialty products from independent suppliers such as DynaEnergetics. We compete for sales primarily on customer service, product quality, reliability, safety, performance, price and, in North America, our ability to provide customers with a Factory-Assembled, Performance-Assured perforating system, versus a series of components that must be assembled at a well site or nearby staging facility.

Customer Profile

DynaEnergetics' perforating and seismic products are purchased by international and U.S. oilfield service companies of all sizes working in both onshore and offshore oil and gas fields. Our customers select perforating products based on their leading performance, system compatibility, product pricing, and ability to address a broad spectrum of factors, including pressures and temperatures in the wellbore and geological characteristics of the targeted formation.

The customers for our energy products can be divided into five broad categories: purchasing centers of large service companies, international service companies, independent international and North America-based service companies (often referred to as “wireline” companies), E&P companies, and local resellers.

Marketing, Sales, Distribution

DynaEnergetics’ worldwide marketing and sales efforts for its oilfield and seismic products are located in Troisdorf, Germany and Houston, Texas. DynaEnergetics’ sales strategy focuses on direct selling, distribution through licensed distributors and independent sales representatives, education of current and prospective service-company customers about our products and technologies, and education of E&P companies about the benefits of our products and technologies in an effort to generate pull-through demand. Currently, DynaEnergetics sells its oilfield and seismic products through wholly owned affiliates in Germany, the U.S., and Canada, and through independent sales agents in other parts of the world. DynaEnergetics serves the Americas region through its network of sales and distribution centers in the United States and Canada. In 2021, DynaEnergetics upgraded its website and launched a mobile version of its app to provide better information and tools to our customers and E&P companies as they select their completion systems, place orders, and track deliveries.

DynaEnergetics also designs and manufactures customized perforating products for third-party customers according to their designs and requirements.

Research and Development

DynaEnergetics devotes substantial resources to its research and development (R&D) programs. Based predominantly in Troisdorf, Germany, the R&D team works closely with sales, product management, and operations management teams to establish priorities and effectively manage individual projects. Through its ongoing involvement in oil and gas industry trade shows and conferences, DynaEnergetics has increased its profile in the oil and gas industry. In addition to its existing shaped charge test facility, which can simulate downhole, wellbore, and reservoir pressure conditions to develop and test high performance perforating charges for both oil companies and service providers, the R&D group has a purpose-built pressure vessel which can reach 30,000 psi test pressures and be heated to up to 200 degrees Celsius (392 degrees F). This enables the R&D group to support the oil and gas industry with test methods for new products that realistically simulate potentially difficult downhole conditions. An R&D plan, which focuses on new technology, products, process support and contracted projects, is prepared and reviewed at least quarterly. R&D costs were \$5,712, \$6,378, and \$6,335 for the years ended December 31, 2022, 2021 and 2020, respectively.

NobelClad

Explosion-welded cladding technology is a method for welding metals that cannot be joined using conventional welding processes, such as titanium-steel, aluminum-steel, and aluminum-copper. Explosion welding also can be used to weld compatible metals, such as stainless steels and nickel alloys to steel. The cladding metals are typically titanium, stainless steel, aluminum, copper alloys, nickel alloys, tantalum, and zirconium. The base metals are typically carbon steel, alloy steel, stainless steel and aluminum.

Explosion-welded clad metal is produced as flat plates or concentric cylinders, which can be further formed and fabricated into a broad range of industrial processing equipment or specialized transition joints. Created using a robust cold-welding technology, explosion-welded clad products exhibit high bond strength, which is generally stronger than the parent metals. The dimensional capabilities of the process are broad: cladding metal layers can range from a few thousandths of an inch to several inches in thickness and base metal thickness and lateral dimensions are primarily limited by the capabilities of the world’s metal production mills.

Clad metal plates are used in the construction of heavy, corrosion resistant pressure vessels and heat exchangers. Clad metal plates consist of a thin layer of an expensive, corrosion-resistant clad metal, such as titanium or nickel alloy, which is metallurgically welded to a less expensive structural backing metal, such as carbon steel. For heavy equipment, clad plates generally provide an economical alternative to building the equipment solely out of a corrosion-resistant alloy. While a significant portion of the demand for our clad metal products is driven by maintenance and retrofit projects at existing chemical processing, petrochemical processing, oil refining, and aluminum smelting facilities, new plant construction and large plant expansion projects also account for a significant portion of total demand. These industries tend to be cyclical in nature, and the timing of new order inflow remains difficult to predict.

Clad Metal End-Use Markets

The eight broad industrial sectors discussed below comprise the bulk of demand for NobelClad's products, with oil and gas and chemical and petrochemical constituting approximately 60% of NobelClad sales in 2022. This demand is driven by the underlying need for both new equipment and facility maintenance in these primary market sectors.

Oil and Gas: Oil and gas end use markets include both oil and gas production and petroleum refining. Oil and gas production covers a broad scope of operations related to recovering oil and/or gas for subsequent processing in refineries. Clad metal is used in separators, glycol contractors, pipelines, heat exchangers and other related equipment. Clad equipment is also advantageous for oil and gas production from deep, hot, and more corrosive fields. The primary clad metals for the oil and gas production market are stainless steel and nickel alloys clad to steel, with some use of reactive metals such as titanium.

Petroleum refining processes frequently are corrosive and operate at high temperatures and pressures. Clad metal is extensively used in a broad range of equipment including desulfurization hydrotreaters, coke drums, distillation columns, separators and heat exchangers. Reliance upon low-quality, high-sulfur crude drives demand for new corrosion resistant equipment. Regulatory controls of sulfur emissions in gas, diesel and jet fuel also impact the need for clad equipment. Like the upstream oil and gas sector, the clad metals are primarily stainless steel and nickel alloys.

Chemical and Petrochemical: Many common products, ranging from plastics to prescription drugs to electronic materials, are produced by chemical processes. Because the production of these items often involves corrosive agents and is conducted under high pressures or temperatures, corrosion resistant equipment is needed. One of the larger applications for clad equipment is in the manufacture of purified terephthalic acid (PTA), a precursor product for polyester, which is used in products as diverse as carpets and plastic bottles. The chemical market requires extensive use of stainless steel and nickel alloys, but also uses titanium, zirconium and tantalum.

Alternative Energy: Some alternative energy technologies involve conditions that necessitate clad metals. Solar panels predominantly incorporate high purity polysilicon. Processes for manufacturing high purity silicon utilize a broad range of highly corrosion-resistant clad alloys. Many geothermal fields are corrosive, requiring high alloy clad separators to handle the hot steam. In addition, some ethanol technologies and concentrating solar power technologies may require corrosion resistant metals at thicknesses where clad is an attractive alternative.

Hydrometallurgy: The processes for production of nickel, gold, and copper involve acids, high pressures, and high temperatures, and titanium-clad plates are used extensively for construction of associated leaching and peripheral equipment such as autoclaves.

Aluminum Production: Primary aluminum is reduced from its oxide in large electric smelters called potlines. The electric current is carried via aluminum conductors. The electricity must be transmitted into steel components for the high temperature smelting operations. Aluminum cannot be welded to steel conventionally. Explosion-welded aluminum-steel transition joints provide an energy efficient and highly durable solution for making these connections. Modern potlines use a large number of transition joints, which are typically replaced after approximately five years in service. Although primary aluminum production is the major electrochemical application for NobelClad products, there are a number of other electrochemical applications including production of zinc, magnesium, chlorine and chlorate. We are seeing an increase for equipment related to processing biomass feedstocks and biofuel end products, mostly stainless and nickel alloy clad.

Shipbuilding: The combined problems of corrosion and top-side weight drive demand for our aluminum-steel transition joints, which serve as the juncture between a ship's upper and lower structures. Top-side weight is often a significant problem with tall ships, including cruise ships, naval vessels, ferries and yachts. Use of aluminum in the upper structure and steel in the lower structure provides stability. Since aluminum cannot be welded directly to steel using conventional welding processes, and since bolted joints between aluminum and steel corrode quickly in seawater, explosion-welded transition joints are a common solution.

Power Generation: Fossil fuel and nuclear power generation plants require extensive use of heat exchangers, many of which require corrosion resistant alloys to handle low quality cooling water. Our clad plates are used for heat exchanger tube sheets, and the largest clad tube sheets are used in the final low-pressure condensers. For most coastal and brackish water-cooled plants, titanium is the metal of choice, and titanium-clad tube sheets are the low-cost solution for power plant condensers.

Industrial Refrigeration: Heat exchangers are a core component of refrigeration systems. When the cooling fluid is seawater, brackish, or even slightly polluted, corrosion-resistant metals are necessary. Metal selection can range from stainless

steel to copper alloy to titanium. Explosion-welded clad metal is often the low-cost solution for making the tube sheets. Applications range from refrigeration chillers on fishing boats to massive air conditioning units for skyscrapers, airports, and deep underground mines.

New Applications/Industry Development

NobelClad continues its efforts in applications and materials innovations, with the goal of expanding NobelClad's end-use markets and customer base. Examples of these efforts include the development of a new application of clad in the production of engineered wood, development of improved electrical transition joints for smelting applications, high-pressure refractory metals chemical processing pipe systems and cryogenic joints to LNG and air separation units. NobelClad is also engaged in research efforts related to using clad products in concentrating solar power production facilities.

Operations

During the three years ended December 31, 2022, 2021 and 2020, the NobelClad segment represented approximately 14%, 33% and 36% of our consolidated net sales, respectively. Our manufacturing plants and their respective shooting sites in Pennsylvania and Germany provide the production capacity to address projects for NobelClad's global customer base.

NobelClad uses proprietary processes and technology to produce high quality clad metal products and limit re-work costs. The entire explosion-welding process involves significant precision in all stages, and any errors can be extremely costly as they often result in the discarding of the expensive raw material metals. NobelClad's technological expertise helps ensure precision, minimize errors, and prevent costly waste.

NobelClad's metal products are primarily produced for custom projects and conform to requirements set forth in customers' purchase orders. Upon receipt of an order, NobelClad obtains the component materials from a variety of sources based on quality, availability and cost and then produces the order in one of its manufacturing plants. Final products are processed to meet contract specific requirements for product configuration and quality/inspection level.

Products

NobelClad manufacturing technology is used in a variety of product applications.

DetaClad™: Our explosion clad plates and cylinders, available in 260 compatible and non-compatible metal combinations, are the basis of the world's pressure vessels, towers and crystallizers used in many industries.

Tube Sheets: Our clad tube sheets are made from corrosion-resistant alloys, making them ideal for applications ranging from refrigeration chillers on fishing boats to air conditioners for use in food and pharmaceutical manufacturing.

Vessel Heads & Cylinders: NobelClad delivers high-quality clad heads of all sizes for reactors, heat exchangers and process vessels. We adapt our head forming process to specific clad metal combinations.

Structural Transition Joints: NobelClad's structural transition joints permanently join metals without mechanical fasteners. Shipbuilders turn to us to connect superstructures and bulkheads to steel hulls, framing and deck components.

Electrical Transition Joints: NobelClad's electrical transition joints offer strong, low electrical resistance solutions for aluminum and zinc smelting, when anode clad and cathode applications must operate at elevated temperatures.

Cylindra™ Cryogenic Transition Joints: Compared with bolted connection systems, Cylindra offers an easier, more reliable way to connect stainless steel to aluminum pipes for producing LNG and industrial gases in Air Separation Units (ASU).

DetaPipe™ Spools, Elbows and Branches: NobelClad offers reactive metal pipe spools and elbows for piping systems in demanding high-pressure and high-temperature processes. This new technology allows for end users to benefit from the corrosion resistance performance and process safety that metals like zirconium, titanium and tantalum provide.

Suppliers and Raw Materials

NobelClad's operations involve a range of alloys, steels and other materials, such as stainless steel, copper alloys, nickel alloys, titanium, zirconium, tantalum, aluminum and other metals. NobelClad sources its raw materials from a number of different producers and suppliers. It holds a limited metal inventory and purchases its raw materials based on contract specifications. Under most contracts, any raw material price increases are passed on to NobelClad's customers. NobelClad closely monitors the quality of its supplies and inspects the type, dimensions, markings, and certification of all incoming metals to ensure that the materials will satisfy applicable construction codes. NobelClad also manufactures a majority of its own explosives from standard raw materials, and we believe that this allows us to achieve higher quality and lower cost.

Competition

Hot Roll Bonding and Weld Overlay. NobelClad faces competition from two primary alternative cladding technologies: hot roll bonding and weld overlay. Usually, the three processes do not compete directly, as each has its own preferential domain of application relating to metal used and thicknesses required. However, specific project considerations such as technical specifications, price and delivery time, may allow these technologies to compete more directly with explosion-welding. Roll bond is only produced by a few steel mills in the world. In this process, the clad metal and base metal are bonded during the hot rolling operation in which the metal slab is converted to plate. The weld overlay process is used by the many vessel fabricators that are often also NobelClad customers. In weld overlay cladding, the clad metal layer is deposited on the base metal using arc-welding type processes.

Explosion-Welded Metal Cladding. Worldwide competition in the explosion-welded clad metal business is fragmented, and we believe that NobelClad holds a strong market position in the industry. Within North America, NobelClad is one of the largest producers of explosion-welded clad products. In Europe, its manufacturing capacity gives NobelClad a strong position against smaller competitors. In Asia, NobelClad has mixed competition ranging from competitors with strong brand names and competitive technology to other producers that are technically limited and offer minimal exports outside of their domestic markets. To remain competitive, NobelClad intends to continue developing and providing technologically advanced manufacturing services, maintaining quality levels, offering flexible delivery schedules, delivering finished products on a reliable basis and competing favorably on the basis of price.

Customer Profile

NobelClad's customers can be divided into three tiers: the product end users (e.g., operators of chemical processing plants, and aluminum smelting plants), the engineering contractors that design and construct plants for end users, and the metal fabricators that manufacture the products or equipment that utilize NobelClad's metal products. It is typically the fabricator that places the purchase order with NobelClad and pays the corresponding invoice. NobelClad has developed strong relationships over the years with the engineering contractors, process licensors, and equipment operating companies that frequently act as buying agents for fabricators.

Marketing, Sales, Distribution

NobelClad conducts its selling efforts by marketing its services to potential customers' senior management, direct sales personnel, program managers, and independent sales representatives. Prospective customers in specific industries are identified through networking in the industry, cooperative relationships with suppliers, public relations, customer references, inquiries from technical articles and seminars, website inquiries, webinars, and trade shows. NobelClad's sales office in the United States covers both North and South America. Its sales offices in Europe cover the full European continent, Africa, the Middle East, and India. NobelClad also has a sales office in South Korea to address the Asian markets and uses contract agents to cover various other countries. Contract agents typically work under multi-year agreements which are subject to sales performance targets as well as compliance with NobelClad quality, customer service and compliance expectations. By maintaining relationships with its existing customers, developing new relationships with prospective customers, and educating all its customers as to the technical benefits of NobelClad's products, NobelClad endeavors to assist in setting standard specifications, both by our customers and the American Society of Mechanical Engineers and ASTM International, to ensure that the highest quality and reliability are achieved.

NobelClad's products are generally shipped from its manufacturing locations in the United States and Germany. Any shipping costs or duties for which NobelClad is responsible typically will be included in the price paid by the customer. Regardless of where the sale is booked, NobelClad will produce it, capacity permitting, at the location closest to the delivery place. In the event that there is a short-term capacity issue at one facility, NobelClad can produce the order at its other

production site, prioritizing timing. The two production sites allow NobelClad to meet customer production needs in a timely manner.

Research and Development

We prepare a formal research and development plan annually. It is implemented at our cladding sites and is supervised by a technical committee that reviews progress quarterly and meets once a year to establish the plan for the following twelve months. The research and development projects concern process support, new products, new applications, and special customer-paid projects.

Corporate History and Recent Developments

The Company originated as an unincorporated business called “Explosive Fabricators,” which was formed in Colorado in 1965. The business was incorporated in Colorado in 1971 under the name “E. F. Industries, Inc.,” which was later changed to “Explosive Fabricators, Inc.” The Company became publicly traded in 1976. In 1994, it changed its name to “Dynamic Materials Corporation.” The Company reincorporated in Delaware in 1997.

From 1976, the Company operated as a licensee of DetaClad, the explosion-welded clad process developed by DuPont in 1959. In 1996, the Company purchased the DetaClad operating business from DuPont.

In 2001, the Company acquired substantially all of the stock of NobelClad Europe SA, a French company (“NobelClad Europe”), which had also been a licensee of the DetaClad technology. The acquisition of NobelClad Europe expanded the Company’s explosive metalworking operations to Europe.

In 2007, the Company acquired the German company DynaEnergetics GmbH and Co. KG (“DynaEnergetics”) and certain affiliates. DynaEnergetics was comprised of two primary businesses: explosive metalworking and energy products. This acquisition expanded the Company’s explosive metalworking operations in Europe and added a complementary energy products business.

In 2013, the Company branded its explosive metalworking operations under the single name NobelClad. The NobelClad segment is comprised of the Company’s U.S. clad operations as well as the explosion metalworking assets and operations purchased in the NobelClad Europe and DynaEnergetics acquisitions. In 2014, the Company re-branded the energy products segment as DynaEnergetics.

In 2014, the Company acquired a modern manufacturing and office complex in Liebenseid, Germany. The facility enhances NobelClad’s manufacturing capabilities and serves as a state-of-the-art production and administrative resource for NobelClad’s European operations and also serves as a production resource for DynaEnergetics.

In 2016, the Company changed its name to DMC Global Inc. to reflect that we are a diversified portfolio of technical product and process businesses serving niche markets around the world.

In 2018, NobelClad completed the consolidation of its European explosion-welding operations into its manufacturing facility in Liebenseid, Germany. DynaEnergetics expanded its North American operations, adding 74,000 square feet of manufacturing, assembly and administrative space on its Blum, Texas campus.

In 2019, DynaEnergetics completed a series of capacity expansion initiatives at its manufacturing facilities in North America and Germany. Capitalizing on its more efficient manufacturing footprint, DynaEnergetics ceased its operations in Tyumen, Siberia, and during the third quarter of 2020, DynaEnergetics sold the land and buildings in Tyumen, Siberia to a third-party. Additionally in 2019, the Company internally restructured its European entities and simplified its legal structure. The new structure took effect on January 1, 2020, and reduces the number of legal entities, minimizes complexity and enables the Company to reduce its annual compliance and administration costs and manage global tax reform more effectively.

In 2021, the Company completed the acquisition of 60% of the membership interests in Arcadia. This acquisition diversified the markets and industries in which we operate and dramatically expanded our addressable markets.

Human Capital

DMC empowers its people and organizations by institutionalizing entrepreneurship and celebrating ingenuity. We seek to foster local innovation versus centralized control, and stand behind our businesses in ways that truly add value. Our culture is based on four core values:

- Integrity - We stand by our word and own our decisions. We are fair in how we treat customers, peers, partners and the communities we work in. We treat our company like it's our own.
- Courage - We are entrepreneurs, with the courage to act when we see something that needs doing. We believe in pursuing the right path forward, even if it's the most difficult one.
- Teamwork - We believe being a part of one team, one community. We count on each other to do our part. We stand by one another when things are tough, learning from our failures and celebrating together when we get the job done.
- Humility - We believe that inspiration can come from anywhere and remain open to new ideas. We are proud of our work and how it helps our customers, but are never boastful.

DMC aligns to provide all employees with a supportive work environment and the opportunity to improve their skills and advance their careers. Our culture is reflected in our inclusive and thriving workplace. We believe every employee deserves an environment in which they are treated with dignity and respect, and their voices are heard. We support diversity within our workforce, and respect and embrace the different backgrounds, experiences, cultures and perspectives our employees bring to DMC.

As of December 31, 2022, we had 1,700 permanent and part-time employees (1,474 U.S. and 226 non-U.S.), the majority of whom are engaged in manufacturing operations, with the remainder primarily in sales, marketing and administrative functions. None of our manufacturing employees are unionized. In addition, we use a number of temporary workers at any given time, depending on workload at our businesses. We currently believe that employee relations are good.

Compensation and Benefits. Our compensation and benefits teams strive to develop and implement policies and programs that are fair to employees, support our business goals, maintain competitiveness, and promote shared fiscal responsibility among the Company and our employees. We offer employees benefits that vary by country and are designed to meet or exceed the requirements of local laws and to be competitive in the marketplace. Examples of benefits offered in the U.S. include traditional and Roth 401(k) plans with matching employer contributions; health benefits; life and disability insurance; additional voluntary insurance; paid counseling assistance; paid time off and parental leave; and a tuition reimbursement program. We also sponsor an employee stock purchase plan to encourage employees to acquire an ownership stake in DMC.

Health and Safety. The health and safety of our employees is fundamental to our success. Our occupational health and safety ("OH&S") management system is focused on maintaining a strong safety culture, stringent risk management and effective leadership. DMC's occupational health and safety management system covers all employees regardless of employment type, and is aligned with standards requirements of ISO 45001:2018. During the COVID-19 pandemic, the health and safety of our employees remained our top priority. We continue to monitor and adjust our policies and practices to remain aligned with federal, state, local and international regulations and guidelines.

Diversity and Inclusion. We believe that we will be most successful with a diverse employee population and encourage hiring and promotion practices that focus on the best talent and the most effective performers. Because we operate a global business across multiple business segments, products and service areas, we believe it is especially important that we attract employees with diverse backgrounds and the capability to address customer needs across the numerous cultures in the countries in which we operate. Our commitment to diversity and inclusion starts at the top with a highly skilled and diverse Board of Directors. We adopted a formal diversity and inclusion policy in May 2021.

Employee Development. DMC strives to identify top talent within the Company, and to provide opportunities for employees to progress to higher levels within the organization. We seek to maximize each employee's developmental potential through a combination of training and experience.

Ethics. Our directors and all employees, including senior management, are required to conduct themselves in accordance with the highest professional and ethical standards, informed by a robust Code of Ethics and Business Conduct (the "Code"). We are committed to ensuring a fair and inclusive work environment in which employees are treated with dignity and respect. We have strict policies to protect against unlawful discrimination and harassment, and a Compliance Hotline that provides an alternative and anonymous method of reporting suspected violations of the Code, DMC's corporate policies or applicable laws. We are in the process of bringing Arcadia employees into DMC's corporate policies and programs.

Government Regulations

DMC is subject to numerous environmental, legal and other governmental and regulatory requirements related to its operations worldwide. For additional details, see “Item 1(a). Risk Factors—Legal and Regulatory Risks”, which is incorporated by reference in this Item 1.

Insurance

Our operations expose us to potential liabilities for property damage and personal injury or death as a result of the failure of a component that has been designed, manufactured, serviced, processed, or distributed by us. We maintain liability insurance that we believe adequately protects us from potential product losses and liability claims.

Intellectual Property

We hold a variety of intellectual property through our businesses including but not limited to patents, patent applications, registered and unregistered trademarks, trade secrets, proprietary information and know-how. We have followed a policy of seeking patent and trademark protection in countries and regions throughout the world for products and methods that appear to have commercial significance.

No single patent or trademark is considered to be critical to any of Arcadia's, DynaEnergetics', or NobelClad's businesses.

We are careful in protecting our proprietary know-how and manufacturing expertise in Arcadia, DynaEnergetics, and NobelClad, and each business unit has implemented measures and procedures designed to ensure that the information remains confidential.

Foreign and Domestic Operations and Export Sales

All sales are shipped from our manufacturing facilities and distribution centers located in the United States, Germany, and Canada. The following chart represents our net sales based on the geographic location to where we shipped the product, regardless of the country of the actual end user. NobelClad products are usually shipped to the fabricator before being passed on to the end user.

The following represents our net sales based on the geographic location of the customer for the years noted. Arcadia was purchased in late December 2021, and no net sales were recorded in the period from the date of acquisition to December 31, 2021. Therefore, the 2021 and 2020 net sales tables exclude Arcadia for the periods presented. Arcadia is included in the net sales table for the year ended December 31, 2022.

	(Dollars in Thousands)		
	For the years ended December 31,		
	2022	2021	2020
United States	\$ 549,370	\$ 173,336	\$ 149,214
Canada	26,766	16,929	10,428
India	8,249	3,062	7,236
Egypt	5,780	3,519	3,453
Germany	5,151	3,270	5,704
United Arab Emirates	5,107	3,843	4,848
Turkey	4,602	3,153	2,887
China	3,902	10,365	5,390
Sweden	3,746	1,208	1,569
South Korea	3,242	2,144	1,972
Oman	3,188	3,115	2,551
Netherlands	3,041	2,200	1,850
Saudi Arabia	2,416	553	535
France	2,101	2,522	2,904
Indonesia	2,085	1,131	1,832
South Africa	1,970	886	235
Norway	1,854	2,211	2,583
Italy	1,816	1,467	1,220
Australia	1,816	1,567	2,667
Kuwait	1,801	1,559	1,716
Hong Kong	1,158	1,731	435
Romania	851	913	465
Russia*	183	4,057	24
Rest of the world	13,891	15,374	17,443
Net sales	<u>\$ 654,086</u>	<u>\$ 260,115</u>	<u>\$ 229,161</u>

*Future sales to Russia have been suspended indefinitely due to the ongoing conflict in Ukraine.

Company Information

We are subject to the informational requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). We therefore file periodic reports, proxy statements and other information with the Securities Exchange Commission (the "SEC"). The SEC maintains an Internet site at www.sec.gov that contains reports, proxy and information statements and other information regarding issuers that file electronically.

Our Internet address is www.dmcglobal.com. Information contained on our website does not constitute part of this Annual Report on Form 10-K. Our annual report on SEC Form 10-K, quarterly reports on Forms 10-Q, current reports on Forms 8-K, and all amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act are available free of charge on our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. We also regularly post information about our Company on our website under the "Investors" tab.

ITEM 1A. Risk Factors

Please carefully consider the following discussion of material factors, events, and uncertainties that make our business and an investment in our securities subject to risk. The events and consequences discussed in these risk factors could, in circumstances we may or may not be able to accurately predict, recognize, or control, have a material adverse effect on our business, growth, reputation, prospects, financial condition, operating results (including components of our financial results), cash flows, liquidity, and stock price. These risk factors do not identify all risks that we face; our operations could also be affected by factors, events, or uncertainties that are not presently known to us or that we currently do not consider to present significant risks to our operations.

Summary of Material Risk Factors

The following is a summary of the material risk factors that could adversely affect our business, financial condition, and results of operations. This summary should be read together with the more detailed descriptions of risks relating to our Company below.

Risk Factors Related to Arcadia

- North American and global economic and industry-related business conditions materially affect our sales and results of operations.
- An inability to successfully develop new products or improve existing products could negatively impact our ability to attract new customers and/or retain existing customers.
- If we are unable to manage our supply chain effectively, including availability and price of materials used in our products, our results of operations will be negatively affected.
- Product quality issues and product liability claims could adversely affect our operating results.

Risk Factors Related to DynaEnergetics

- Demand for DynaEnergetics' products is substantially dependent on the levels of capital expenditures by the oil and gas industry. Decreases or expected decreases in oil and gas prices and reduced expenditures in the oil and gas industry could have a material adverse impact on our financial condition, results of operations and cash flows.
- Failure to adjust our manufacturing and supply chain to accurately meet customer demands could have a material adverse effect on our results of operations.
- Failure to manage periods of growth or contraction may seriously harm our business.
- We may not be able to continue to compete successfully against other companies in our industry.
- If we are not able to design, develop, and produce commercially competitive products in a timely manner in response to changes in the market, customer requirements, competitive pressures, and technology trends, our business and consolidated results of operations and the value of our intellectual property could be materially and adversely affected.
- Demand for DynaEnergetics products could be reduced by existing and future legislation, regulations and public sentiment.

Risk Factors Related to NobelClad

- NobelClad's business is dependent on sales to a limited number of customers in cyclical markets and our results are affected by the price of metals.
- We are dependent on a relatively small number of large projects and customers for a significant portion of our net sales.
- Our backlog figures may not accurately predict future sales.
- There is a limited availability of sites suitable for cladding operations.
- There is no assurance that we will continue to compete successfully against other manufacturers of competitive products.
- Customers have the right to change orders until products are completed.
- We do not maintain a reserve fund for warranty or defective products claims. Our costs could substantially increase if we experience a large claim or a significant number of warranty claims.

Risk Factors Related to our Businesses Generally

- Our operations are subject to political and economic instability and risk of government actions that could have a material adverse effect on our business, consolidated results of operations, and consolidated financial condition.

- Our business, financial condition and results of operations could be adversely affected by disruptions in the global and European economies caused by the ongoing military action between Russia and Ukraine.
- Our operating results fluctuate from quarter to quarter.
- We are exposed to potentially volatile fluctuations of the U.S. dollar (our reporting currency) against the currencies of many of our operating subsidiaries.
- Disruptions or delays involving our suppliers or increases in prices for the components, raw materials and parts that we obtain from our suppliers could have a material adverse effect on our business and consolidated results of operations.
- The terms of our indebtedness contain a number of restrictive covenants, the breach of any of which could result in acceleration of payment of our credit facilities.
- If our customers delay paying or fail to pay a significant amount of our outstanding receivables, it could have a material adverse effect on our liquidity, consolidated results of operations, and consolidated financial condition.
- New or existing tariffs and other trade measures could adversely affect our results of operations, financial position and cash flows.
- Failure to attract and retain key personnel and source sufficient labor could adversely affect our current operating results.
- A failure in our information technology systems or those of third parties, including those caused by security breaches, cyber-attacks or data protection failures, could disrupt our business, result in significant legal costs and other losses and damage our reputation.
- Failure to establish and maintain adequate internal controls over financial reporting could result in the inability to report our financial results in a timely and reliable manner, which could harm our business and impact the value of our securities.

Legal and Regulatory Risks

- Our operations require us to comply with numerous laws and regulations, violations of which could have a material adverse effect on our consolidated results of operations, financial condition or cash flows.
- The use of explosives in our DynaEnergetics and NobelClad manufacturing processes and products subject us to additional environmental, health and safety laws and any accidents or injuries could subject us to significant liabilities.
- Demand for our products could be reduced by existing and future legislation, regulations and public sentiment.
- We are subject to extensive environmental, health and safety laws and failure to comply with such laws and regulations could result in restrictions or prohibitions on our facilities, substantial civil or criminal liabilities and could have a material adverse effect on our business, consolidated results of operations, and consolidated financial condition.
- Failure to comply with applicable federal, state and local employment and labor laws and regulations could have a material, adverse impact on our business.
- The regulatory environment governing information, data security and privacy is increasingly demanding and evolving and a data security breach could result in litigation, enforcement actions and related penalties and fines.
- Legal, regulatory or market measures to address climate change, including proposals to restrict emissions of GHGs and other sustainability initiatives, could have an adverse impact on the Company's business and results of operations.
- Changes in or interpretation of tax law could impact the determination of our income tax liabilities for a tax year.
- We are subject to litigation and may be subject to additional litigation in the future.

Intellectual Property Risks

- Our failure to protect our proprietary information and any successful intellectual property challenges against us could materially and adversely affect our competitive position.
- We may incur substantial costs defending against third parties alleging that we infringe their proprietary rights.

Risks Related to Acquisitions

- We have incurred debt to finance the acquisition of 60% of Arcadia and will incur additional substantial financial obligations in connection with the acquisition of the remaining 40% of Arcadia.
- After the Arcadia acquisition, DMC is the majority shareholder of Arcadia, and our interest in Arcadia is subject to the risks normally associated with the conduct of businesses with a minority shareholder.
- Fully integrating Arcadia's business following the acquisition may be more difficult, costly and time-consuming than expected, which may adversely affect our results of operations and the value of our common stock.

- The acquisition of Arcadia is expected to materially complicate the timely achievement of effective internal controls in accordance with Section 404 of the Sarbanes-Oxley Act, which could have a material adverse effect on our business and stock price.
- To the extent that we seek to further expand our business through acquisitions, we may experience issues in executing acquisitions or integrating acquired operations.

Risk Factors Related to Our Common Stock

- The price and trading volume of our common stock may be volatile, which may make it difficult for you to resell the common stock when you want or at prices you find attractive.
- Holders of our common stock do not currently receive dividends and our dividend may not be reinstated in the future.

Risk Factors Related to Arcadia

North American and global economic and industry-related business conditions materially affect our sales and results of operations.

Our Arcadia businesses are significantly influenced by North American economic conditions and the cyclical nature of the North American commercial and residential construction industry. The construction industry is impacted by macroeconomic trends, such as availability of credit, employment levels, consumer confidence, interest rates and commodity prices. In addition, changes in architectural design trends, demographic trends, and/or remote work trends could negatively impact demand for our products. To the extent changes in these factors negatively impact the overall commercial construction industry, our revenue and profits could be significantly reduced.

The markets in which Arcadia operates are highly competitive and many of our competitors are larger and better capitalized than we are. These competitors may be better able to withstand changes in conditions within the industries and markets in which we operate and may have significantly greater operating and financial flexibility than we have. Moreover, barriers to entry are low in certain product lines and new competitors may enter our industry, whether within the U.S. or internationally. An increase in competition, including in the form of aggressive pricing by new market entrants or offerings of alternative building materials, could cause us to lose customers and lead to decreases in net sales and profitability if we are not able to respond adequately to such challenges. The actions of our existing competitors or new competitors could result in loss of customers and/or market share. Changes in our competitors' products, prices or services could negatively impact our market share, net sales and/or margins.

An inability to successfully develop new products or improve existing products could negatively impact our ability to attract new customers and/or retain existing customers.

Our success depends on meeting consumer needs and anticipating changes in consumer preferences with successful new products and product improvements. We aim to introduce products and new or improved production processes proactively to offset obsolescence and decreases in sales of existing products. While we devote significant focus to the development of new products, we may not be successful in product development and our new products may not be commercially successful. In addition, it is possible that competitors may improve their products more rapidly or effectively, which could adversely affect our sales. Furthermore, market demand may decline as a result of consumer preferences trending away from our categories or trending down within our brands or product categories, which could adversely impact our results of operations, cash flows and financial condition.

If we are unable to manage our supply chain effectively, including availability and price of materials used in our products, our results of operations will be negatively affected.

We obtain a significant portion of our key raw materials, such as aluminum extrusions, from a few key suppliers. While we structure many of our supply arrangements to moderate the effects of fluctuations in the market for raw aluminum and we endeavor to adjust our pricing to offset potential impacts, operating results could be negatively impacted by price movements in the market for raw aluminum. In recent years, we have seen increased volatility in the price of aluminum that we purchase from our key suppliers.

Our suppliers are subject to fluctuations in general economic cycles. Global economic conditions and political and economic instability may impact their ability to operate their businesses, including continuing impacts from the COVID-19 pandemic and the ongoing military action between Russia and Ukraine and related government actions. Our suppliers may also be impacted by the increasing costs or availability of raw materials, labor and transportation. Some of our suppliers may not be able to handle commodity cost volatility or changing volumes while still performing up to our specifications. These factors may cause suppliers to be unable to meet their commitments or to negatively change the terms of the supply arrangements.

The loss of, or substantial decrease in the availability of, products from our suppliers, or the loss of a key supplier, could adversely impact our financial condition and results of operations. If any of our key suppliers are unable to meet their commitments, or if those supply arrangements are terminated, we may not be able to obtain certain raw materials on commercially reasonable terms or at all, and may suffer a significant interruption in our ability to manufacture our products, including because it may be difficult to find substitute or alternate suppliers as the aluminum extrusions we use are customized.

We could also be required to maintain higher inventory levels as we address supply uncertainties. Such developments would result in higher costs and ultimately a decrease in our revenues and profitability. If our supply of raw materials is disrupted or our delivery times are extended, our results of operations and financial condition could be materially adversely affected.

Product quality issues and product liability claims could adversely affect our operating results.

We believe that future orders of our products will depend on our ability to maintain the performance, reliability, quality and timely delivery standards required by our customers. We have in the past been and currently are subject to product liability and warranty claims. If our products have performance, reliability or quality problems, or products are installed improperly, we may experience additional warranty expense; reduced or canceled orders; or delays in the collection of accounts receivable. Additionally, product liability and warranty claims could result in costly and time-consuming litigation that could require significant time and attention of management and involve significant monetary damages that could negatively impact our operating results. There is no assurance that the number and value of product liability and warranty claims will not increase as compared to historical claim rates, or that our warranty reserve at any particular time will be sufficient. No assurance can be given that coverage under insurance policies, if applicable, will be adequate to cover future product liability claims against us. If we are unable to recover on insurance claims, in whole or in part, or if we exhaust our available insurance coverage at some point in the future, then we might be forced to expend legal fees and settlement or judgment costs relating to product liability and warranty claims, which could negatively impact our profitability, results of operations, cash flows and financial condition.

Risk Factors Related to DynaEnergetics

Demand for DynaEnergetics' products is substantially dependent on the levels of capital expenditures by the oil and gas industry. Decreases or expected decreases in oil and gas prices and reduced expenditures in the oil and gas industry could have a material adverse impact on our financial condition, results of operations and cash flows.

Demand for the majority of DynaEnergetics' products depends substantially on the level of expenditures by the oil and gas industry for the exploration, development and production of oil and natural gas reserves. These expenditures are generally dependent on the industry's view of future oil and natural gas prices and are sensitive to the industry's view of future economic growth and the resulting impact on demand for oil and natural gas. Higher oil and gas prices have resulted in increasing North American completion activity and increased expenditures by the oil and gas industry. This has resulted in increased cash flows for E&P companies; however, E&P companies are still seeking to control their cost of operations and this has continued to result in downward pressure on prices for our products. In addition, the oil and gas industry has historically been cyclical, and to date in 2023, oil prices have declined significantly from their 2022 highs. When oil prices decline, we would expect an increased risk of reduced or delayed oil and gas exploration and production spending, project modifications, delays or cancellations, general business disruptions, and delays in payment of, or nonpayment of, amounts that are owed to us, all of which could result in reduced demand for our products, downward pressure on selling prices for our products and decreased revenues and profits. These effects would likely have a material adverse effect on our financial condition, results of operations and cash flows.

The prices for oil and natural gas have historically been volatile and can be affected by a variety of factors, including:

- changes in the supply of and demand for hydrocarbons, which are affected by general economic, business and regulatory conditions;
- the ability or willingness of the Organization of Petroleum Exporting Countries ("OPEC") and other oil producing companies to set and maintain production levels for oil;

- oil and gas production levels in the U.S. and in other non-OPEC countries;
- the level of excess production capacity;
- speculation as to the future price of oil and the speculative trading of oil and natural gas futures contracts;
- government initiatives to restrict oil and gas drilling or development or promote the use of renewable energy sources and public sentiment regarding the same;
- political and economic uncertainty, geopolitical unrest, and acts of war;
- the level of worldwide oil and gas exploration and production activity;
- access to potential resources;
- changes in governmental policies, subsidies, or sanctions;
- the costs of exploring for, producing and delivering oil and gas;
- technological advances affecting energy consumption; and
- weather conditions.

Continued or worsening conditions in the oil and gas industry generally may have a further material adverse effect on our business, financial condition, results of operations, cash flows and prospects.

Failure to adjust our manufacturing and supply chain to accurately meet customer demands could have a material adverse effect on our results of operations.

We make significant decisions, including determining the levels of business that we will seek and accept, production schedules, levels of reliance on contract manufacturing and outsourcing, internal fabrication utilization and other resource requirements, based on our estimates of customer requirements. Factors that can impact our ability to accurately estimate future customer requirements include the short-term nature of many customers' commitments, our customers' ability to reschedule, cancel and modify orders with little or no notice and without significant penalty, the accuracy of our customers' forecasts, and seasonal or cyclical trends in customers' industries.

To ensure availability of our products, particularly for our largest customers, we may start manufacturing our relevant products based on our customers' forecasts, which are not binding. As a result, we incur inventory and manufacturing costs in advance of anticipated sales that may never materialize or which may be substantially lower than expected. If actual demand for our products is lower than forecast, we may also experience higher inventory carrying and operating costs and product obsolescence. Because certain of our sales, research and development, and internal manufacturing overhead expenses are relatively fixed, a reduction in customer demand may also decrease our gross margin and operating income.

Conversely, customers often require rapid increases in production on short notice. We may be unable to secure sufficient materials or contract manufacturing capacity to meet such increases in demand. This could damage our customer relationships, reduce revenue growth and margins, subject us to additional liabilities, harm our reputation, and prevent us from taking advantage of opportunities.

Failure to manage periods of growth or contraction may seriously harm our business.

Our industry frequently sees periods of expansion and contraction which require companies to adjust to customers' needs and market demands. We regularly contend with these issues and must carefully manage our business to meet customer and market requirements. If we fail to manage these growth and contraction decisions effectively, we may find ourselves with either excess or insufficient resources and our business and our profitability could suffer as a result.

Periods of contraction or reduced net sales, or other factors negatively affecting particular markets, require us to assess whether facilities remain viable, whether staffing levels need to be reduced, and how to respond to changing levels of customer demand. While maintaining excess capacity or higher levels of employment entails short-term costs, reductions in capacity or employment could impair our ability to respond to new opportunities and programs, market improvements or to maintain customer relationships. Our decisions to reduce costs and capacity can affect our short-term and long-term results and result in restructuring charges.

Expansions, including the transfer of operations to other facilities, include the risk of additional costs and start-up inefficiencies. If we are unable to effectively manage our expansion projects or related anticipated net sales are not realized, our operating results could be materially adversely affected.

We may not be able to continue to compete successfully against other companies in our industry.

The markets in which we operate are highly competitive. DynaEnergetics competes with a broad spectrum of companies that produce and market perforating services and products. Many of these companies are large national and multi-national companies, including the oil and natural gas industry's largest oilfield service providers. These companies have longer operating histories, greater financial, technical, and other resources, and greater name recognition than we do. In addition, we compete with many smaller companies capable of competing effectively on a regional or local basis. Our competitors may be able to respond more quickly to new or emerging technologies and changes in customer requirements. To remain competitive, DynaEnergetics must continue to provide innovative products at competitive prices and maintain an excellent reputation for value, quality, on-time delivery, and safety. If we fail to compete successfully against our competition, we may be unable to maintain acceptable sales levels, prices and margins for our products, which could have a material adverse effect on our business, financial condition, and results of operations.

If we are not able to design, develop, and produce commercially competitive products in a timely manner in response to changes in the market, customer requirements, competitive pressures, and technology trends, our business and consolidated results of operations and the value of our intellectual property could be materially and adversely affected.

The market for our products is characterized by continual technological developments to provide better and more reliable performance and enhanced product offerings. If we are not able to design, develop, and produce commercially competitive products in a timely manner in response to changes in the market, customer requirements, competitive pressures, and technology trends, our business and consolidated results of operations and the value of our intellectual property could be materially and adversely affected. Likewise, if our proprietary technologies, equipment, facilities, or work processes become obsolete, we may no longer be competitive, and our business and consolidated results of operations could be materially and adversely affected.

Demand for DynaEnergetics products could be reduced by existing and future legislation, regulations and public sentiment.

Regulatory agencies and environmental advocacy groups in the United States, the E.U., and other regions or countries have been focusing considerable attention on emissions of carbon dioxide, methane and other greenhouse gases and their role in climate change. There is also increased focus, including by governments and our customers, investors and other stakeholders, on these and other sustainability and energy transition matters. Existing or future legislation and regulations related to greenhouse gas emissions and climate change, as well as initiatives by governments, non-governmental organizations, and companies to conserve energy or promote the use of alternative energy sources, and negative attitudes toward or perceptions of fossil fuel products and their relationship to the environment, may significantly curtail demand for and production of oil and gas in areas of the world where our customers operate, and thus reduce future demand for DynaEnergetics products.

In addition, some international, national, state and local governments and agencies have also adopted laws and regulations or are evaluating proposed legislation and regulations that are focused on directly limiting the extraction of shale gas or oil using hydraulic fracturing. These laws and regulations could limit oil and gas development, lead to operational delays and increased costs for our customers, and therefore reduce demand for DynaEnergetics' products. Such reductions in demand for our products may, in turn, adversely affect our financial condition, results of operations and cash flows.

Increased negative investor sentiment toward oil and gas and preference for assets outside of traditional energy sectors could lead to higher capital costs for our customers and reduced investment in fossil fuels, thereby reducing demand for our products. Such preferences could also impact our ability to obtain acceptable debt or equity financing on attractive terms or at all and could negatively impact our stock price over time. Our business, reputation and demand for our stock could be negatively affected if we do not (or are perceived to not) act responsibly with respect to sustainability matters.

Risk Factors Related to NobelClad

NobelClad's business is dependent on sales to a limited number of customers in cyclical markets and our results are affected by the price of metals.

NobelClad revenues are affected both by the demand for NobelClad's explosion-welded cladding services and the base price of metal used in explosion-welded cladding operations. The explosion-welded cladding market is dependent upon sales of products for use by customers in a limited number of heavy industries, including oil and gas, chemicals and petrochemicals, alternative energy, hydrometallurgy, aluminum production, shipbuilding, rail car manufacturing, power generation, and industrial refrigeration. These industries tend to be cyclical in nature and an economic slowdown in one or all of these

industries—whether due to traditional cyclical, general economic conditions or other factors—could impact capital expenditures within that industry. The COVID-19 pandemic, government actions taken in response, and resulting economic impacts, including inflationary conditions in many markets, have created uncertainty in our end markets, and we have seen continued delays in projects and capital expenditures. In addition, metals prices affect the demand for clad products and our margins. Although higher metal prices increase demand for use of clad materials over solid metals, lead to higher sales (in terms of dollars rather than square meters of cladding) and generally higher margins for NobelClad, metal pricing is volatile. We have recently experienced several years of a low-metals-price environment, which significantly reduced demand for clad product and overall sales. In the last two years, the price of metals has increased substantially. However, there can be no assurance that prices will remain at these levels and supply chain difficulties and other uncertainties have disrupted projects and normal sales cycles. If demand or metals prices decline or if supply chain issues or similar disruptions persist, our sales would be adversely affected, and this could have a material adverse effect on our business, financial condition, and results of operations.

We are dependent on a relatively small number of large projects and customers for a significant portion of our net sales.

A significant portion of our net sales is derived from a relatively small number of projects and customers; therefore, the failure to complete existing contracts on a timely basis, to receive payment for such services in a timely manner, or to enter into future contracts at projected volumes and profitability levels could adversely affect our ability to meet cash requirements exclusively through operating activities. We attempt to minimize the risk of losing customers or specific contracts by continually improving commercial execution and product quality, delivering product on time and competing aggressively on the basis of price. We expect to continue to depend upon our principal customers for a significant portion of our sales, although our principal customers may not continue to purchase products and services from us at current levels, if at all. The loss of one or more major customers or a change in their buying patterns could have a material adverse effect on our business, financial condition, and results of operations.

Our backlog figures may not accurately predict future sales.

We use backlog to predict our anticipated future sales. Our year-end backlog was \$55.5 million, \$41.2 million, and \$39.9 million at the end of fiscal years 2022, 2021 and 2020, respectively. We define “backlog” at any given point in time to consist of all firm, unfulfilled purchase orders and commitments at that time. We expect to fill most items in backlog within the following twelve months. However, since orders may be rescheduled or canceled and a significant portion of our net sales is derived from a small number of customers, backlog is not necessarily indicative of future sales levels. Moreover, we cannot be sure of when during the future twelve-month period we will be able to recognize revenue corresponding to our backlog nor can we be certain that revenues corresponding to our backlog will not fall into periods beyond the twelve-month horizon.

There is a limited availability of sites suitable for cladding operations.

Our cladding process involves the detonation of large amounts of explosives. As a result, the sites where we perform cladding must meet certain criteria, including adequate distance from densely populated areas, specific geological characteristics, and the ability to comply with local noise and vibration abatement regulations in conducting the process. Our shooting sites in Pennsylvania and in Germany are located in mines. Our Pennsylvania shooting site is subleased under an arrangement pursuant to which we provide certain contractual services to the sub-landlord, and this sublease expires in 2029. In addition, we could experience difficulty in obtaining or renewing permits because of resistance from residents in the vicinity of existing or proposed sites. The failure to obtain required governmental approvals or permits could limit our ability to expand our cladding business in the future, and the failure to maintain such permits or satisfy other conditions to use the sites would have a material adverse effect on our business, financial condition and results of operations.

There is no assurance that we will continue to compete successfully against other manufacturers of competitive products.

Our explosion-welded clad products compete on a worldwide basis with explosion-welded clad products made by other manufacturers in the clad metal business and with products manufactured using other technologies. We see competition from one large well-known clad supplier and from a growing number of smaller companies with explosion welded clad manufacturing capability in China and India. Explosion-welded clad products also compete with products manufactured by roll bond and weld overlay cladding processes. The technical and commercial niches of each cladding process are well understood within the industry and vary from one market location to another and at different metal prices. We focus on reliability, product quality, on-time delivery performance, and low-cost manufacturing to minimize the potential of future competitive threats. However, there is no guarantee we will be able to maintain our competitive position.

Customers have the right to change orders until products are completed.

Customers have some rights to change orders after they have been placed. If orders are changed, the extra expenses associated with the change usually will be passed on to the customer. However, because a change in an order may delay completion of the project, recognition of income for the project may also be delayed. Additionally, any errors or changes as to specifications or significant changes in pricing or availability of materials may cause cost overruns and delays in completion of projects. If we fail to meet delivery schedules, we may be required to pay damages or may risk loss of an order, which could have a material adverse effect on our business, financial condition and results of operations.

We do not maintain a reserve fund for warranty or defective products claims. Our costs could substantially increase if we experience a large claim or a significant number of warranty claims.

Our product warranties against technical defects of our clad products vary depending on our purchase orders with customers. The warranties require us to repair or replace defective products and may require the payment of a certain percentage of the purchase price as liquidated damages for our failure to meet the specified product specifications and delivery requirements. In addition, our clad products are often used as part of larger projects or are used in potentially hazardous applications that can cause injury or loss of life and damage to property or equipment. In the event of an actual or alleged product defect, we may be named as a defendant in product liability or other lawsuits asserting potentially large claims. We cannot guarantee that insurance will be available or adequate to cover any or all liabilities incurred. We have not established any reserve funds for potential warranty claims since historically we have experienced few warranty claims for our products and the costs associated with our warranty claims have been low. If we experience an increase in warranty claims or if our repair and replacement costs associated with warranty claims increase significantly, it could have a material adverse effect on our financial condition and results of operations.

Risk Factors Related to our Businesses Generally

Our operations are subject to political and economic instability and risk of government actions that could have a material adverse effect on our business, consolidated results of operations, and consolidated financial condition.

We are exposed to risks inherent in doing business in each of the countries in which we operate. Our operations are subject to various risks unique to each country that could have a material adverse effect on our business, consolidated results of operations, and consolidated financial condition. With respect to any particular country, these risks may include:

- political, social and economic instability;
- civil unrest, acts of terrorism, force majeure, war, other armed conflict;
- public health crises and catastrophic events, such as the COVID-19 pandemic;
- inflation;
- currency fluctuations, devaluations, conversion, or repatriation restrictions;
- expropriation and nationalization of our assets;
- confiscatory taxation or other adverse tax policies;
- theft of, or lack of sufficient legal protection for, proprietary technology and other intellectual property;
- limitations on extraction of shale gas or oil using hydraulic fracturing;
- limitations on or disruptions to our markets or operations, restrictions on payments, or limitations on the movement of funds;
- increased tariffs;
- trade and economic sanctions or other restrictions;
- unexpected changes in legal and regulatory requirements, including changes in interpretation or enforcement of existing laws;
- deprivation of contract rights; and
- the inability to obtain or retain licenses required for operation.

Our business, financial condition and results of operations could be adversely affected by disruptions in the global and European economies caused by the ongoing military action between Russia and Ukraine.

In February of 2022, Russian military forces invaded Ukraine, resulting in conflict and disruption in the region. The length, impact and outcome of the ongoing military conflict in Ukraine is highly unpredictable. This conflict has led and may continue to lead to significant market and other disruptions, including significant volatility in commodity prices and supply of energy resources, instability in financial markets, higher inflation, supply chain interruptions, increased costs for transportation

and raw materials, political and social instability, as well as an increase in cyberattacks and espionage. Furthermore, governments in the United States, the European Union, the United Kingdom, Canada and others have imposed financial and economic sanctions on certain industry segments and various parties in Russia. We continue to monitor the conflict including the potential impact of financial and economic sanctions on the global economy and particularly the economies of Europe. Increased trade barriers, sanctions and other restrictions on global or regional trade could adversely affect our business, financial condition and results of operations. Further escalation of geopolitical tensions related to this military conflict and/or its expansion could result in loss of property, expropriation, cyberattacks, supply disruptions, plant closures and an inability to obtain key supplies and materials, as well as adversely affect both our and our customers' supply chains and logistics, particularly in Europe.

In many cases, both our German operations and those of European customers and suppliers depend on the availability of natural gas for use in their manufacturing operations. A significant proportion of Germany's natural gas supply has historically originated from Russia. Material disruptions of natural gas supply to Europe and in particular Germany, whether from sanctions, counter-measures by Russia, other restrictions, damage to infrastructure and logistics or otherwise from the destabilizing effects of military conflict could materially and adversely impact European and global natural gas and oil markets. We expect that shortages in supply and increases in costs of natural gas or other energy will adversely impact our ability to operate our German manufacturing facilities as efficiently and cost-effectively as previously, which could adversely affect our business, results of operations and financial condition.

Our operating results fluctuate from quarter to quarter.

We have experienced, and expect to continue to experience, fluctuations in annual and quarterly operating results caused by various factors at our businesses. At NobelClad, quarterly sales and operating results depend on the volume and timing of the orders in our backlog as well as bookings during the quarter. At DynaEnergetics, the level of demand from our customers is impacted by oil and gas prices as well as a variety of other factors and can vary significantly from quarter to quarter. At Arcadia, operating results can fluctuate due to price movements in the market for raw aluminum. Portions of our operating expenses are fixed, and planned expenditures are based primarily on sales forecasts and product development programs. If sales do not meet our expectations in any given period, the adverse impact on operating results may be magnified by our inability to adjust operating expenses sufficiently or quickly enough to compensate for such a shortfall. Results of operations in any period should not be considered indicative of the results for any future period. See "Management's Discussion and Analysis of Financial Condition and Results of Operations."

We are exposed to potentially volatile fluctuations of the U.S. dollar (our reporting currency) against the currencies of many of our operating subsidiaries.

Many of our operating subsidiaries conduct business in euros, Canadian dollars, or other foreign currencies. Sales made in currencies other than U.S. dollars accounted for 6%, 16%, and 17% of total sales for the years ended 2022, 2021 and 2020, respectively. Any increase (decrease) in the value of the U.S. dollar against any foreign currency that is the functional currency of any of our operating subsidiaries will cause us to experience foreign currency translation (gains) losses with respect to amounts already invested in such foreign currencies. In addition, our company and our operating subsidiaries are exposed to foreign currency risk to the extent that we or they enter into transactions denominated in currencies other than our or their respective functional currencies. For example, DynaEnergetics Europe's functional currency is euros, but its sales often occur in U.S. dollars. Changes in exchange rates with respect to these items will result in unrealized (based upon period-end exchange rates) or realized foreign currency transaction gains and losses upon settlement of the transactions. In addition, we are exposed to foreign exchange rate fluctuations related to our operating subsidiaries' assets and liabilities and to the financial results of foreign subsidiaries and affiliates when their respective financial statements are translated into U.S. dollars for inclusion in our Consolidated Financial Statements. Cumulative translation adjustments are recorded in other cumulative comprehensive loss as a separate component of equity. Our primary exposure to foreign currency risk is the euro, due to the percentage of our U.S. dollar revenue that is derived from countries where the euro is the functional currency. We use foreign currency forward contracts, generally with maturities of one month, to offset foreign exchange rate fluctuations on certain foreign currency denominated asset and liability account balances. These hedge transactions relate to our operating entities with significant economic exposure to transactions denominated in currencies other than their functional currency. Our primary economic exposures include the U.S. dollar to the euro, the U.S. dollar to the Canadian dollar, and the euro to the U.S. dollar. Since the underlying balance sheet account balances being hedged can fluctuate significantly throughout our monthly hedge periods, our hedging program cannot fully protect against foreign currency fluctuations.

Disruptions or delays involving our suppliers or increases in prices for the components, raw materials and parts that we obtain from our suppliers could have a material adverse effect on our business and consolidated results of operations.

Our operations are dependent upon the continued ability of our suppliers to deliver the components, raw materials and parts that we need to manufacture our products. In some instances, we purchase components, raw materials and parts that are ultimately derived from a single source and may be at an increased risk for supply disruptions. Any number of factors, including labor disruptions, acts of war or terrorism, military activity, trade sanctions, catastrophic weather events, the occurrence of a pandemic or other widespread illness (such as COVID-19), contractual or other disputes, unfavorable economic or industry conditions, transportation disruptions, delivery delays or other performance problems or financial difficulties or solvency problems, could disrupt our suppliers' operations and performance, which could, in turn, lead to uncertainty in our supply chain or cause supply disruptions for us and disrupt our operations. Although we have been able to manage supply chain impacts through the COVID-19 pandemic, we have experienced longer lead times for certain materials and have in other cases had heightened difficulty in sourcing materials. Lockdown orders or a prolonged period of travel, commercial and other similar restrictions could cause additional global supply disruptions. If we experience further supply disruptions, we may not be able to develop alternate sourcing quickly. Any disruption of our production schedule caused by an unexpected shortage of components, raw materials or parts even for a relatively short period of time could cause us to alter production schedules or suspend production entirely, which would adversely affect our business and results of operations.

The terms of our indebtedness contain a number of restrictive covenants, the breach of any of which could result in acceleration of payment of our credit facilities.

As of December 31, 2022, we had an outstanding balance of \$135.0 million on our syndicated credit agreement. This agreement includes various covenants and restrictions and certain of these relate to the incurrence of additional indebtedness and the mortgaging, pledging or disposing of major assets. We are also required to maintain certain financial ratios on a quarterly basis. A breach of any of these covenants could impair our ability to borrow and could result in acceleration of our obligations to repay our debt if we are unable to obtain a waiver or amendment from our lenders. As of December 31, 2022, we were in compliance with all financial covenants and other provisions of the credit agreement, as amended, and our other loan agreements. Any failure to remain in compliance with any material provision or covenant of our credit agreement could result in a default, which would, absent a waiver or amendment, require immediate repayment of outstanding indebtedness under our credit facilities. We may not have or be able to obtain sufficient funds to satisfy such a repayment obligation.

If our customers delay paying or fail to pay a significant amount of our outstanding receivables, it could have a material adverse effect on our liquidity, consolidated results of operations, and consolidated financial condition.

We depend on a limited number of significant customers in our DynaEnergetics and NobelClad businesses, and the loss of one or more significant customers or the failure of a customer to pay outstanding amounts due could have a material adverse effect on our business and our consolidated results of operations. In most cases, we bill our customers for our services in arrears and are, therefore, subject to the risk that our customers will delay payment of or fail to pay our invoices. In weak economic environments, we may experience increased delays and failures due to, among other reasons, a reduction in our customers' cash flow from operations and in their access to the credit markets and rising interest rates. If our customers delay paying or fail to pay us a significant amount of our outstanding receivables, it could have a material adverse effect on our liquidity, consolidated results of operations, and consolidated financial condition.

New or existing tariffs and other trade measures could adversely affect our results of operations, financial position and cash flows.

New or existing tariffs and other trade measures could adversely affect our results of operations, financial position and cash flows, either directly or indirectly through various adverse impacts on our significant customers. In 2018, the U.S. announced tariffs of 25 percent on steel and 10 percent on aluminum imported from countries where we typically source metals. These tariffs were met with retaliatory tariffs from certain countries and increased, broader tariffs were levied by the U.S. on targeted countries, including China. Certain of these tariffs have been modified; however, impacts and uncertainties are continuing. The tariffs impacted the cost of the importation of steel, which we utilize in our steel plate and steel pipe, key materials in our NobelClad and DynaEnergetics businesses. Though in many cases we have been able to source metals from domestic suppliers, some materials are only available from sources subject to tariffs. The cost of domestic steel and aluminum has also increased, along with the price of delivery, and the availability of certain materials has been limited. These increased costs have increased the price of our products to our customers and, in some instances, affected our ability to be competitive. For our NobelClad business, this impacts our ability to compete on international projects and negatively impacts U.S. fabricators, which are the primary consumers of NobelClad products. Although some of these tariffs have been subsequently

reduced or eliminated, as occurred in connection with the United States Mexico Canada Agreement (USMCA), many tariffs continue to exist and new tariffs have been and may be imposed at any time. The prolonged duration of tariffs, the imposition of additional tariffs and the risk of potential broader global trade conflicts could have a material adverse effect on our business, financial condition or results of operations.

Failure to attract and retain key personnel and source sufficient labor could adversely affect our current operating results.

Our continued success depends to a large extent upon the efforts and abilities of key managerial and technical employees, and our ability to secure sufficient manufacturing labor. In recent months, our management team has undergone significant changes, including the announced retirement of Michael Kuta, our Chief Financial Officer, and the departure of our President and Chief Executive Officer, followed by the appointment of Michael Kuta and David Aldous as interim co-Presidents and Chief Executive Officers and the appointment of Eric Walter as Chief Financial Officer. Our current and future success is dependent on recruitment of a new Chief Executive Officer and the retention of key personnel, including other executive officers and directors. The loss or unavailability of any key personnel could have an adverse effect on the Company's leadership, ability to execute our strategy, financial condition and results of operations.

In order to meet the needs and expectations of our customers and to achieve our growth objectives, we must attract, train, and retain a large number of hourly associates, while at the same time controlling labor costs. These positions have historically had high turnover rates, which can lead to increased training, retention and other costs. In certain areas where we operate, there is significant competition for employees, and we must ensure that we continue to offer competitive wages, benefits and workplace conditions to retain qualified employees, which increases our labor costs. A shortage of qualified candidates who meet all legal work authorization requirements, failure to hire and retain new employees in a timely manner or higher than expected turnover levels could affect our ability to meet customer demand, grow our businesses and meet our labor cost objectives and could have impacts on employee satisfaction generally. Failure to adequately monitor and proactively respond to employee dissatisfaction could lead to higher turnover, litigation and unionization efforts, which could negatively impact our ability to meet our operating results.

A failure in our information technology systems or those of third parties, including those caused by security breaches, cyber-attacks or data protection failures, could disrupt our business, result in significant legal costs and other losses and damage our reputation.

We are dependent upon information technology systems in the conduct of our operations. Our information technology systems are subject to disruption, damage or failure from a variety of sources, including, without limitation, computer viruses, security breaches, cyber-attacks, natural disasters and defects in design. Cybersecurity incidents in particular are evolving and include, but are not limited to, malicious software, attempts to gain unauthorized access to data and banking information and other electronic security breaches that could lead to disruptions in systems, unauthorized release of confidential or otherwise protected information and the corruption of data. The risk of cybersecurity incidents may increase with the political and economic instability or warfare (including the ongoing hostilities between Russia and Ukraine). Various measures have been implemented to manage our risks related to information technology systems and network disruptions. However, given the unpredictability of the timing, nature and scope of information technology disruptions, we could potentially be subject to production downtimes, operational delays, the compromising of confidential or otherwise protected information, destruction or corruption of data, security breaches, theft, other manipulation or improper use of our systems and networks or financial losses from remedial actions, any of which could have a material adverse effect on our cash flows, competitive position, financial condition or results of operations. In addition, a data breach could result in negative publicity which could damage our reputation and have an adverse effect on our results of operations and our stock price.

We outsource certain technology and business process functions to third parties and may increasingly do so in the future. If we do not effectively develop, implement and monitor our outsourcing strategy, if third party providers do not perform as anticipated or if we experience technological or other problems with a transition, we may not realize productivity improvements or cost efficiencies and may experience operational difficulties, increased costs and loss of business. Our outsourcing of certain technology and business processes functions to third parties may expose us to enhanced risks related to data security, which could result in monetary and reputational damages. In addition, our ability to receive services from third party providers may be impacted by cultural differences, political instability, and unanticipated regulatory requirements or policies. As a result, our ability to conduct our business may be adversely affected.

Failure to establish and maintain adequate internal controls over financial reporting could result in the inability to report our financial results in a timely and reliable manner, which could harm our business and impact the value of our securities.

We depend on our ability to produce accurate and timely financial statements in order to run our business. If we fail to do so, our business could be negatively affected and our independent registered public accounting firm may be unable to attest to the fair presentation of our Consolidated Financial Statements in accordance with U.S. generally accepted accounting principles (“GAAP”) and the effectiveness of our internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act. Effective internal controls are necessary for us to provide reliable financial reports and to effectively prevent fraud. If we cannot provide reliable financial reports and effectively prevent fraud, our reputation and operating results could be harmed. Even effective internal controls have inherent limitations including the possibility of human error, the circumvention or overriding of controls, or fraud. Therefore, even effective internal controls can provide only reasonable assurance with respect to the preparation and fair presentation of financial statements. In addition, projections of any evaluation of effectiveness of internal control over financial reporting in future periods are subject to the risk that the control may become inadequate because of changes in conditions or a deterioration in the degree of compliance with the policies or procedures.

If we fail to maintain adequate internal controls, including any failure to implement new or improved controls as may be required by acquisitions or other changes in our business, or if we experience difficulties in their execution, we could fail to meet our reporting obligations, and there could be a material adverse effect on our business and financial results. In the event that our current internal control practices deteriorate, we may be unable to accurately report our financial results or prevent fraud, and investor confidence and the market price of our stock may be adversely affected.

Legal and Regulatory Risks

Our operations require us to comply with numerous laws and regulations, violations of which could have a material adverse effect on our consolidated results of operations, financial condition or cash flows.

Our operations are subject to international, regional, national, and local laws and regulations in every place where we operate, relating to matters such as environmental protection, health and safety, labor and employment, import/export controls, currency exchange, bribery and corruption, data privacy and cybersecurity, intellectual property, immigration, and taxation. These laws and regulations are complex, frequently change, and have tended to become more stringent over time. In the event the scope of these laws and regulations expands in the future, the incremental cost of compliance could adversely affect our consolidated financial condition, consolidated results of operations, or consolidated cash flows.

Our international operations are subject to anti-corruption and anti-bribery laws and regulations, such as the FCPA, the U.K. Bribery Act and other similar laws. We are also subject to trade control regulations and trade sanctions laws that restrict the movement of certain goods to, and certain operations in, various countries or with certain persons. These trade regulations and laws can include restrictions on selling or importing goods, services or technology in or from affected regions, travel bans and asset freezes impacting connected individuals and political, military, business and financial organizations and can change very quickly, such as has occurred in connection with Russia’s invasion of Ukraine. Our ability to transfer people, products and data among certain countries is subject to maintaining required licenses and complying with these laws and regulations.

The internal controls, policies and procedures, and employee training and compliance programs we have implemented to deter prohibited practices may not be effective in preventing employees, contractors or agents from violating or circumventing such internal policies or from material violations of applicable laws and regulations. Any determination that we have violated or are responsible for violations of anti-bribery, trade control, trade sanctions or anti-corruption laws could have a material adverse effect on our financial condition. Violations of international and U.S. laws and regulations or the loss of any required licenses may result in fines and penalties, criminal sanctions, administrative remedies or restrictions on business conduct, and could have a material adverse effect on our business, operations and financial condition. In addition, any major violations could have a significant effect on our reputation and consequently on our ability to win future business and maintain existing customer and supplier relationships.

The use of explosives in our DynaEnergetics and NobelClad manufacturing processes and products subject us to additional environmental, health and safety laws and any accidents or injuries could subject us to significant liabilities.

DynaEnergetics uses explosive materials in its manufacturing processes and products. NobelClad’s manufacturing process involves the detonation of large quantities of explosives. The use of explosives is an inherently dangerous activity. These activities subject us to extensive environmental and health and safety laws and regulations including guidelines and regulations for the purchase, manufacture, handling, transport, storage and use of explosives issued by the U.S. Bureau of

Alcohol, Tobacco and Firearms; the Federal Motor Carrier Safety regulations set forth by the U.S. Department of Transportation; the Safety Library Publications of the Institute of Makers of Explosive; and similar guidelines of their European counterparts. In Germany, the transport, storage and use of explosives is governed by a permit issued under the Explosives Act (Sprengstoffgesetz).

Despite our use of specialized facilities to store and handle dangerous materials and our employee training programs, the storage and handling of explosive materials could result in explosive incidents that temporarily shut down or otherwise disrupt our or our customers' operations or cause restrictions, delays or cancellations in the delivery of our services. It is possible that such an explosion could result in death or significant injuries to employees and other persons. Material property damage to us, our customers and third parties arising from an explosion or resulting fire could also occur. Any explosion could expose us to adverse publicity and liability for damages or cause production restrictions, delays or cancellations, any of which could have a material adverse effect on our operating results, financial condition and cash flows. Moreover, failure to comply with applicable requirements or the occurrence of an explosive incident may also result in the loss of our license to store and handle explosives, which would have a material adverse effect on our business, results of operations and financial conditions.

Demand for our products could be reduced by existing and future legislation, regulations and public sentiment.

Regulatory agencies and environmental advocacy groups in the United States, the E.U., and other regions or countries have been focusing considerable attention on the emissions of carbon dioxide, methane and other greenhouse gases and their role in climate change. There is also increased focus, including by governments and our customers, investors and other stakeholders, on these and other sustainability and energy transition matters. Existing or future legislation and regulations related to greenhouse gas emissions and climate change, as well as initiatives by governments, non-governmental organizations, and companies to conserve energy or promote the use of alternative energy sources, and negative attitudes toward or perceptions of fossil fuel products and their relationship to the environment, may significantly curtail demand for and production of oil and gas in areas of the world where our customers operate, and thus reduce future demand for some of our products.

In addition, some international, national, state and local governments and agencies have also adopted laws and regulations or are evaluating proposed legislation and regulations that are focused on directly limiting the extraction of shale gas or oil using hydraulic fracturing. These laws and regulations could limit oil and gas development, lead to operational delays and increased costs for our customers, and therefore reduce demand for our products. Such reductions in demand for our products may, in turn, adversely affect our financial condition, results of operations and cash flows.

Increased negative investor sentiment toward oil and gas and preference for assets outside of traditional energy sectors could lead to higher capital costs for our customers and reduced investment in fossil fuels, thereby reducing demand for our products. Such preferences could also impact our ability to obtain acceptable debt or equity financing on attractive terms or at all and could negatively impact our stock price over time. Our business, reputation and demand for our stock could be negatively affected if we do not (or are perceived to not) act responsibly with respect to sustainability matters.

We are subject to extensive environmental, health and safety laws and failure to comply with such laws and regulations could result in restrictions or prohibitions on our facilities, substantial civil or criminal liabilities and could have a material adverse effect on our business, consolidated results of operations, and consolidated financial condition.

We are subject to extensive environmental, health and safety regulation in the United States and the other countries where our manufacturing facilities are located. Among other things, these laws regulate the emissions or discharge of materials into the environment; govern the use, storage, treatment, disposal and management of hazardous substances and wastes; protect the health and safety of our employees; regulate the materials used in our products or manufacturing processes; and impose liability for the costs of investigating and remediating (as well as other damages resulting from) present and past releases of hazardous substances. Representative laws and regulations which we may be subject to in the U.S. include: noise abatement and air emissions regulations, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, the Resource Conservation and Recovery Act ("RCRA") and comparable state laws, and various regulations and laws enforced by the U.S. Department of Labor, the U.S. Department of Commerce, and the U.S. Environmental Protection Agency and their state equivalents. Violations of these laws or of any conditions contained in environmental permits can result in substantial fines or penalties, injunctive relief, requirements to install pollution controls or other equipment, and civil sanctions. We could be held liable for costs to investigate, remediate or otherwise address contamination at any real property we have ever owned, operated or used as a disposal site, or at other sites where we or predecessors may have released hazardous materials. We could incur fines, penalties or sanctions or be subject to third-party claims, including indemnification claims, for property damage, personal injury or otherwise as a result of violations of (or liabilities under) environmental, health and safety laws, or in connection with releases of hazardous or other materials.

Changes in or new interpretations of existing laws, regulations or enforcement policies, the discovery of previously unknown contamination, or the imposition of other environmental liabilities or obligations in the future including additional investigation, remediation or other obligations with respect to our products or business activities may lead to additional compliance costs or require us to change our manufacturing processes, which could have a material adverse effect on our business, financial condition or results of operations.

In Germany, we and all our activities are subject to various safety and environmental regulations of the federal state which are enforced by the local authorities, including the Federal Act on Emission Control (Bundes-Immissionsschutzgesetz). The Federal Act on Emission Control permits are held by companies jointly owned by DynaEnergetics and the other companies that are located at the Troisdorf manufacturing site and are for an indefinite period of time. The Dillenburg, Germany facility is operated based on a specific permit granted by the local mountain authority and must be renewed every three years. Any failure to comply with current and future environmental and safety regulations could subject us to significant liabilities. Any actual or alleged violations of environmental, health or safety laws could result in restrictions or prohibitions on our facilities or substantial civil or criminal sanctions. In addition, under certain environmental laws, we could be held responsible for all of the costs relating to any contamination at our facilities and at third party waste disposal sites, even when such contamination was caused by a predecessor and even when the actions resulting in the contamination were lawful at the time. We could also be held liable for any and all consequences arising out of human exposure to hazardous substances or other environmental damage.

Failure to comply with applicable federal, state and local employment and labor laws and regulations could have a material, adverse impact on our business.

Various federal, state and local employment and labor laws and regulations govern our relationships with our employees, and similar laws and regulations apply to our operations outside of the U.S. These laws and regulations relate to matters such as employment discrimination, wage and hour laws, requirements to provide and document meal and rest periods or other benefits, family leave mandates, requirements regarding working conditions and accommodations to certain employees, citizenship or work authorization and related requirements, insurance and workers' compensation rules, healthcare laws and anti-discrimination and anti-harassment laws. We incur substantial costs to comply with these laws and regulations and non-compliance could expose us to significant liabilities. For example, Arcadia is currently defending a lawsuit in California alleging violations of wage and hour regulations with respect to certain temporary and permanent employees. We are incurring legal costs to defend this action and may in the future be required to defend similar actions, and we could incur losses from these and similar cases, and the amount of such losses or costs could be material.

Several jurisdictions also have implemented sick pay and paid time off legislation, which requires employers to provide paid time off to employees, and "just cause" termination legislation, which restricts companies' ability to terminate employees or reduce employees' hours unless they can prove "just cause" or a "bona fide economic reason" for the termination or reduction in hours. All of these regulations impose additional obligations on us and our failure to comply with any of these regulations could subject us to penalties and other legal liabilities, which could adversely affect our business and results of operations.

The regulatory environment governing information, data security and privacy is increasingly demanding and evolving and a data security breach could result in litigation, enforcement actions and related penalties and fines.

The regulatory environment surrounding information security and privacy is increasingly demanding. We are subject to numerous U.S. federal and state laws and non-U.S. laws and regulations governing the protection of personal and confidential information of our customers and employees. The regulatory framework for privacy and security issues worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future.

Several U.S. states have passed comprehensive privacy laws that will go into effect in 2023. Of note among them is the California Consumer Privacy Rights Act (CPRA), which amends and expands the California Consumer Privacy (CCPA). The CPRA, which went into effect on January 1, 2023, along with the CCPA, governs the transmission, security and privacy of California residents' personal information. The CPRA has a twelve month look-back period for enforcement purposes. Among many new requirements, the CPRA creates a category for sensitive data including health and other personal information that requires additional safeguards and disclosures. In addition, the CPRA expands consumers' rights and has enhanced enforcement mechanisms such as the creation of a California Privacy Protection Agency that will investigate and enforce the CPRA and its promulgating regulations. The states of Virginia, Colorado, Connecticut and Utah have also recently enacted omnibus data privacy laws. In addition, many other proposals exist in states across the U.S. that could increase our potential liability and increase our compliance costs. Aspects of these state privacy statutes remain unclear, resulting in further legal uncertainty and potentially requiring us to modify our data practices and policies and to incur substantial additional compliance costs.

Moreover, a comprehensive federal data privacy bill, the American Data Privacy and Protection Act, has been proposed and, if passed, will further change the privacy and data security compliance landscape. In addition, the SEC recently proposed a cybersecurity rule that may go into effect as early as the first half of 2023. The new cybersecurity rule will require, among other things, comprehensive disclosure regarding oversight of cybersecurity risks and increased monitoring and reporting of data security incidents.

Internationally, the European Data Protection Board recently released new guidelines on enforcement and fines related to the General Data Protection Regulation (GDPR). The new guidelines suggest a tougher stance on enforcement and stiffer fines for companies that violate the GDPR. This is in addition to the continued complexities involving the transfer of personal data from Europe to the U.S. following the Schrems II decision. The U.S. and the European Commission have been in discussions for a new Trans-Atlantic data privacy framework, Privacy Shield 2.0, which is anticipated to go into effect in early 2023, which will require additional compliance efforts from our company. In March 2022, the U.S. and EU announced a new regulatory regime intended to replace the invalidated regulations; however, this new EU-US Data Privacy Framework has not yet been implemented beyond an executive order signed by President Biden on October 7, 2022 on Enhancing Safeguards for United States Signals Intelligence Activities.

As international data privacy and protection laws continue to evolve, and as new regulations, interpretive guidance and enforcement information become available, we may incur incremental costs to modify our business practices to comply with these requirements. In addition, our internal control policies and procedures may not always protect us from reckless, intentional or criminal acts committed by our employees or agents.

Violations of these laws, or allegations of such violations, could subject us to criminal or civil, monetary or and non-monetary penalties, disrupt our operations, involve significant management distraction, subject us to class action lawsuits and result in a material adverse effect on our business, financial condition and results of operations.

Legal, regulatory or market measures to address climate change, including proposals to restrict emissions of GHGs and other sustainability initiatives, could have an adverse impact on the Company's business and results of operations.

Various legislative, regulatory, and inter-governmental proposals to restrict emissions of GHGs, such as carbon dioxide ("CO₂"), are under consideration by governmental legislative bodies and regulators in the jurisdictions where we operate. Such regulatory and global initiatives may require us to modify our operating procedures, incur capital expenditures, change fuel sources, or take other actions that may adversely affect our financial results. Increasing regulations to reduce GHG emissions, as proposed throughout many of our operating regions, would be expected to increase energy costs, reduce energy availability and increase price volatility for energy.

The heightened stakeholder focus on Environmental, Social, and Governance, or "ESG," issues related to our businesses requires the continuous monitoring of various and evolving laws, regulations, standards and expectations and the associated reporting requirements. Specifically, certain stakeholders are beginning to require that we provide information on our plans relating to certain climate-related matters such as greenhouse gas emissions, and we expect this trend to continue and be amplified by the potential adoption of the proposed SEC regulations relating to climate change disclosure. A failure to adequately or timely meet stakeholder expectations and reporting requirements may result in noncompliance with any imposed regulations, the loss of business, reputational impacts, diluted market valuation, an inability to attract and retain customers, and an inability to attract and retain top talent. In addition, our adoption and the reporting of certain standards or mandated compliance to certain requirements could necessitate additional investments that could impact our profitability.

Further, we have established and publicly disclosed other ESG targets and goals and other sustainability commitments that are subject to a variety of assumptions, risks and uncertainties. If we are unable to meet these targets, goals or commitments on our projected timelines or at all, or if they are not perceived to be sufficiently robust, our reputation as well as our relationships with investors, customers and other stakeholders could be harmed, which could in turn adversely impact our business and results of operations. In addition, not all of our competitors may seek to establish climate or other ESG targets and goals, or at a comparable level to ours, which could result in our competitors achieving competitive advantages through lower supply chain or operating costs.

Changes in or interpretation of tax law could impact the determination of our income tax liabilities for a tax year.

We are subject to income taxes in the U.S. and certain foreign jurisdictions. Significant judgment is required in determining our worldwide provision for income taxes. In the course of our business, there are many transactions and calculations where the ultimate tax determination is subjective or uncertain. We earn a significant amount of our operating income outside the U.S. and have significant intercompany transactions between our affiliates. A change in the mix of earnings and losses in countries with differing statutory tax rates, changes in our business or structure, or disputes about intercompany transfer pricing arrangements may result in higher effective tax rates for the Company.

Our future effective tax rates could be adversely affected by changes in tax laws or their interpretation, both domestically and internationally. For example, regulations related to the 2017 United States Tax Cuts and Jobs Act (“TCJA”) are still being developed, some with retroactive application. As regulations and guidance evolve with respect to tax law, our results may differ from previous estimates and may materially affect our financial condition or results of operations. The OECD/G20 Base Erosion and Profit Shifting Project (or BEPS Project) is developing an international framework to combat tax avoidance by multinational enterprises and countries where the Company is subject to taxes are independently evaluating their corporate tax policy. Tax legislation and enforcement could adversely impact the Company’s tax provision and the value of deferred tax assets and liabilities.

We are under audit by tax authorities in different jurisdictions from time to time. Although we believe that our provision for income taxes and our tax estimates are reasonable, tax authorities may disagree with certain positions we have taken. In addition, economic and political pressures to increase tax revenue in various jurisdictions may make resolving tax disputes favorably more difficult. The final resolution of any audits or litigation may differ from the amounts recorded in our consolidated financial statements and may materially affect our consolidated financial statements in the period or periods in which that determination is made.

We are subject to litigation and may be subject to additional litigation in the future.

We are currently, and may in the future become, subject to litigation, arbitration or other legal proceedings with other parties. Managing or defending such legal proceedings may result in substantial legal fees, expenses and costs and diversion of management resources. If material litigation is brought against us in the future, an adverse decision could have a material adverse effect on our financial position or prospects. For a more detailed discussion of pending litigation, refer to Note 13 to our Consolidated Financial Statements.

In the event of a dispute arising in connection with our foreign operations, we may be subject to the exclusive jurisdiction of foreign courts or arbitral panels, or may not be successful in subjecting foreign persons to the jurisdiction of courts or arbitral panels in the United States. Our inability to enforce our rights and the enforcement of rights on a prejudicial basis by foreign courts or arbitral panels could have an adverse effect on our results of operations and financial position.

Intellectual Property Risks

Our failure to protect our proprietary information and any successful intellectual property challenges against us could materially and adversely affect our competitive position.

The protection of our intellectual property rights is essential to maintaining our competitive position and recognizing the value of our investments in technology and intellectual property in our existing and future products. We rely on trade secret protection for certain aspects of our technology, in part through confidentiality and other written agreements with our employees, consultants and third parties. Through these and other written agreements, we attempt to control access to and distribution of our intellectual property documentation and other proprietary technology information. Despite our efforts to protect our proprietary rights, former employees, consultants or third parties may, in an unauthorized manner, attempt to use, copy or otherwise obtain and market or distribute our intellectual property rights or technology or otherwise develop a product with the same functionality as our technology. Policing unauthorized use of our intellectual property rights is difficult, and nearly impossible on a worldwide basis. Therefore, we cannot be certain that the steps we have taken or will take in the future will prevent misappropriation of our technology or intellectual property rights.

We also actively pursue patent protection for our proprietary technology and intellectual property where appropriate for protecting our competitive position. The process of seeking patent protection can be long and expensive and we cannot be certain that any currently pending or future applications will actually result in issued patents, or that, even if patents are issued, they will be respected by third parties. In addition, our competitors may be able to develop technology independently that is

similar to ours without infringing on our patents or gaining access to our trade secrets, and this could have a similar effect on our competitive position.

Intellectual property litigation and threats of litigation are becoming more common in the oilfield services industry. We are currently involved and may in the future be involved in litigation, in the United States or abroad, to enforce our patents or other intellectual property rights or to protect our trade secrets and know-how. These actions can require multiple years to come to resolution or settlement, and even if we ultimately prevail, we may be unable to realize adequate protection of our competitive position. In addition, these actions commonly result in actions by the affected third parties to establish the invalidity of our patents. While we intend to prosecute these actions vigorously, there is no guarantee of success, and such effort takes significant financial and management resources from the Company. In the event that one or more of our patents are challenged, a court or the United States Patent and Trademark Office (USPTO) may invalidate the patent(s) or determine that the patent(s) is not enforceable, which could harm our competitive position. If our patents are invalidated, or if the scope of the claims in any of these patents is limited by a court or USPTO decision, we could be prevented from pursuing certain litigation matters or licensing the invalidated or limited portion of such patents. Such adverse decisions could negatively impact our future revenue. Patent litigation, if necessary or when instituted against us, could result in substantial costs and divert our management's attention and resources.

We may incur substantial costs defending against third parties alleging that we infringe their proprietary rights.

We are currently involved and may in the future be involved in litigation relating to alleged infringement by us of others' patents or other intellectual property rights. We have an active "freedom to operate" review process for our technology, but there is no assurance that future infringement claims will not be asserted. Infringement claims generally result in significant legal and other costs and may distract management from running our core businesses even if we are ultimately successful. In the event of any adverse ruling in any intellectual property litigation, we could be required to pay substantial damages, cease the manufacturing, use and sale of infringing products, discontinue the use of certain processes or obtain a license from the third-party claiming infringement with royalty payment obligations by us. We also have certain indemnification obligations to customers with respect to the infringement of third-party intellectual property rights by our products, which may increase our costs. Any of these occurrences could significantly harm our competitive position, results of operations, financial position and cash flows.

Risks Related to Acquisitions

We have incurred debt to finance the acquisition of 60% of Arcadia and will incur additional substantial financial obligations in connection with the acquisition of the remaining 40% of Arcadia.

We financed a portion of the purchase price of the Arcadia acquisition with proceeds from our credit facility. Our ability to service the indebtedness under the credit facility and to maintain compliance with the covenants included in the credit facility will depend on our success in achieving the intended benefits of the acquisition, which is subject to numerous risks and uncertainties as discussed above. We will have to devote a substantial portion of our cash flow to meet required payments of principal and interest on this indebtedness, and if we are unable to generate sufficient cash flow to do so, or if we otherwise fail to comply with the terms of the credit facility, we could be in default under the agreement.

In addition, as early as three years after the closing of the Arcadia acquisition, we may be required to pay the Option Purchase Price for some or all of Munera's interests in Arcadia if Munera exercises the Put Option. Even if we elect to pay 80% of the Option Purchase Price in preferred stock, we will need to fund the remaining portion in cash. We do not currently have sufficient funds to pay the cash portion of the Option Purchase Price, and we may not be able to obtain such funds on terms acceptable to us or at all. Our ability to finance the Option Purchase Price will depend on numerous factors, including the performance of our businesses and general market and economic conditions. If we fail to pay the Option Purchase Price when required under the Operating Agreement, we will be in default under the agreement. The Option Purchase Price is likely to be substantial relative to the current size of our business. In addition, the Option Purchase Price is subject to a defined "floor" value in the Operating Agreement, which is based primarily upon a contractually stated equity value. The floor value will apply even if Arcadia's performance fails to meet our expectations. This may make it more difficult for us to finance the payment of the Option Purchase Price. In addition, debt or preferred equity financing, if obtained, may involve agreements that include liens or restrictions on our assets and covenants limiting or restricting our ability to take specific actions, such as paying dividends or making distributions, incurring additional debt, acquiring or disposing of assets or increasing expenses. Debt financing would also be required to be repaid regardless of our operating results. Obtaining financing through issuances of common stock would impose fewer restrictions on our future operations but would be dilutive to the interests of existing stockholders.

After the Arcadia acquisition, DMC is the majority shareholder of Arcadia, and our interest in Arcadia is subject to the risks normally associated with the conduct of businesses with a minority shareholder.

Pursuant to the Equity Purchase Agreement pursuant to which we acquired a 60% ownership stake in Arcadia, Munera continues to hold 40% of the outstanding equity interests of Arcadia. Our Operating Agreement governs our relationship with Munera, and we believe the Operating Agreement provides us with effective and sufficient control of Arcadia to allow the business to be operated consistent with our goals and values and with sufficient opportunity for profitable growth. Nevertheless, conducting a business with minority owners may lead to certain risks and uncertainties, which could have an adverse impact on our ability to profitably grow the Arcadia business, which could have a material adverse impact on our future cash flows, earnings, results of operations and financial condition. These include:

- our ability to effectively control certain strategic, operational and financial decisions;
- the potential for disagreement over the direction of the company and costs and expenses involved; and
- the risk of having economic or business interests or goals that are inconsistent with, or opposed to, those of Munera.

There can be no assurance that the acquisition will be beneficial to us, whether due to the above-described risks, unfavorable economic conditions, integration challenges or other factors.

Fully integrating Arcadia's business following the acquisition may be more difficult, costly and time-consuming than expected, which may adversely affect our results of operations and the value of our common stock.

While the Company's management has made significant progress in integrating Arcadia's business into DMC, integration efforts will be substantial and continuing. The integration process is complex, costly and time-consuming, and the Company's management may face significant, ongoing challenges in implementing such integration, many of which may be beyond the control of management, including, without limitation:

- difficulties in achieving anticipated expansion and growth prospects;
- the possibility of faulty assumptions underlying expectations regarding the integration process;
- unanticipated issues in integrating accounting, information technology, communications programs, financial procedures and operations, and other systems, procedures and policies;
- cybersecurity issues as we integrate Arcadia into our programs and systems;
- failure to implement effective internal and disclosure controls;
- difficulties in managing a larger corporation, addressing differences in business culture and retaining key personnel;
- impacts on employee, supplier and customer relationships;
- failure to address any pre-existing liabilities or claims involving the acquired business;
- unanticipated changes in applicable laws and regulations;
- coordinating geographically separate organizations; and
- unforeseen expenses or delays associated with integration efforts.

Some of these factors are outside the control of the Company, and any one of them could result in increased costs and diversion of management's time and energy, as well as decreases in revenue or increases in cost, which could materially impact the business, financial conditions and results of operations of the Company.

The acquisition of Arcadia is expected to materially complicate the timely achievement of effective internal controls in accordance with Section 404 of the Sarbanes-Oxley Act, which could have a material adverse effect on our business and stock price.

Prior to the acquisition, Arcadia operated as a closely-held, private company, which had no previous public reporting obligations and therefore, did not historically institute and evaluate its internal controls and procedures in compliance with Section 404. Implementing changes to our internal controls have been required following the acquisition and may take significant additional time to complete, and may require further significant effort and involvement of directors, officers and employees, as well as substantial costs in order to modify existing accounting systems. Further, we may encounter difficulties assimilating or integrating the internal controls, disclosure controls and information technology infrastructure of the Company and Arcadia. Our efforts to assimilate and integrate our internal controls with Arcadia's may not be effective, and any failure to maintain effective controls could result in material weaknesses or significant deficiencies in our internal controls. Our failure to implement and maintain effective internal control over financial reporting could result in a material misstatement of our financial statements or otherwise cause us to fail to meet our financial reporting obligations. This, in turn, could result in a loss of investor confidence in the accuracy and completeness of our financial reports, which could have an adverse effect on our business, financial condition, operating results and our stock price, and could result in stockholder litigation.

To the extent that we seek to further expand our business through acquisitions, we may experience issues in executing acquisitions or integrating acquired operations.

From time to time, we examine opportunities to make selective acquisitions in order to increase shareholder return by increasing our total available markets, expanding our existing operations and, potentially, generating synergies. The success of any acquisition depends on a number of factors, including, but not limited to:

- identifying suitable candidates for acquisition and negotiating acceptable terms;
- obtaining approval from regulatory authorities and potentially DMC's shareholders;
- maintaining our financial and strategic focus and avoiding distraction of management during the process of integrating the acquired business;
- implementing our standards, controls, procedures and policies at the acquired business and addressing any pre-existing liabilities or claims involving the acquired business;
- our ability to realize the expected tax treatment or tax benefits from the transaction; and
- to the extent the acquired operations are in a country in which we have not operated historically, understanding the regulations and challenges of operating in that new jurisdiction.

For example, our due diligence process may not reveal all liabilities associated with a potential acquisition, and this could result in us incurring unanticipated losses after the acquisition is completed. There can be no assurance that we will be able to conclude any acquisitions successfully or that any acquisition will achieve the anticipated synergies or other positive results. Any material problems that we encounter in connection with such an acquisition could have a material adverse effect on our business, results of operations and financial position.

Risk Factors Related to Our Common Stock

The price and trading volume of our common stock may be volatile, which may make it difficult for you to resell the common stock when you want or at prices you find attractive.

The market price and trading volume of our common stock may be subject to significant fluctuations due to general stock market conditions and/or a change in sentiment in the market regarding our operations, business prospects or liquidity. Among the factors that could affect the price of our common stock are:

- changes in the architectural building products, oil and gas, industrial, or infrastructure markets;
- operating and financial performance that vary from the expectations of management, securities analysts or investors;
- developments in our business or in our business sectors generally;
- regulatory changes affecting our industry generally or our business and operations;
- the operating and stock price performance of companies that investors consider to be comparable to us;
- announcements of strategic developments, acquisitions and other material events by us or our competitors;
- our ability to integrate and operate the companies and the businesses that we acquire;
- rumors and market speculation regarding our industries, business or trading activity;
- significant amounts of short selling, the perception that short sales could occur and other speculative trading activity;
- activism by any large stockholder or group of stockholders;
- changes in global financial markets and global economies and general market conditions, including volatility in foreign exchange rates, tariffs and stock, commodity, credit or asset valuations, and government actions or shutdowns.

The stock markets in general have experienced extreme volatility that has at times been unrelated to the operating performance of particular companies, and these fluctuations may adversely affect the trading price of our common stock.

Holders of our common stock do not currently receive dividends and our dividend may not be reinstated in the future.

Our Board of Directors suspended our dividend in April 2020 in order to preserve liquidity in light of the sharp reduction in demand for DynaEnergetics products and other impacts of the COVID-19 pandemic. Holders of our common stock are entitled to receive only such dividends as our Board of Directors declares out of funds legally available for such payments. We are incorporated in Delaware and governed by the Delaware General Corporation Law. Delaware law allows a corporation to pay dividends only out of surplus, as determined under Delaware law or, if there is no surplus, out of net profits for the fiscal year in which the dividend was declared and for the preceding fiscal year. In addition, dividends may not be permitted pursuant to the terms of debt or other agreements to which we are subject. Although we have historically declared cash dividends on our

common stock, we are not required to do so and there can be no assurance as to whether the Board will reinstate a dividend in the future.

ITEM 1B. Unresolved Staff Comments

None.

ITEM 2. Properties

Corporate Headquarters

Our corporate headquarters currently are located in Broomfield, Colorado. The office is also used for NobelClad's U.S. administrative offices.

<u>Location</u>	<u>Property Type</u>	<u>Property Size</u>	<u>Owned/Leased</u>	<u>Expiration Date of Lease (if applicable)</u>
Broomfield, Colorado	Corporate and Sales Office	18,284 sq. ft.	Leased	September 30, 2029, with renewal option for 60 months

Arcadia

Arcadia owns a manufacturing site and sales office in Vernon, California and leases other manufacturing and distribution centers throughout the United States. The table below summarizes Arcadia's material properties, including their location, type, size, whether owned or leased and expiration terms, if applicable.

Location	Property Type	Property Size	Owned/Leased	Expiration Date of Lease (if applicable)
Vernon, California	Corporate office, metal shop building, warehouse	26,500 sq. ft.	Owned	
	Land for office, paint shop, anodizing line	0.8 acre	Owned	
	Land for office, paint shop, anodizing line	2.24 acres	Leased	May 31, 2046
Vernon, California	Land for parking	39,545 sq. ft.	Leased	March 31, 2027
Vernon, California ⁽¹⁾	Office, paint shop	112,000 sq. ft.	Leased	December 22, 2026, with renewal option for 60 months
Vernon, California ⁽¹⁾	Office, warehouse	110,677 sq. ft.	Leased	December 22, 2026, with renewal option for 60 months
Hayward, California ⁽¹⁾	Distribution, light assembly	45,624 sq. ft.	Leased	December 22, 2024, with renewal option for 36 months
West Sacramento, California ⁽¹⁾	Distribution, light assembly	16,000 sq. ft.	Leased	December 22, 2024, with renewal option for 36 months
Stamford, Connecticut ⁽¹⁾	Office, warehouse	39,418 sq. ft.	Leased	December 22, 2023, with renewal option for 24 months
Phoenix, Arizona ⁽¹⁾	Office, warehouse	51,986 sq. ft.	Leased	December 22, 2026, with renewal option for 24 months
Las Vegas, Nevada ⁽¹⁾	Office, warehouse	88,915 sq. ft.	Leased	December 22, 2026, with renewal option for 24 months
Tucson, Arizona ⁽¹⁾	Office, paint shop, warehouse	106,507 sq. ft.	Leased	December 22, 2026, with renewal option for 60 months
Waipahu, Hawaii	Distribution, light assembly	Building: 12,746 sq. ft. Land: 21,872 sq. ft.	Leased	May 31, 2023
South Gate, California	Office, manufacturing	45,700 sq. ft.	Leased	December 31, 2027
South Gate, California	Office, manufacturing	25,000 sq. ft.	Leased	April 30, 2027
Houston, Texas	Office, warehouse	43,412 sq. ft.	Leased	November 30, 2028, with renewal option for 60 months
Dallas, Texas	Office, warehouse	86,731 sq. ft.	Leased	November 30, 2025, with renewal option for 60 months
Kent, Washington	Distribution, light assembly	25,000 sq. ft.	Leased	March 31, 2024

⁽¹⁾ These leases are with entities affiliated with the holder of the redeemable noncontrolling interest and the former president of Arcadia. During the year-ended December 31, 2022, DMC recorded \$4,625 in lease expense related to these properties.

DynaEnergetics

DynaEnergetics leases a manufacturing site and sales office in Troisdorf, Germany. The leases for these properties expire on December 31, 2025, and we are negotiating future renewal options. In the U.S., DynaEnergetics owns manufacturing and assembly sites in Texas and leases storage bunkers and office and warehouse space in various cities throughout Texas. DynaEnergetics also leases office and warehouse space and bunkers for storage of its explosives in Alberta, Canada.

The table below summarizes DynaEnergetics' material properties, including their location, type, size, whether owned or leased and expiration terms, if applicable.

Location	Property Type	Property Size	Owned/Leased	Expiration Date of Lease (if applicable)
Troisdorf, Germany	Manufacturing and administration office	Manufacturing: 263,201 sq. ft. Office: 2,033 sq. ft.	Leased	December 31, 2025
Troisdorf, Germany	Office	9,203 sq. ft.	Leased	December 31, 2025
Liebenscheid, Germany	Manufacturing and office	5,511 sq. ft.	Owned	
Liebenscheid, Germany	Land	77,672 sq. ft.	Owned	
Houston, Texas	Office	11,370 sq. ft.	Leased	November 30, 2026
Blum, Texas	Office, warehouse, and manufacturing	83,000 sq. ft.	Owned	
Blum, Texas ^(a)	Warehouse	10,000 sq. ft.	Owned	
Blum, Texas	Land for office, warehouse, and manufacturing	284 acres	Owned	
Midland, Texas	Land	13.3 acres	Leased	April 1, 2029
Victoria, Texas	Office and warehouse	4,448 sq. ft.	Leased	June 30, 2023
Whitney, Texas	Office, warehouse, and manufacturing	36,000 sq. ft.	Owned	
Alberta, Canada	Office and warehouse	7,650 sq. ft.	Leased	August 31, 2025

^(a) The Blum, Texas warehouse is separate from the main Blum manufacturing campus.

NobelClad

NobelClad owns its principal domestic manufacturing site, which is located in Mount Braddock, Pennsylvania. We currently lease our primary domestic shooting site, which is located in Dunbar, Pennsylvania, and we also have license and risk allocation agreements relating to the use of a secondary shooting site, Coolspring, that is located within a few miles of the Mount Braddock facility. The shooting site in Dunbar and the nearby secondary shooting site support our Mount Braddock facility. The lease for the Dunbar property will expire on December 15, 2025, but we have options to renew the lease which would then extend through December 15, 2029. The license and risk allocation agreements will expire on March 31, 2028.

NobelClad owns a manufacturing site in Liebenscheid, Germany as well as a mine used as a shooting site in Dillenburg, Germany. We purchased the buildings and land around the Dillenburg mine in 2022. NobelClad leases the building housing its sales and administrative office in Perpignan, France.

The table below summarizes NobelClad's material properties, including their location, type, size, whether owned or leased and expiration terms, if applicable.

Location	Property Type	Property Size	Owned/Leased	Expiration Date of Lease (if applicable)
Mt. Braddock, Pennsylvania	Clad plate manufacturing and administration office	Land: 14 acres Buildings: 101,300 sq. ft.	Owned	
Dunbar, Pennsylvania	Clad plate shooting site	Land: 322 acres Buildings: 15,960 sq. ft.	Leased	December 15, 2025, with renewal options through December 15, 2029
Cool Spring, Pennsylvania	Clad plate shooting site	1,200,000 sq. ft.	Leased	March 31, 2028, with renewal options through March 31, 2033
Canonsburg, Pennsylvania	Manufacturing	16,000 sq. ft.	Leased	November 30, 2023, with renewal options for three additional 12-month periods
Tautavel, France ^(a)	Clad shooting site	116 acres	Owned	
Perpignan, France	Administration and sales office	3,671 sq. ft.	Leased	September 30, 2029, with renewal options for additional three-year periods.
Burbach-Würgendorf, Germany	Storage	224 sq. meters	Leased	December 31, 2050
Dillenburg, Germany	Clad plate shooting site	Land: 18.9 acres Buildings: 46,285 sq. ft.	Owned	
Liebenscheid, Germany	Manufacturing	Land: 10.47 acres Buildings: 125,394 sq. ft.	Owned	

^(a) Though NobelClad is no longer performing manufacturing activities in France, it owns this land in order to have access to a redundant shooting site.

ITEM 3. Legal Proceedings

Refer to Note 13 within Item 8 — Financial Statements and Supplementary Data.

ITEM 4. Mine Safety Disclosures

Our Coolspring property is subject to regulation by the Federal Mine Safety and Health Administration ("MSHA") under the Federal Mine Safety and Health Act of 1977 (the "Mine Act"). Pursuant to Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), issuers that are operators, or that have a subsidiary that is an operator, of a coal or other mine in the United States are required to disclose in their periodic reports filed with the SEC information regarding specified health and safety violations, orders and citations, related assessments and legal actions, and mining-related fatalities. During the year ended December 31, 2022, we had no such specified health and safety violations, orders or citations, related assessments or legal actions, mining-related fatalities, or similar events in relation to our United States operations requiring disclosure pursuant to Section 1503(a) of the Dodd-Frank Act.

PART II**ITEM 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities**

Our common stock is publicly traded on The Nasdaq Global Select Market ("Nasdaq") under the symbol "BOOM." As of February 20, 2023, there were 228 holders of record of our common stock (does not include beneficial holders of shares held in "street name").

Equity Compensation Plan

Refer to "Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters" for information regarding securities authorized for issuance under our equity compensation plans, which is incorporated in this Item by this reference.

Issuer Purchases of Equity Securities

During the quarter ended December 31, 2022, we purchased shares of common stock as follows. These shares are held as treasury shares by the Company.

	Total number of shares purchased ^{(1) (2)}		Average price paid per share
October 1 to October 31, 2022	213	\$	15.98
November 1 to November 30, 2022	701	\$	19.04
December 1 to December 31, 2022	6,987	\$	17.35
Total	7,901	\$	17.46

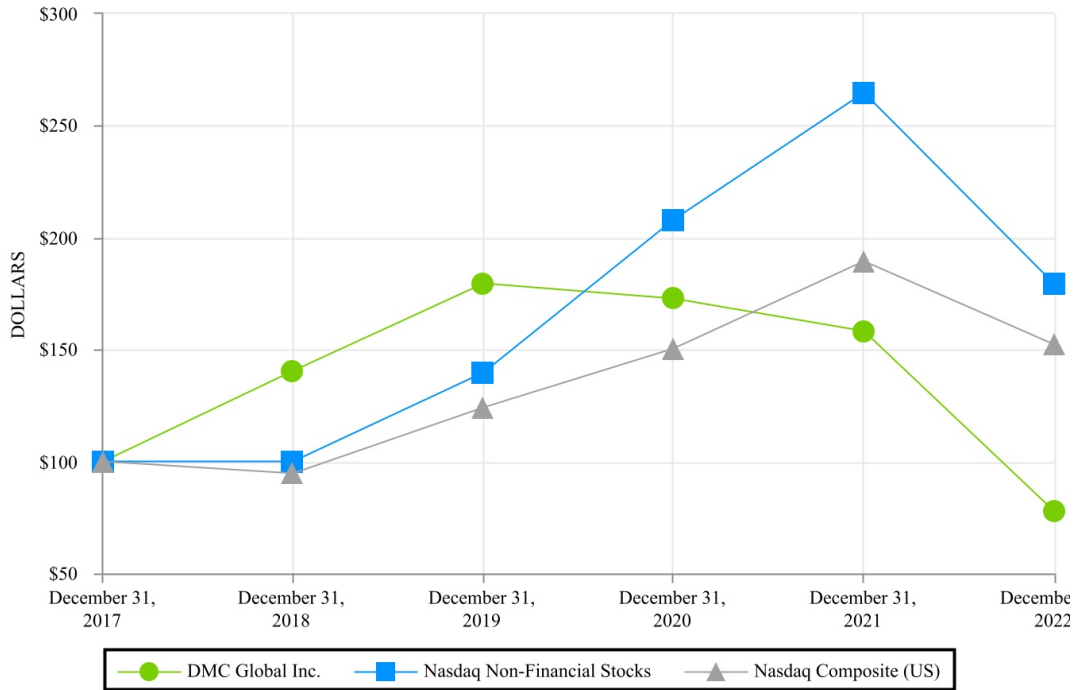
⁽¹⁾ Share purchases during the period were to offset tax withholding obligations that occurred upon the vesting of restricted common stock under the terms of the 2016 Equity Incentive Plan.

⁽²⁾ As of December 31, 2022, the maximum number of shares that could be purchased would not exceed the employees' portion of taxes to be withheld on unvested shares (470,624) and potential purchases upon participant elections to diversify equity awards held in the Company's Amended and Restated Non-Qualified Deferred Compensation Plan (151,468) into other investment options available to participants in the Plan.

Stock Performance Graph

The following graph compares the performance of our common stock with the Nasdaq Non-Financial Stocks Index and the Nasdaq Composite (U.S.) Index. The comparison of total return (change in year-end stock price plus reinvested dividends) for each of the years assumes that \$100 was invested on December 31, 2017, in each of the Company, the Nasdaq Non-Financial Stocks Index and the Nasdaq Composite (U.S.) Index with investment weighted on the basis of market capitalization. The comparisons in the graph below are based upon historical data and are not indicative of, or intended to forecast, future performance of our common stock.

Total Performance Using OMX Global Indexes



Total Return Analysis	December 31, 2017	December 31, 2018	December 31, 2019	December 31, 2020	December 31, 2021	December 31, 2022
DMC Global Inc.	\$100.00	\$140.20	\$179.40	\$172.65	\$158.12	\$77.60
Nasdaq Non-Financial Stocks	\$100.00	\$100.04	\$139.51	\$207.70	\$264.82	\$179.07
Nasdaq Composite (U.S.)	\$100.00	\$94.56	\$124.03	\$150.41	\$189.36	\$152.00

ITEM 6. Selected Financial Data

Not required.

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

The following discussion should be read in conjunction with our historical Consolidated Financial Statements and notes included elsewhere in this annual report. A discussion regarding our financial condition and results of operations as well as our liquidity and capital resources for fiscal 2021 compared to fiscal 2020 can be found under Item 7 in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021, which is available on the SEC's website at www.sec.gov and our Investor Relations website at www.dmcglobal.com/investors.

Unless stated otherwise, all dollar figures in this report are presented in thousands (000s). N/M indicates that the change in dollars or percentage was not meaningful.

Overview

General

DMC Global Inc. ("DMC", "we", "us", "our", or the "Company") owns and operates Arcadia, DynaEnergetics and NobelClad, three innovative, asset-light manufacturing businesses that provide differentiated products and engineered solutions to niche segments of the construction, energy, industrial processing and transportation markets. Each of our businesses provides a unique suite of highly engineered products and differentiated solutions, and each has established a leadership position in its respective market. Our businesses seek to capitalize on their product and service differentiation to grow market share, expand profit margins, increase cash flow and enhance shareholder value.

Our businesses follow a clear and compelling strategy and are led by excellent leadership teams that we support with business resources and capital. We take a focused approach to capital allocation and work with our business leaders to identify investments that will advance their operating strategies and generate attractive returns. Our approach helps our portfolio companies grow their core businesses, launch new initiatives, upgrade technologies and systems, expand their markets and improve their competitive positions. Our culture is to foster local innovation versus centralized control. Based in Broomfield, Colorado, DMC trades on Nasdaq under the symbol "BOOM."

Arcadia

On December 23, 2021, DMC completed the acquisition of 60% of the membership interests in Arcadia Products, LLC, a Colorado limited liability company resulting from the conversion of Arcadia, Inc. (collectively, "Arcadia"). Arcadia supplies architectural building products, including exterior and interior framing systems, curtain walls, windows, doors, and interior partitions to the commercial construction market; it also supplies customized windows and doors to the high-end residential construction market.

Cost of products sold for Arcadia includes the cost of aluminum, paint, and other raw materials used to manufacture windows, curtain walls, doors, and interior partitions as well as employee compensation and benefits, manufacturing facility lease expense, depreciation expense of property, plant and equipment related to manufacturing, supplies and other manufacturing overhead expenses.

DynaEnergetics

DynaEnergetics designs, manufactures and distributes highly engineered products utilized by the global oil and gas industry principally for the perforation of oil and gas wells. These products are sold to oilfield service companies in the U.S., Europe, Canada, Africa, the Middle East, and Asia. DynaEnergetics also sells directly to end-users. The market for perforating products, which are used during the well completion process, generally corresponds with oil and gas exploration and production activity. Well completion operations are increasingly complex, which in turn has increased the demand for intrinsically-safe, reliable and technically advanced perforating systems.

Cost of products sold for DynaEnergetics includes the cost of metals, explosives and other raw materials used to manufacture shaped charges, detonating products and perforating guns as well as employee compensation and benefits, depreciation of manufacturing facilities and equipment, manufacturing supplies and other manufacturing overhead expenses.

NobelClad

NobelClad produces explosion-welded clad metal plates for use in the construction of corrosion resistant industrial processing equipment, as well as specialized transition joints for use in construction of commuter rail cars, ships, and LNG processing equipment. While a significant portion of the demand for our products is driven by maintenance and retrofit projects at existing chemical processing, petrochemical processing, oil refining, and aluminum smelting facilities, new plant construction and large plant expansion projects also account for a significant portion of total demand. These industries tend to be cyclical in nature and timing of new order inflow remains difficult to predict. We use backlog as a primary means to measure the immediate outlook for our NobelClad business. We define "backlog" at any given point in time as all firm, unfulfilled purchase orders and commitments at that time. Most firm purchase orders and commitments are realized, and we expect to ship most orders in our backlog within twelve months. NobelClad's backlog increased to \$55,451 at December 31, 2022 from \$41,181 at December 31, 2021.

Cost of products sold for NobelClad includes the cost of metals, explosive powders and other raw materials used to manufacture clad metal plates as well as employee compensation and benefits, outside processing costs, depreciation of manufacturing equipment, manufacturing facility lease expense, supplies and other manufacturing overhead expenses.

Employee Retention Credit

In 2021, pursuant to legislation enacted in December 2020, the Company became eligible for the Employee Retention Credit ("ERC") under the Coronavirus Aid, Relief, and Economic Security Act, as amended ("CARES Act"). As a result of the new legislation, the Company was able to claim a refundable tax credit equal to 70% of the qualified wages it paid to employees for portions of calendar year 2021. The ERC favorably impacted the financial statement results of the Company for the year ended December 31, 2021 as described further in the "Consolidated Results of Operations" section below. The ERC had no impact on the financial statement results of the Company for the year ended December 31, 2022.

Factors Affecting Results

- Consolidated net sales were \$654,086. Excluding Arcadia, 2022 sales were \$354,559, an increase of 36% versus 2021. The improved performance primarily was driven by higher energy prices and a growing reliance on North American oil and gas, which led to increased drilling and well completion activity in North America and increased sales at DynaEnergetics.
- Arcadia reported sales of \$299,527 in 2022. Sales performance was largely attributable to higher customer pricing in response to higher base aluminum metal prices experienced throughout a significant portion of 2022, as well as increases in other input costs.
- DynaEnergetics' sales of \$264,327 in 2022 increased 51% compared with 2021 due to improved oil and gas demand, which led to higher North American drilling and well completions, and increased demand and improved pricing for DynaEnergetics' DS perforating systems. DynaEnergetics' international sales also improved, increasing 35% compared with 2021.
- NobelClad's sales of \$90,232 in 2022 increased 6% compared with 2021. Net sales improved due to project mix that resulted in higher sales prices, which exceeded declines observed in 2022 project volume. The increase in NobelClad 2022 sales was partially offset by the weakening of the Euro compared to the U.S. Dollar.
- Consolidated gross profit of 28% in 2022 increased from 23% in 2021. The improvement compared to the prior year was due in part to the impact of higher sales volume, primarily increases in unit sales of DS perforating systems at DynaEnergetics, on fixed manufacturing overhead expenses. The acquisition of Arcadia also contributed to the improved performance. These favorable impacts were partially offset by higher material and other input costs at each business segment. Additionally, 2021 gross profit was favorably impacted by the receipt of \$4,899 pursuant to the ERC.
- Consolidated selling, general, and administrative ("SG&A") expenses were \$118,349 in 2022 compared with \$58,783 in 2021. Arcadia's incremental selling, general and administrative expenses were \$48,056 in 2022. The year-over-year increase also was attributable to higher headcount and salaries, benefits, and other-payroll related costs including variable incentive compensation, higher stock-based compensation expense, and increased business travel. Additionally, SG&A in 2021 included receipt of \$2,264 pursuant to the ERC.

- Cash and cash equivalents of \$25,144 at December 31, 2022 decreased \$5,666 from \$30,810 at December 31, 2021. The decrease in cash primarily related to principal and interest payments on the Company's credit facility and funding working capital at DynaEnergetics and Arcadia. Both businesses increased their investments in inventory due to rising raw material prices, longer-lead times and continued sales volume growth.
- Net debt, a non-GAAP measure, of \$107,654 (comprised of \$132,798 of total debt less \$25,144 in cash and cash equivalents) at December 31, 2022 decreased \$8,961 from \$116,615 at December 31, 2021. The decrease was driven by \$15,000 in Term Loan payments in 2022.

Outlook

We remain in a period of volatile raw material and other input costs as well as continued supply chain disruptions and challenges. Each of our businesses has been and may continue to be impacted by volatility of raw material prices, the availability of labor, increased wages, and supply chain disruptions such as longer lead times related to the procurement of raw materials.

In North America, well completion activity continued to increase in the fourth quarter of 2022, which positively impacted activity levels of DynaEnergetics' end customers. These conditions, along with the attainment of higher market share, have led to continued increases in unit sales of DynaEnergetics' fully integrated and factory-assembled DS perforating systems. We believe well completion activity and customer pricing will remain resilient. DynaEnergetics instituted price increases throughout 2022 to offset higher labor and material costs, and additional price increases are expected in 2023. DynaEnergetics offers a highly differentiated product line, and its factory-assembled DS perforating systems are delivered just in time to the well site, eliminating customer assembly operations and requiring fewer people on location.

DynaEnergetics has made significant investments in technologies and products that have improved the safety, efficiency and performance of its customers' well completions, and enhanced the effectiveness and profitability of the industry as a whole. Our patent strategy is designed to protect these investments and our competitive position. In the past several years, we have engaged in lawsuits seeking to enforce our patents and defend against accusations of infringement of others' patents. These lawsuits have increased our general and administrative expenses in recent years; however, we expect these costs to be substantially lower in 2023.

Arcadia serves the commercial building market primarily in the western and southwestern United States as well as the high-end residential market across the United States. Both commercial and residential operations have built substantial order backlogs and are benefiting from relatively strong markets, which collectively are expected to lead to improved financial performance in the first half of 2023. In addition, we expect the building products industry to remain resilient, particularly in Arcadia's core geographic regions and end markets. We expect new finishing capacity to be installed in 2023 which will increase manufacturing throughput. The design and implementation of phase one of a new enterprise resource planning system is nearing completion and will improve operating efficiencies and enhance the buying experience for Arcadia's commercial and residential customers.

NobelClad, DMC's composite metals business, is seeing encouraging signs that several large industrial projects are moving closer to the vendor-selection phase. In addition, demand for repair and maintenance work from the downstream energy and petrochemical industries is also improving. Our backlog was \$55,451 as of December 31, 2022 in comparison to \$41,181 million as of December 31, 2021. We expect to ship most orders in our backlog within twelve months.

On January 17, 2023, the Company announced the appointment of Michael Kuta and David Aldous as interim co-Presidents and Chief Executive Officers. In connection with this leadership change, near-term priorities are expected to include the acceleration of Arcadia's integration, strengthening the profitability of DynaEnergetics, achieving commercial success with new products introduced in NobelClad, and improving the Company's overall cash flow through more effective working capital management and targeted cost reductions.

Use of Non-GAAP Financial Measures

Adjusted EBITDA is a non-GAAP (generally accepted accounting principles) measure that we believe provides an important indicator of our ongoing operating performance and that we use in operational and financial decision-making. We define EBITDA as net income or loss plus or minus net interest, taxes, depreciation and amortization. Adjusted EBITDA excludes from EBITDA stock-based compensation, restructuring expenses and asset impairment charges and, when appropriate, nonrecurring items that management does not utilize in assessing DMC's operating performance (as further described in the

tables below). Adjusted EBITDA attributable to DMC Global Inc. stockholders excludes the adjusted EBITDA attributable to the 40% redeemable noncontrolling interest in Arcadia. For our business segments, Adjusted EBITDA is defined as operating income (loss) plus depreciation, amortization, allocated stock-based compensation, restructuring expenses and asset impairment charges and, when appropriate, nonrecurring items that management does not utilize in assessing operating performance. As a result, internal management reports used during monthly operating reviews feature Adjusted EBITDA and certain management incentive awards are based, in part, on the amount of Adjusted EBITDA achieved during the year.

Adjusted net income (loss) is defined as net income (loss) attributable to DMC Global Inc. stockholders plus restructuring expenses and asset impairment charges and, when appropriate, nonrecurring items that management does not utilize in assessing DMC's operating performance. Adjusted diluted earnings per share is defined as diluted earnings per share attributable to DMC Global Inc. stockholders (exclusive of adjustment of redeemable noncontrolling interest) plus restructuring expenses and asset impairment charges and, when appropriate, other nonrecurring items that management does not utilize in assessing DMC's operating performance.

Adjusted net income (loss) and adjusted diluted earnings per share are presented because management believes these measures are useful to understand the effects of restructuring, impairment, and other nonrecurring charges on DMC's net income (loss) and diluted earnings per share, respectively.

Net debt is a non-GAAP measure we use to supplement information in our Consolidated Financial Statements. We define net debt as total debt less total cash and cash equivalents. In addition to conventional measures prepared in accordance with GAAP, the Company uses this information to evaluate its performance, and we believe that certain investors may do the same.

The presence of non-GAAP financial measures in this report is not intended to suggest that such measures be considered in isolation or as a substitute for, or as superior to, DMC's GAAP information, and investors are cautioned that the non-GAAP financial measures are limited in their usefulness. Given that not all companies use identical calculations, DMC's presentation of non-GAAP financial measures may not be comparable to similarly titled measures of other companies.

Forward-Looking Statements

This annual report and the documents incorporated by reference into it contain certain forward-looking statements within the meaning of the safe harbor provisions of the Private Securities Litigations Reform Act of 1995. Words such as "anticipates," "expects," "intends," "plans," "believes," "seeks," "estimates," "may," "will," "continue," "project," "forecast," and similar expressions, as well as statements in the future tense, identify forward-looking statements. Such statements include statements regarding our future expectations and plans with respect to: well completion activity and customer pricing within DynaEnergetics, DynaEnergetics' ability to implement future price increases, decreased litigation costs within DynaEnergetics in 2023, positive developments with respect to large industrial projects and improvements in repair and maintenance work within NobelClad, the ability of Arcadia to realize sales under its backlog and the expectation of improved financial performance for Arcadia in the first half of 2023, the resiliency of the building products market, the timing of new finishing capacity and benefits to be realized from the new ERP system in Arcadia, our near term priorities of accelerating the integration of Arcadia, strengthening profitability of DynaEnergetics, achieving commercial success with new NobelClad products and improving overall cash flow, our financing plans, our future liquidity position and factors impacting such position.

These forward-looking statements are not guarantees of our future performance and are subject to risks and uncertainties that could cause actual results to differ materially from the results contemplated by the forward-looking statements. These risks and uncertainties include those relating to:

- Changes in global economic conditions;
- The ability to obtain new contracts at attractive prices;
- The size and timing of customer orders and shipments;
- Product pricing and margins;
- Our ability to realize sales from our backlog and our ability to adjust our manufacturing and supply chain;
- Fluctuations in customer demand;
- Our ability to manage periods of growth and contraction effectively;

- General economic conditions, both domestic and foreign, impacting our business and the business of the end-market users we serve;
- Competitive factors;
- The timely completion of contracts;
- The timing and size of expenditures;
- The timely receipt of government approvals and permits;
- The price and availability of metal and other raw materials;
- The adequacy of local labor supplies at our facilities;
- Current or future limits on manufacturing capacity at our various operations;
- The impact of catastrophic weather events on our business and that of our customers;
- Our ability to successfully integrate Arcadia and any future acquired businesses;
- The ability to remain an innovative leader in our fields of business;
- The costs and impacts of pending or future litigation or regulatory matters;
- Changes to legislation, regulation or public sentiment related to our business and the industries in which our customers operate;
- The impacts of trade and economic sanctions or other restrictions imposed by the European Union, the United States or other countries;
- Costs and risks associated with compliance with laws and regulations, including the United States Foreign Corrupt Practices Act (“FCPA”) and similar legislation;
- The availability and cost of funds; and
- Fluctuations in foreign currencies.

The effects of these factors are difficult to predict. New factors emerge from time to time, and we cannot assess the potential impact of any such factor on our business or the extent to which any factor, or combination of factors, may cause results to differ materially from those contained in any forward-looking statement. All forward-looking statements speak only as of the date of this annual report, and we do not undertake any obligation to update any forward-looking statement to reflect events or circumstances after the date of such statement or to reflect the occurrence of unanticipated events. In addition, see “Risk Factors” for a discussion of these and other factors that could materially affect our results of operations and financial condition.

Consolidated Results of Operations

	2022	2021	\$ change	% change
Net sales	\$ 654,086	\$ 260,115	\$ 393,971	151 %
Gross profit	185,447	59,480	125,967	212 %
Gross profit percentage	28.4 %	22.9 %		
COSTS AND EXPENSES:				
General and administrative expenses	76,119	36,276	39,843	110 %
% of net sales	11.6 %	13.9 %		
Selling and distribution expenses	42,230	22,507	19,723	88 %
% of net sales	6.5 %	8.7 %		
Amortization of purchased intangible assets	36,926	1,391	35,535	2,555 %
% of net sales	5.6 %	0.5 %		
Acquisition expenses	—	1,581	(1,581)	(100)%
Restructuring expenses, net and asset impairments	182	127	55	43 %
Operating income (loss)	29,990	(2,402)	32,392	1,349 %
Other (expense) income, net	(594)	152	(746)	(491)%
Interest expense, net	(6,187)	(304)	(5,883)	1,935 %
Income (loss) before income taxes	23,209	(2,554)	25,763	1,009 %
Income tax provision (benefit)	9,376	(1,544)	10,920	707 %
Net income (loss)	13,833	(1,010)	14,843	1,470 %
Less: Net income (loss) attributable to redeemable noncontrolling interest	1,586	(808)	2,394	296 %
Net income (loss) attributable to DMC Global Inc.	12,247	(202)	12,449	6,163 %
Adjusted EBITDA attributable to DMC Global Inc.	\$ 74,199	\$ 20,179	\$ 54,020	268 %

Net sales were \$654,086. Excluding Arcadia, net sales were \$354,559 for the twelve months ended December 31, 2022, an increase of 36% compared with 2021, primarily due to increased drilling and well completion activity in North America and a corresponding increase in unit sales of DynaEnergetics' DS perforating systems.

Gross profit percentage was 28.4%. Excluding Arcadia, gross profit percentage was 27.4% versus 22.9% in 2021. The improvement compared to prior year was primarily attributable to higher unit sales volume of DS perforating systems in DynaEnergetics, which led to improved absorption of fixed manufacturing overhead expenses. Additionally, 2021 gross profit was favorably impacted by the receipt of \$4,899 pursuant to the ERC.

General and administrative expenses increased \$39,843 compared with 2021. Arcadia contributed \$31,259 to the increase. The remainder of the increase was due to higher headcount and salaries, benefits, and other-payroll related costs including variable incentive compensation of \$3,959, higher business-related travel of \$1,816, an increase in stock-based compensation of \$1,509, and the expiration of the 2021 ERC which contributed \$1,028 of benefit in the prior year.

Selling and distribution expenses increased \$19,723 compared with 2021. Arcadia contributed \$16,184 to the increase. The remainder of the increase was attributable to the expiration of the 2021 ERC which contributed \$1,236 of benefit in the prior year, higher salaries, benefits, and other payroll related costs including variable incentive compensation of \$793, increased lease and selling expense of \$811, and higher business-related travel of \$528.

Acquisition expenses were \$1,581 in 2021 and primarily included legal, accounting, and due diligence expenses in connection with our acquisition of a 60% controlling interest in Arcadia. We did not incur acquisition expenses in 2022.

Operating income of \$29,990 increased \$32,392 compared with 2021. The improved performance was primarily attributable to an increase of \$30,820 in DynaEnergetics' operating income. Operating loss for 2021 of \$2,402 was also favorably impacted by receipt of \$7,163 pursuant to the ERC.

Other expense, net of \$594 in 2022 primarily related to net realized and unrealized foreign currency exchange losses. Foreign currency exchange gains and losses can arise when subsidiaries enter into inter-company and third-party transactions that are denominated in currencies other than their functional currency, including foreign currency forward contracts used to offset foreign exchange rate fluctuations on certain foreign currency denominated asset and liability positions.

Interest expense, net of \$6,187 in 2022 increased compared with 2021 due to the principal balance outstanding on the credit facility entered into in December 2021 in conjunction with the Arcadia acquisition, as well as an increase in interest rates during 2022.

Income tax provision of \$9,376 was recorded on income before taxes of \$23,209. Our most significant operations are in the United States, which has a 21% statutory tax rate, and Germany, which has a 32% combined statutory tax rate. The mix of income or loss before income taxes between these jurisdictions is one of the primary drivers of the difference between our 21% statutory tax rate and our effective tax rate of 40.4% in 2022. The effective rate was impacted unfavorably by the geographic mix of pretax income, state taxes, stock-based compensation shortfalls, and certain compensation expenses that are not tax deductible in the U.S. The operating results of Arcadia that are attributable to the redeemable noncontrolling interest holder are not taxed at DMC, which resulted in a favorable impact to the effective tax rate. We recorded an income tax benefit of \$1,544 on loss before income taxes of \$2,554 in 2021. The 2021 effective tax rate was impacted favorably by valuation allowance changes in France, Germany, and the U.S. and by benefits from the vesting of equity-based compensation.

Net income attributable to DMC Global Inc. in 2022 was \$12,247, or \$0.72 per diluted share, after adjustment to the redeemable noncontrolling interest, compared with net loss of \$202, or \$0.26 per diluted share, in 2021.

Adjusted EBITDA increased compared with 2021 due to the factors discussed above. See "Use of Non-GAAP Financial Measures" above for explanation of the use of Adjusted EBITDA, a non-GAAP measure. The following is a reconciliation of the most directly comparable GAAP measure to Adjusted EBITDA.

	2022	2021
Net income (loss)	\$ 13,833	\$ (1,010)
Interest expense, net	6,187	304
Income tax provision (benefit)	9,376	(1,544)
Depreciation	14,281	11,303
Amortization of purchased intangible assets	36,926	1,391
EBITDA	80,603	10,444
Restructuring expenses, net and asset impairments	182	127
Nonrecurring retirement expenses	1,100	—
Amortization of acquisition-related inventory valuation step-up	430	—
Stock-based compensation	10,058	6,574
Other expense (income), net	594	(152)
Acquisition expenses	—	1,581
Arcadia stub period expenses excluding depreciation and amortization	—	1,605
Adjusted EBITDA attributable to redeemable noncontrolling interest	(18,768)	—
Adjusted EBITDA attributable to DMC Global Inc. stockholders	\$ 74,199	\$ 20,179

Adjusted Net Income and Adjusted Diluted Earnings Per Share increased compared with 2021 due to the factors discussed above. See "Use of Non-GAAP Financial Measures" above for explanation of the use of non-GAAP measures. The following is a reconciliation of the most directly comparable GAAP measures to Adjusted Net Income and Adjusted Diluted Earnings Per Share.

	Twelve months ended December 31, 2022	
	Amount	Per Share ⁽¹⁾
Net income attributable to DMC Global Inc.	\$ 12,247	\$ 0.63
Nonrecurring retirement expenses, net of tax	905	0.05
Amortization of acquisition-related inventory valuation step-up, net of tax	199	0.01
NobelClad restructuring expenses and asset impairments, net of tax	124	0.01
Adjusted net income attributable to DMC Global Inc. stockholders	<u>\$ 13,475</u>	<u>\$ 0.70</u>

⁽¹⁾ Calculated using diluted weighted average shares outstanding of 19,369,165

	Twelve months ended December 31, 2021	
	Amount	Per Share ⁽¹⁾
Net loss attributable to DMC Global Inc. common stockholders	\$ (202)	\$ (0.01)
NobelClad restructuring expenses and asset impairments, net of tax	127	—
Acquisition expenses, net of tax	1,217	0.07
Arcadia stub period expenses, net of tax	1,741	0.10
Adjusted net income attributable to DMC Global Inc. stockholders	<u>\$ 2,883</u>	<u>\$ 0.16</u>

⁽¹⁾ Calculated using diluted weighted average shares outstanding of 17,610,711

Business Segment Financial Information

We primarily evaluate performance and allocate resources based on segment revenues, operating income and Adjusted EBITDA as well as projected future performance. Segment operating income is defined as revenues less expenses identifiable to the segment. DMC operating income and Adjusted EBITDA include unallocated corporate expenses and unallocated stock-based compensation expense. Stock-based compensation is not allocated to wholly owned segments, DynaEnergetics and NobelClad. Stock-based compensation is allocated to the Arcadia segment as 60% of such expense is attributable to the Company, whereas the remaining 40% is attributable to the redeemable noncontrolling interest holder. Segment operating income will reconcile to consolidated income (loss) before income taxes by deducting unallocated corporate expenses, unallocated stock-based compensation, other income (expense), net, and interest expense, net.

Net sales, segment operating income, and Adjusted EBITDA for each segment were as follows for years ended December 31:

	2022			
	Arcadia	DynaEnergetics	NobelClad	DMC Global Inc.
Net Sales	\$ 299,527	\$ 264,327	\$ 90,232	\$ 654,086
% of Consolidated	46 %	40 %	14 %	
Operating income	3,962	39,055	7,989	29,990
Adjusted EBITDA attributable to DMC Global Inc.	28,152	46,932	11,901	74,199
	2021			DMC Global Inc.
	DynaEnergetics	NobelClad		
Net Sales	\$ 175,356	\$ 84,759	\$ 260,115	
% of Consolidated	67 %	33 %		
Operating income (loss)		8,235	9,783	(2,402)
Adjusted EBITDA attributable to DMC Global Inc.		16,361	13,717	20,179

Arcadia

	2022
Net sales	\$ 299,527
Gross profit	88,334
Gross profit percentage	29.5 %
COSTS AND EXPENSES:	
General and administrative expenses	31,872
Selling and distribution expenses	16,184
Amortization of purchased intangible assets	36,316
Operating income (loss)	3,962
Adjusted EBITDA	46,920
Less: adjusted EBITDA attributable to redeemable noncontrolling interest	(18,768)
Adjusted EBITDA attributable to DMC Global Inc.	\$ 28,152

Arcadia's profitability is dependent, in large part, on the spread between its input costs, for which the primary raw material is aluminum metal, and the subsequent value received from selling its products, which include exterior and interior framing systems, curtain walls, windows, doors, and interior partitions for the commercial buildings market; and highly engineered windows and doors for the high-end residential market.

In 2022, both net sales and cost of products sold increased in comparison to pre-acquisition periods, largely driven by higher customer pricing in response to higher base aluminum metal prices and increases in other input costs. Cost of products sold was also negatively impacted in 2022 by the amortization of the inventory step-up recorded in purchase accounting. Gross profit dollars generated were consistent with pre-acquisition periods; however, the related gross profit percentage decreased as increased input costs outpaced the increase in net sales from higher average selling prices. General and administrative and selling and distribution expenses were higher in comparison to pre-acquisition periods. Higher general and administrative expenses were driven by public company related expenses such as internal and external audit fees, investments to support growth, higher employee headcount and compensation, nonrecurring integration costs including outside services costs such as professional services, and depreciation expense related to the increase in fair value of property, plant and equipment recorded as of the date of acquisition. Higher sales and distribution expenses were driven primarily by increases in employee headcount and compensation. Amortization of purchased intangible assets related to identifiable intangible assets recorded as of the date of acquisition.

Adjusted EBITDA was primarily driven by the factors discussed above. See “Use of Non-GAAP Financial Measures” above for explanation of the use of Adjusted EBITDA, a non-GAAP measure. The following is a reconciliation of the most directly comparable GAAP measure to Adjusted EBITDA.

	2022
Operating income	\$ 3,962
Adjustments:	
Amortization of acquisition-related inventory valuation step-up	430
Depreciation	2,906
Amortization of purchased intangible assets	36,316
Stock-based compensation	2,206
Nonrecurring retirement expenses	\$ 1,100
Adjusted EBITDA	\$ 46,920
Less: adjusted EBITDA attributable to redeemable noncontrolling interest	(18,768)
Adjusted EBITDA attributable to DMC Global Inc.	\$ 28,152

DynaEnergetics

	2022	2021	\$ change	% change
Net sales	\$ 264,327	\$ 175,356	\$ 88,971	51 %
Gross profit	75,569	38,955	36,614	94 %
Gross profit percentage	28.6 %	22.2 %		
COSTS AND EXPENSES:				
General and administrative expenses	19,627	17,132	2,495	15 %
Selling and distribution expenses	16,588	13,050	3,538	27 %
Amortization of purchased intangible assets	299	538	(239)	(44)%
Operating income	39,055	8,235	30,820	374 %
Adjusted EBITDA	\$ 46,932	\$ 16,361	\$ 30,571	187 %

Net sales were \$88,971 higher than in 2021 due to higher energy prices and a growing reliance on North American oil and gas, which led to increased drilling and well completion activity in North America and increased sales of DynaEnergetics’ DS perforating systems. International sales also increased, which favorably impacted results in 2022.

Gross profit percentage increased to 28.6% primarily due to higher unit sales volume of DS perforating systems, which led to improved absorption of fixed manufacturing overhead expenses. 2021 was impacted favorably by the receipt of \$3,390 pursuant to the ERC.

General and administrative expenses increased by \$2,495 compared with 2021 primarily due to higher salaries, benefits, and other-payroll related costs including variable incentive compensation of \$1,149, the expiration of the 2021 ERC which contributed \$333 of benefit in the prior year, an increase in outside services costs of \$121, and higher business-related travel of \$121.

Selling and distribution expenses increased by \$3,538 compared with 2021 primarily due to increases in salaries, benefits, and other-payroll related costs including variable incentive compensation of \$1,278, increases in lease and selling expense of \$842, expiration of the 2021 ERC which contributed \$800 of benefit in the prior year, higher business-related travel of \$306, and an increase in outside services costs of \$289.

Operating income increased by \$30,820 compared with 2021 due to the factors discussed above.

Adjusted EBITDA increased compared with 2021 primarily due to the factors discussed above. See "Use of Non-GAAP Financial Measures" above for explanation of the use of Adjusted EBITDA, a non-GAAP measure. The following is a reconciliation of the most directly comparable GAAP measure to Adjusted EBITDA.

	2022	2021
Operating income	\$ 39,055	\$ 8,235
Adjustments:		
Depreciation	7,578	7,588
Amortization of purchased intangible assets	299	538
Adjusted EBITDA	<u>\$ 46,932</u>	<u>\$ 16,361</u>

NobelClad

	2022	2021	\$ change	% change
Net sales	\$ 90,232	\$ 84,759	\$ 5,473	6 %
Gross profit	22,050	22,173	(123)	(1) %
Gross profit percentage	24.4 %	26.2 %		
COSTS AND EXPENSES:				
General and administrative expenses	4,587	3,217	1,370	43 %
Selling and distribution expenses	8,981	8,556	425	5 %
Amortization of purchased intangible assets	311	490	(179)	(37) %
Restructuring expenses, net and asset impairments	182	127	55	43 %
Operating income	7,989	9,783	(1,794)	(18) %
Adjusted EBITDA	\$ 11,901	\$ 13,717	\$ (1,816)	(13) %

Net sales increased \$5,473 compared with 2021. Net sales improved due to project mix that resulted in higher sales prices, which exceeded declines observed in 2022 project volume. The increase in net sales was partially offset by the weakening of the Euro compared to the U.S. Dollar.

Gross profit percentage decreased to 24.4% in 2022. Gross profit in 2021 was favorably impacted by the receipt of \$1,509 pursuant to the ERC. Excluding the ERC, gross profit performance was consistent year over year.

General and administrative expenses increased by \$1,370 compared with 2021 due to higher outside services costs by \$988 primarily related to the implementation of a new enterprise resource planning system and the expiration of the 2021 ERC which contributed \$84 of benefit in the prior year.

Selling and distribution expenses increased by \$425 compared with 2021 primarily due to the expiration of the 2021 ERC which contributed \$436 of benefit in the prior year.

Operating income decreased by \$1,794 compared to 2021 primarily due to the above described ERC impacts.

Adjusted EBITDA decreased due to the factors discussed above. See "Use of Non-GAAP Financial Measures" above for explanation of the use of Adjusted EBITDA, a non-GAAP measure. The following is a reconciliation of the most directly comparable GAAP measure to Adjusted EBITDA.

	2022	2021
Operating income	\$ 7,989	\$ 9,783
Adjustments:		
Restructuring expenses, net and asset impairments	182	127
Depreciation	3,419	3,317
Amortization of purchased intangible assets	311	490
Adjusted EBITDA	<u>\$ 11,901</u>	<u>\$ 13,717</u>

Liquidity and Capital Resources

We have historically financed our operations from a combination of internally generated cash flow, revolving credit borrowings, and various long-term debt arrangements. Our net debt position was \$107,654 at December 31, 2022 compared to \$116,615 at December 31, 2021. Net debt decreased during 2022 due primarily to \$15,000 in Term Loan payments. We have a fully undrawn and available \$50,000 revolving credit facility at December 31, 2022.

On October 22, 2020, we commenced an at-the-market equity ("ATM") program under a shelf registration statement filed in May 2020 under which we have sold a total of 1,006,180 shares of common stock for net proceeds of \$51,002 through the end of 2021.

Additionally, in May 2021, the Company completed a registered public offering of its stock under an automatic shelf registration statement on Form S-3ASR filed on May 3, 2021, issuing a total of 2,875,000 shares of its common stock, which included the exercise of the over-allotment option, at a market price of \$45 per share resulting in gross proceeds of \$129,375. Net proceeds from the offering were \$123,461 after deducting underwriter fees and other expenses of \$5,914. We used proceeds from the ATM program and the registered public offering as part of the consideration used to acquire our 60% controlling interest in Arcadia. We may in the future seek to reengage under an at-the-market offering program or otherwise access the capital markets, but there can be no assurance that any future capital will be available on acceptable terms or at all.

We believe that cash and cash equivalents on hand, cash flow from operations, funds available under our current credit facilities and any future replacement thereof will be sufficient to fund the working capital, required minimum debt service payments, and other capital expenditure requirements of our current business operations for the foreseeable future. We may also execute capital markets transactions, including at-the-market offering programs, to raise additional funds if we believe market conditions are favorable, but there can be no assurance that any future capital will be available on acceptable terms or at all. Nevertheless, our ability to generate sufficient cash flows from operations will depend upon our success in executing our strategies. If we are unable to (i) realize sales from our backlog; (ii) secure new customer orders; (iii) continue selling products at profitable margins; and (iv) continue to implement cost-effective internal processes, our ability to meet cash requirements through operating activities could be impacted. Furthermore, any restriction on the availability of borrowings under our credit facilities could negatively affect our ability to meet future cash requirements. We will continue to monitor financial market conditions, including the related impact on credit availability and capital markets.

Debt facilities

On December 23, 2021, in connection with the Arcadia acquisition, we entered into a five-year \$200,000 syndicated credit agreement ("credit facility") which included a \$150,000 Term Loan (the "Term Loan"), which is amortizable at 10% of principal per year with a balloon payment for the outstanding balance upon the credit facility maturity date in 2026, and allows for revolving loans of up to \$50,000. The credit facility has an accordion feature to increase the commitments by \$100,000 under the revolving loan class and/or by adding a term loan subject to approval by applicable lenders. We entered into the credit facility with a syndicate of four banks, with KeyBank, N.A. acting as administrative agent. The credit facility is secured by the assets of DMC including accounts receivable, inventory, and fixed assets, including Arcadia and its subsidiary, as well as guarantees and share pledges by DMC and its subsidiaries.

Borrowings under the \$150,000 Term Loan and \$50,000 revolving loan limit can be in the form of Adjusted Daily Simple Secured Overnight Financing Rate ("SOFR") loans or one month Adjusted Term SOFR loans. Additionally, U.S. dollar borrowings on the revolving loan can be in the form of Base Rate loans (Base Rate borrowings are based on the greater of the

administrative agent’s prime rate, an adjusted Federal Funds rate or an adjusted SOFR rate). SOFR loans bear interest at the applicable SOFR rate plus an applicable margin (varying from 1.50% to 3.00%). Base Rate loans bear interest at the defined Base rate plus an applicable margin (varying from 0.50% to 2.00%).

The credit facility includes various covenants and restrictions, certain of which relate to the payment of dividends or other distributions to stockholders; redemption of capital stock; incurrence of additional indebtedness; mortgaging, pledging or disposition of major assets; and maintenance of specified ratios. As of December 31, 2022, we were in compliance with all financial covenants and other provisions of our debt agreements.

The leverage ratio is defined in the credit facility as the ratio of Consolidated Funded Indebtedness (as defined in the credit facility) on the last day of any trailing four quarter period to Consolidated Pro Forma EBITDA (as defined in the credit facility) for such period. Consolidated Pro Forma EBITDA equals Adjusted EBITDA as calculated within the Consolidated Results of Operations section plus certain predefined add-backs, which include up to \$5,000 for one-time integration expenses incurred in the twelve-month period following the closing date of the Arcadia acquisition. The maximum leverage ratio permitted by our credit facility is 3.25 to 1.0 through the quarter ended March 31, 2023, and 3.0 to 1.0 from the quarter ended June 30, 2023 and thereafter. The actual leverage ratio as of December 31, 2022, calculated in accordance with the credit facility, as amended, was 1.69 to 1.0.

The debt service coverage ratio is defined in the credit facility as the ratio of Consolidated Pro Forma EBITDA less the sum of capital distributions paid in cash (other than those made with respect to preferred stock issued under the Operating Agreement), Consolidated Unfunded Capital Expenditures (as defined in the credit facility), and net cash income taxes to the sum of cash interest expense, any dividends on the preferred stock paid in cash, and scheduled principal payments on funded indebtedness. Under our credit facility, the minimum debt service coverage ratio permitted is 1.35 to 1.0. The actual debt service coverage ratio for the trailing twelve months ended December 31, 2022 was 2.83 to 1.0.

As of December 31, 2022, borrowings of \$135,000 on the Term Loan under our credit facility were outstanding. No revolving loans were outstanding, and our available borrowing capacity was \$50,000 as of December 31, 2022.

We also maintain a line of credit with a German bank for certain European operations. This line of credit provides a borrowing capacity of €7,000.

Redeemable noncontrolling interest

The Operating Agreement for Arcadia contains a right for the Company to purchase the remaining interest in Arcadia from the minority interest holder on or after the third anniversary of the acquisition closing date (“Call Option”). Similarly, the minority interest holder of Arcadia has the right to sell its remaining interest in Arcadia to the Company on or after the third anniversary of the acquisition closing date (“Put Option”). Both the Call Option and Put Option enable the respective holder to exercise their rights based upon a predefined calculation as included within the Operating Agreement.

As of December 31, 2022, the redeemable noncontrolling interest is \$187,522 in comparison to our previous estimate at December 31, 2021 of \$197,196. The decrease is attributable to a decline in the estimated settlement amount of the redeemable noncontrolling interest due to a reduction in average adjusted earnings. Refer to Note 3 within Item 8 — Financial Statements and Supplementary Data for further information related to the valuation of the redeemable noncontrolling interest.

Other contractual obligations and commitments

The table below presents principal cash flows by expected maturity dates for our debt obligations and other contractual obligations and commitments as of December 31, 2022:

Other Contractual Obligations	Payment Due by Period				Total
	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years	
Credit facility ⁽¹⁾	\$ 15,000	\$ 30,000	\$ 90,000	\$ —	\$ 135,000
Operating lease obligations ⁽²⁾	9,011	16,979	13,954	19,553	59,497
Purchase obligations ⁽³⁾	132,047	1,337	—	—	133,384
Total ⁽⁴⁾	\$ 156,058	\$ 48,316	\$ 103,954	\$ 19,553	\$ 327,881

⁽¹⁾ Represents outstanding borrowings under our credit facility but excludes future interest expense on outstanding credit facility borrowings. For more information about our debt obligations, refer to Note 7 "Debt" of our Consolidated Financial Statements.

⁽²⁾ The operating lease obligations presented reflect future minimum lease payments due under non-cancelable portions of our leases as of December 31, 2022. Our operating lease obligations are described in Note 6 "Leases" of our Consolidated Financial Statements.

⁽³⁾ Amounts represent firm commitments to purchase goods or services to be utilized in the normal course of business. These amounts are not reflected in the Consolidated Balance Sheets.

⁽⁴⁾ The above table does not include amounts potentially payable upon exercise of the Put Option or Call Option associated with the redeemable noncontrolling interest.

Cash flows from operating activities

Net cash provided by operating activities was \$44,936 in 2022 compared with net cash outflows of \$12,812 in 2021. The increase primarily was due to higher net income and higher non-cash reconciling adjustments related to amortization of purchased intangible assets from the Arcadia acquisition. These increases were partially offset by use of cash for working capital, including higher inventory levels at DynaEnergetics and Arcadia due to increased input costs and expected increases in sales volume.

Cash flows from investing activities

Net cash used in investing activities in 2022 of \$20,926 primarily related to the acquisition of property, plant and equipment of \$18,584 and consideration adjustments related to the Arcadia acquisition of \$2,404.

Net cash used in investing activities in 2021 was \$267,806 and primarily related to \$261,000 used to fund a portion of the Arcadia acquisition, investments in marketable securities of \$123,984, issuance of a promissory note in conjunction with the Arcadia acquisition of \$24,902, and acquisition of property, plant and equipment of \$8,659. These uses of cash were partially offset by proceeds from sales of marketable securities of \$144,921 and proceeds from maturities of marketable securities of \$4,799.

Cash flows from financing activities

Net cash used in financing activities in 2022 totaled \$28,510, which included payments on our Term Loan of \$15,000, distributions to the redeemable noncontrolling interest holder of \$12,300, and treasury stock purchases of \$1,231.

Net cash provided by financing activities in 2021 totaled \$282,585, which included Term Loan borrowings of \$150,000, net proceeds from our equity offering of \$123,461 and ATM equity program of \$25,262, partially offset by repayment in full of outstanding indebtedness under our previous credit facility of \$11,750, treasury stock purchases of \$2,485, and payment of debt issuance costs of \$2,337.

Payment of dividends

On April 23, 2020, DMC announced that its Board of Directors suspended the quarterly dividend indefinitely due to the uncertain economic outlook caused by the COVID-19 pandemic. Future dividends may be affected by, among other items, our views on potential future capital requirements, future business prospects, debt covenant compliance considerations, changes in income tax laws, and any other factors that our Board of Directors deems relevant. Any determination to pay cash dividends will be at the discretion of the Board of Directors.

Critical Accounting Estimates

Our Consolidated Financial Statements contain information that is pertinent to management's discussion and analysis of results of operations and financial condition. Preparation of financial statements in conformity with generally accepted accounting principles in the United States requires that management make estimates, judgments and assumptions that affect the amounts reported for revenues, expenses, assets, liabilities, and other related disclosures.

Our critical accounting estimates, described below, are important to the portrayal of our results of operations and financial condition. Management's judgments and estimates in these areas are based on information available and at times requires management to make difficult, subjective, and complex judgments. Actual results may or may not differ from these estimates.

Inventories

Inventories are stated at the lower-of-cost (first-in, first-out) or net realizable value. Significant cost elements included in inventory are material, labor, freight, subcontract costs, and manufacturing overhead. As necessary, we write down inventory to its net realizable value by recording provisions for excess, slow moving and obsolete inventory. To determine provision amounts, we regularly review inventory quantities on hand and values, and compare them to estimates of future product demand, market conditions, production requirements and technological developments.

Business Combination

The Company accounts for acquisitions under the acquisition method. Net assets and results of operations are included in our Consolidated Financial Statements commencing at the date of acquisition. We allocate the fair value of an acquisition's purchase consideration to the tangible and intangible assets acquired and liabilities assumed, based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values assigned to identifiable assets and liabilities is recognized as goodwill. The allocation of the purchase price requires management to make significant estimates in determining the fair values of assets acquired and liabilities assumed, especially with respect to purchased intangible assets. These estimates and assumptions can include, but are not limited to, the cash flows that an asset is expected to generate in the future, the appropriate weighted average cost of capital, and the estimated useful lives. Changes in these assumptions could materially affect the carrying value of these assets.

Intangible assets are initially valued at fair value using generally accepted valuation methods appropriate for the type of intangible asset. Intangible assets with definite lives are amortized over their estimated useful lives and are reviewed for impairment if indicators of impairment arise. Intangible assets primarily consist of customer relationships, customer backlog and trademarks / trade names, which are recorded at acquisition date fair value, less accumulated amortization. The determination of estimated useful lives and the allocation of purchase price to intangible assets requires significant judgment and affects the amount of future amortization and possible impairment charges. We determine the appropriate useful life of intangible assets by performing an analysis of expected cash flows of the acquired assets.

The Company completed the acquisition of Arcadia, Inc. during the year ended December 31, 2021 and initially recorded \$254,500 in purchased intangible assets and \$141,266 of goodwill using the aforementioned valuation estimates. There were no material changes to prior estimates during the year ended December 31, 2022 upon completion of purchase accounting.

Goodwill

Goodwill represents the amount by which the purchase price exceeds the fair value of identifiable tangible and intangible assets and liabilities acquired in a business combination. Goodwill acquired in a business combination and determined to have an indefinite useful life is not amortized, but instead is tested for impairment at least annually during the fourth quarter or whenever events or changes in circumstances indicate that the carrying value might not be fully recoverable. For goodwill, impairment is assessed at the reporting unit level. A reporting unit is defined as an operating segment or a component of an operating segment to the extent discrete financial information is available that is reviewed by segment management. The Company's reporting units are each of the three operating segments disclosed in Note 11 within Item 8 — Financial Statements and Supplementary Data.

To test goodwill for impairment, we first perform a qualitative assessment to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. For the qualitative assessment, we consider macroeconomic and market conditions, cost factors, financial performance and other relevant entity-specific events. If we conclude that it is more likely than not that the fair value of a reporting unit is less than its carrying value during the qualitative assessment, then we quantitatively estimate the fair value of the reporting unit and compare the estimated fair value to its carrying value. Based on the results of the quantitative assessment, if the carrying value exceeds the fair value of the reporting unit, then an impairment loss is recognized for the difference.

The assumptions used in a quantitative assessment require significant judgment, which include assumptions about future economic conditions and company-specific conditions and plans. In a quantitative assessment, a company estimates the fair value of a reporting unit by using the income approach, specifically a discounted cash flow analysis. A number of assumptions

and estimates are required in performing the discounted cash flow analysis, including forecasts of revenues, costs of revenues, operating expenses, capital expenditures, discount rates, working capital changes, and terminal growth rates. Actual results may differ from those assumed in the forecasts.

As of December 31, 2022, the carrying value of goodwill was \$141,725 and relates entirely to the Arcadia operating segment and reporting unit. As of the date of the 2022 annual impairment test, we performed a quantitative assessment and concluded that the fair value of Arcadia exceeded its carrying value by approximately 10%. Discount rates are one of the more significant assumptions used in the income approach. If the Company increased the discount rate used by 75 basis points, the fair value of Arcadia would still exceed its carrying value. A decline in general economic conditions or equity valuations could impact the judgments and assumptions used to estimate the fair value of Arcadia, and the Company could be required to record an impairment charge in the future. If the Company was required to recognize an impairment charge, the Consolidated Balance Sheets and Consolidated Statements of Operations and Comprehensive Income (Loss) could be materially impacted; however, the non-cash charge would not impact the Company's consolidated cash flows, current liquidity, and capital resources.

Asset impairments

Finite-lived assets, including purchased intangible assets, property, plant and equipment, and right-of-use assets, are tested for impairment whenever events or changes in circumstances indicate that their carrying value may not be recoverable. We compare the expected undiscounted future operating cash flows associated with these finite-lived assets to their respective carrying values to determine if they are fully recoverable when indicators of impairment are present. If the expected future operating cash flows of an asset are not sufficient to recover the related carrying value, we estimate the fair value of the asset group. Impairment is recognized when the carrying amount of the asset group is not recoverable and when carrying value exceeds the estimated fair value.

The net carrying value of our purchased intangible assets as of December 31, 2022 was \$217,925 and includes \$217,822 of purchased intangible assets related to Arcadia. The net carrying values of our property, plant and equipment and right-of-use assets as of December 31, 2022 were \$129,445 and \$48,470, respectively. During the years ended December 31, 2022 and 2021, we did not record impairment charges related to any finite-lived asset.

Income taxes

We recognize deferred tax assets and liabilities for the expected future income tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities. Any effects of changes in income tax rates or tax laws are included in the provision for income taxes in the period of enactment. The deferred income tax impact of tax credits are recognized as an immediate adjustment to income tax expense. We recognize deferred tax assets for the expected future effects of all deductible temporary differences to the extent we believe these assets will more likely than not be realized. We record a valuation allowance when, based on current circumstances, it is more likely than not that all or a portion of the deferred tax assets will not be realized. In making such determination, we consider all available positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, tax planning strategies, recent financial operations and their associated valuation allowances, if any. As of December 31, 2022, we have a valuation allowance of \$6,277 recorded against deferred tax assets primarily in our foreign jurisdictions.

We recognize the tax benefits from uncertain tax positions only when it is more likely than not, based on the technical merits of the position, the tax position will be sustained upon examination, including the resolution of any related appeals or litigation. The tax benefits recognized in the Consolidated Financial Statements from such a position are measured as the largest benefit that is more likely than not to be realized upon ultimate resolution. We recognize interest and penalties related to uncertain tax positions in operating expense. During the year-ended December 31, 2022, we recorded an uncertain tax position liability of \$2,106 related to tax positions taken in the current year.

Off Balance Sheet Arrangements

At December 31, 2022, we had no off-balance sheet arrangements, as defined by SEC rules, that have or are reasonably likely to have a material current or future effect on our financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

Recent Accounting Pronouncements

Refer to Note 2 "Significant Accounting Policies" within Item 8 — Financial Statements and Supplementary Data in this annual report for a discussion, as applicable, of recent accounting pronouncements and their anticipated effect on our business.

ITEM 7A. Quantitative and Qualitative Disclosures about Market Risk

Foreign Currency Risk

Our Consolidated Financial Statements are expressed in U.S. dollars, but a portion of our business is conducted in currencies other than U.S. dollars. Changes in the exchange rates for such currencies into U.S. dollars can affect our revenues, earnings, and the carrying value of our assets and liabilities in our Consolidated Balance Sheets, either positively or negatively. Sales made in currencies other than U.S. dollars accounted for 6%, 16%, and 17% of total sales for the years ended 2022, 2021, and 2020, respectively. As a result of foreign currency risk, we may experience economic loss and a negative impact on earnings and equity with respect to our holdings solely as a result of foreign currency exchange rate fluctuations. Our primary exposure to foreign currency risk is the Euro due to the percentage of our U.S. dollar revenue that is derived from countries where the Euro is the functional currency.

We use foreign currency forward contracts to offset foreign exchange rate fluctuation on foreign currency denominated asset and liability positions. Foreign currency forward contracts are sensitive to changes in foreign currency exchange rates. Consistent with the use of these contracts to neutralize the effect of exchange rate fluctuations, such unrealized gains or losses would be offset by corresponding gains or losses, respectively, in the remeasurement of the asset and liability positions being hedged. As such, these forward currency contracts and the offsetting underlying asset and liability positions do not create material market risk. The notional amount of the foreign exchange contracts at December 31, 2022 and 2021 was \$21,907 and \$13,032, respectively.

Interest Rate Risk

The Company's interest expense is sensitive to the general level of interest rates in North America and Europe. At December 31, 2022, all of the Company's debt was subject to variable interest rates. A one percentage point increase in average interest rates would cause interest expense, net in 2022 to increase by \$1,157. This was determined by considering the impact of a hypothetical interest rate on the Company's average outstanding variable debt. This analysis does not consider the effect of the level of overall economic activity that could exist. In the event of a change in the level of economic activity, which may adversely impact interest rates, the Company could likely take actions to further mitigate any potential negative exposure to the change. However, due to the uncertainty of the specific actions that might be taken and their possible effects, the sensitivity analysis assumes no changes in the Company's financial structure.

ITEM 8. Financial Statements and Supplementary Data

**DMC GLOBAL INC.
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

**As of December 31, 2022 and 2021 and for Each of the Three Years Ended
December 31, 2022, 2021 and 2020**

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Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of DMC Global Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of DMC Global Inc. (the Company) as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity and redeemable noncontrolling interest and cash flows for each of the three years in the period ended December 31, 2022, and the related notes (collectively referred to as the "(consolidated) financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 27, 2023 expressed an unqualified opinion thereon.

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 the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing separate opinions on the critical audit matter or on the accounts or disclosures to which it relates.

Valuation of Goodwill

At December 31, 2022, the Company had a consolidated goodwill balance of \$141.7 million. As discussed in Note 2 to the consolidated financial statements, goodwill is tested for impairment at least annually during the fourth quarter or whenever events or changes in circumstances indicate the carrying value might not be fully recoverable. All goodwill recorded within the Consolidated Balance Sheet relates to the Arcadia reporting unit. The Company performed a quantitative impairment assessment by estimating the fair value of the Arcadia reporting unit using the discounted cashflow method.

Description of the Matter

Auditing management's annual goodwill impairment test was complex due to the significant estimation involved in estimating the fair value of the Arcadia reporting unit. The Company used the income approach – discounted cashflow method to value the Arcadia reporting unit. The significant assumptions used to estimate the value of the Arcadia reporting unit included the discount rate and certain assumptions that form the basis of the forecasted results including revenue growth rates and gross profit. These significant assumptions are forward looking and could be affected by future economic and market conditions.

We obtained an understanding, evaluated the design and tested the operating effectiveness of the Company's internal controls over the valuation of goodwill, including controls over management's judgements and evaluation over the underlying assumptions with regard to the valuation model applied to determine the fair value of the Arcadia reporting unit and management's review of its annual financial forecasts. We also tested management's internal controls to validate that the data used in the discounted cashflow model was complete and accurate.

How We Addressed the Matter in Our Audit

To test the estimated fair value of the Arcadia reporting unit, our audit procedures included, among others, evaluating the Company's use of the income approach and testing the discounted cashflow model and significant assumptions as noted above used in the valuation models, including the completeness and accuracy of the underlying data. For example, we compared the significant assumptions to current industry and market trends and to the historical results of the Arcadia reporting unit.

We also performed sensitivity analyses of the significant assumptions to evaluate the changes in the fair value of the Arcadia reporting unit that would result from changes in the assumptions. In addition, we involved internal valuation specialists to assist in our evaluation of the valuation methodology and certain significant assumptions as noted above used by the Company. Our internal valuation specialists' procedures included, among others, developing a range of independent estimates for the discount rate and comparing those to the discount rate selected by management. In addition, we tested management's reconciliation of the fair value of the reporting units to the market capitalization of the Company.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2002.
Denver, Colorado
February 27, 2023

DMC GLOBAL INC.
CONSOLIDATED BALANCE SHEETS
(Amounts in Thousands, Except Share and Per Share Data)

	As of December 31,	
	2022	2021
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 25,144	\$ 30,810
Accounts receivable, net of allowance for doubtful accounts of \$925 and \$2,773, respectively	94,415	71,932
Inventories	156,590	124,214
Prepaid expenses and other	10,723	12,240
Total current assets	286,872	239,196
Property, plant and equipment	211,277	191,022
Less - accumulated depreciation	(81,832)	(68,944)
Property, plant and equipment, net	129,445	122,078
Goodwill	141,725	141,266
Purchased intangible assets, net	217,925	255,576
Deferred tax assets	7,633	6,930
Other assets	95,378	99,366
Total assets	<u>\$ 878,978</u>	<u>\$ 864,412</u>
LIABILITIES, REDEEMABLE NONCONTROLLING INTEREST, AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 46,816	\$ 40,276
Accrued expenses	8,415	13,585
Accrued income taxes	4,256	9
Accrued employee compensation and benefits	14,441	9,766
Contract liabilities	32,080	21,052
Current portion of long-term debt	15,000	15,000
Other current liabilities	7,042	6,126
Total current liabilities	128,050	105,814
Long-term debt	117,798	132,425
Deferred tax liabilities	1,908	2,202
Other long-term liabilities	63,053	66,250
Total liabilities	310,809	306,691
Commitments and Contingencies (Note 13)		
Redeemable noncontrolling interest	187,522	197,196
Stockholders' Equity:		
Preferred stock, \$0.05 par value; 4,000,000 shares authorized; no issued and outstanding shares	—	—
Common stock, \$0.05 par value; 50,000,000 and 25,000,000 shares authorized, respectively; 20,140,654 and 19,920,829 shares issued, respectively	1,007	996
Additional paid-in capital	303,893	294,515
Retained earnings	125,215	111,031
Other cumulative comprehensive loss	(28,758)	(26,538)
Treasury stock, at cost, and company stock held for deferred compensation, at par 605,723 and 570,415 shares, respectively	(20,710)	(19,479)
Total stockholders' equity	380,647	360,525
Total liabilities, redeemable noncontrolling interest, and stockholders' equity	<u>\$ 878,978</u>	<u>\$ 864,412</u>

The accompanying notes are an integral part of these Consolidated Financial Statements.

DMC GLOBAL INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(Amounts in Thousands, Except Share and Per Share Data)

	Year Ended December 31,		
	2022	2021	2020
Net sales	\$ 654,086	\$ 260,115	\$ 229,161
Cost of products sold	468,639	200,635	172,308
Gross profit	185,447	59,480	56,853
Costs and expenses:			
General and administrative expenses	76,119	36,276	29,150
Selling and distribution expenses	42,230	22,507	23,863
Amortization of purchased intangible assets	36,926	1,391	1,449
Acquisition expenses	—	1,581	—
Restructuring expenses, net and asset impairments	182	127	3,387
Total costs and expenses	155,457	61,882	57,849
Operating income (loss)	29,990	(2,402)	(996)
Other (expense) income:			
Other (expense) income, net	(594)	152	(233)
Interest expense, net	(6,187)	(304)	(731)
Income (loss) before income taxes	23,209	(2,554)	(1,960)
Income tax provision (benefit)	9,376	(1,544)	(548)
Net income (loss)	13,833	(1,010)	(1,412)
Less: Net income (loss) attributable to redeemable noncontrolling interest	1,586	(808)	—
Net income (loss) attributable to DMC Global Inc. stockholders	\$ 12,247	\$ (202)	\$ (1,412)
Net income (loss) per share attributable to DMC Global Inc. stockholders:			
Basic	\$ 0.72	\$ (0.26)	\$ (0.10)
Diluted	\$ 0.72	\$ (0.26)	\$ (0.10)
Weighted-average shares outstanding:			
Basic	19,360,677	17,610,711	14,790,296
Diluted	19,369,165	17,610,711	14,790,296
Dividends declared per common share	\$ —	\$ —	\$ 0.125

Reconciliation to net income (loss) attributable to DMC Global Inc. stockholders after adjustment of redeemable noncontrolling interest for purposes of calculating earnings per share

	Year Ended December 31,		
	2022	2021	2020
Net income (loss) attributable to DMC Global Inc.	\$ 12,247	\$ (202)	\$ (1,412)
Adjustment of redeemable noncontrolling interest	1,937	(4,424)	—
Net income (loss) attributable to DMC Global Inc. common shareholders after adjustment of redeemable noncontrolling interest	\$ 14,184	\$ (4,626)	\$ (1,412)

The accompanying notes are an integral part of these Consolidated Financial Statements.

DMC GLOBAL INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Amounts in Thousands)

	Year Ended December 31,		
	2022	2021	2020
Net income (loss)	\$ 13,833	\$ (1,010)	\$ (1,412)
Change in cumulative foreign currency translation adjustment	(2,220)	(3,576)	2,841
Other comprehensive income (loss)	\$ 11,613	\$ (4,586)	\$ 1,429
Less: comprehensive income (loss) attributable to redeemable noncontrolling interest	1,586	(808)	—
Comprehensive income (loss) attributable to DMC Global Inc. stockholders	<u>\$ 10,027</u>	<u>\$ (3,778)</u>	<u>\$ 1,429</u>

The accompanying notes are an integral part of these Consolidated Financial Statements.

DMC GLOBAL INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY AND REDEEMABLE NONCONTROLLING INTEREST
(Amounts in Thousands, Except Share Data)

	Common Stock		Additional Paid-In Capital	Retained Earnings	Other Cumulative Comprehensive Loss	Treasury Stock, at cost, and Company Stock Held for Deferred Compensation, at par		Total DMC Global Inc. stockholders' equity	Redeemable Non- Controlling Interest
	Shares	Amount				Shares	Amount		
Balances, December 31, 2019	15,117,207	\$ 756	\$ 85,639	\$ 119,002	\$ (25,803)	(464,532)	\$ (7,453)	\$ 172,141	\$ —
Net loss	—	—	—	(1,412)	—	—	—	(1,412)	—
Change in cumulative foreign currency translation adjustment	—	—	—	—	2,841	—	—	2,841	—
Shares issued in connection with at-the-market offering program	608,360	30	25,710	—	—	—	—	25,740	—
Shares issued in connection with stock compensation plans	191,992	10	421	—	—	—	—	431	—
Adjustment for cumulative effect from change in accounting principle (ASU 2016-13)	—	—	—	(50)	—	—	—	(50)	—
Stock-based compensation	—	—	5,608	—	—	—	—	5,608	—
Dividends declared	—	—	—	(1,883)	—	—	—	(1,883)	—
Treasury stock activity	—	—	9	—	—	(63,742)	(6,511)	(6,502)	—
Balances, December 31, 2020	15,917,559	\$ 796	\$ 117,387	\$ 115,657	\$ (22,962)	(528,274)	\$ (13,964)	\$ 196,914	\$ —
Net loss	—	—	—	(202)	—	—	—	(202)	(808)
Change in cumulative foreign currency translation adjustment	—	—	—	—	(3,576)	—	—	(3,576)	—
Shares issued in connection with equity offering	2,875,000	144	123,317	—	—	—	—	123,461	—
Shares issued in connection with at-the-market offering program	397,820	20	25,242	—	—	—	—	25,262	—
Shares issued in connection with stock compensation plans	178,992	9	425	—	—	—	—	434	—
Shares issued in connection with acquisition	551,458	27	21,689	—	—	—	—	21,716	—
Acquired redeemable noncontrolling interest	—	—	—	—	—	—	—	—	193,580
Adjustment of redeemable noncontrolling interest	—	—	—	(4,424)	—	—	—	(4,424)	4,424
Stock-based compensation	—	—	6,455	—	—	—	—	6,455	—
Treasury stock activity	—	—	—	—	—	(42,141)	(5,515)	(5,515)	—
Balances, December 31, 2021	19,920,829	\$ 996	\$ 294,515	\$ 111,031	\$ (26,538)	(570,415)	\$ (19,479)	\$ 360,525	\$ 197,196
Net income	—	—	—	12,247	—	—	—	12,247	1,586
Change in cumulative foreign currency translation adjustment	—	—	—	—	(2,220)	—	—	(2,220)	—
Shares issued in connection with stock compensation plans	219,825	11	190	—	—	—	—	201	—
Consideration adjustments related to redeemable noncontrolling interest (Note 3)	—	—	—	—	—	—	—	—	2,095
Distribution to redeemable noncontrolling interest holder	—	—	—	—	—	—	—	—	(12,300)
Stock-based compensation	—	—	9,188	—	—	—	—	9,188	882
Adjustment of redeemable noncontrolling interest	—	—	—	1,937	—	—	—	1,937	(1,937)
Treasury stock activity	—	—	—	—	—	(35,308)	(1,231)	(1,231)	—
Balances, December 31, 2022	20,140,654	\$ 1,007	\$ 303,893	\$ 125,215	\$ (28,758)	(605,723)	\$ (20,710)	\$ 380,647	\$ 187,522

The accompanying notes are an integral part of these Consolidated Financial Statements.

DMC GLOBAL INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Amounts in Thousands)

	Year Ended December 31,		
	2022	2021	2020
Cash flows provided by (used in) operating activities:			
Net income (loss)	\$ 13,833	\$ (1,010)	\$ (1,412)
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Depreciation	14,281	11,303	9,632
Amortization of purchased intangible assets	36,926	1,391	1,449
Amortization of deferred debt issuance costs	553	248	207
Amortization of acquisition-related inventory valuation step-up	430	—	—
Stock-based compensation	10,058	6,574	5,675
Deferred income taxes	(599)	(1,846)	(2,313)
Restructuring expenses, net and asset impairments	182	127	3,387
Other	1,344	(204)	247
Change in:			
Accounts receivable, net	(23,108)	(9,769)	30,227
Inventories	(33,766)	(12,440)	2,992
Prepaid expenses and other	9,118	(19,413)	675
Accounts payable	7,086	13,584	(14,772)
Contract liabilities	11,183	1,613	1,985
Accrued expenses and other liabilities	(2,585)	(2,970)	(7,617)
Net cash provided by (used in) operating activities	44,936	(12,812)	30,362
Cash flows used in investing activities:			
Acquisition of business, net of cash acquired	—	(261,000)	—
Consideration adjustments related to acquisition of business (Note 3)	(2,404)	—	—
Promissory note to redeemable noncontrolling interest holder	—	(24,902)	—
Investment in marketable securities	—	(123,984)	(25,740)
Proceeds from maturities of marketable securities	—	4,799	—
Proceeds from sales of marketable securities	—	144,921	—
Acquisition of property, plant and equipment	(18,584)	(8,659)	(13,853)
Proceeds on sale of property, plant and equipment	62	1,019	36
Net cash used in investing activities	(20,926)	(267,806)	(39,557)
Cash flows (used in) provided by financing activities:			
Borrowings on term loan	—	150,000	—
Repayments on term loan	(15,000)	—	—
Repayments on capital expenditure facility	—	(11,750)	(3,125)
Payments of debt issuance costs	(180)	(2,337)	(90)
Distributions to redeemable noncontrolling interest holder	(12,300)	—	—
Net proceeds from issuance of common stock through equity offering	—	123,461	—
Net proceeds from issuance of common stock through at-the-market offering program	—	25,262	25,740
Net proceeds from issuance of common stock to employees and directors	201	434	431
Treasury stock purchases	(1,231)	(2,485)	(1,890)
Payment of dividends	—	—	(3,749)
Net cash (used in) provided by financing activities	(28,510)	282,585	17,317
Effects of exchange rates on cash	(1,166)	656	(288)
Net (decrease) increase in cash and cash equivalents	(5,666)	2,623	7,834
Cash and cash equivalents, beginning of the period	30,810	28,187	20,353
Cash and cash equivalents, end of the period	\$ 25,144	\$ 30,810	\$ 28,187

DMC GLOBAL INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Amounts in Thousands)

Supplemental cash flow information:

Non-cash consideration for acquisition of business, net of cash acquired	\$	740	\$	21,716	\$	—
Non-cash lease liabilities arising from obtaining right-of-use assets		3,978		41,219		—
Cash paid during the period for -						
Interest		6,236		51		402
Income taxes, net		2,860		7,533		497

The accompanying notes are an integral part of these Consolidated Financial Statements.

DMC GLOBAL INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
DECEMBER 31, 2022
(Amounts in Thousands, Except Share and Per Share Data)

1. ORGANIZATION AND BUSINESS

DMC Global Inc. ("DMC", "we", "us", "our", or the "Company") was incorporated in the state of Colorado in 1971 and reincorporated in the state of Delaware in 1997. DMC is headquartered in Broomfield, Colorado and has manufacturing facilities in the United States and Germany. DMC's portfolio currently consists of three businesses: Arcadia, DynaEnergetics, and NobelClad, which are three innovative, asset-light manufacturing businesses that provide differentiated products and engineered solutions to niche segments of the construction, energy, industrial processing and transportation markets. In December 2021, DMC acquired a controlling interest in Arcadia. Arcadia supplies architectural building products, including exterior and interior framing systems, curtain walls, windows, doors, and interior partitions to the commercial construction market; and also supplies customized windows and doors to the high-end residential construction market. DynaEnergetics designs, manufactures and distributes highly engineered products utilized by the global oil and gas industry principally for the perforation of oil and gas wells. NobelClad is a leader in the production of explosion-welded clad metal plates for use in the construction of corrosion resistant industrial processing equipment, as well as specialized transition joints for use in construction of commuter rail cars, ships, and liquefied natural gas (LNG) processing equipment. Refer to Note 3 "Business Combination" for additional discussion of the Arcadia acquisition.

Our businesses follow a clear and compelling strategy and are led by excellent leadership teams that we support with business resources and capital. We take a focused approach to capital allocation and work with our business leaders to identify investments that will advance their operating strategies and generate attractive returns. Our approach helps our portfolio companies grow their core businesses, launch new initiatives, upgrade technologies and systems, expand their markets and improve their competitive positions. Our culture is to foster local innovation versus centralized control. DMC trades on Nasdaq under the symbol "BOOM."

2. SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation

The Company's consolidated financial statements ("Consolidated Financial Statements") include the accounts of DMC and its controlled subsidiaries. Only subsidiaries in which controlling interests are maintained are consolidated. All intercompany accounts, profits, and transactions have been eliminated in consolidation.

Use of Estimates

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

Business Combination

The results of a business acquired in a business combination are included in the Company's financial statements from the date of acquisition. Acquisition-related transaction costs are expensed in the period in which the costs are incurred. The Company allocates purchase price to the identifiable assets and liabilities of the acquired business at their acquisition date fair values. The excess of the purchase price over the amount allocated to the identifiable assets and liabilities, if any, is recorded as goodwill.

Determining the fair value of assets acquired and liabilities assumed requires management to make significant judgments and estimates, including the selection of valuation methodologies, estimates of future revenue and cash flows, discount rates and selection of comparable companies.

Foreign Operations and Foreign Exchange Rate Risk

The functional currency of our foreign operations is the applicable local currency for each affiliate company. Assets and liabilities of foreign subsidiaries for which the functional currency is the local currency are translated at exchange rates in effect

at period-end, and the Statements of Operations are translated at the average exchange rates during the period. Exchange rate fluctuations on translating foreign currency financial statements into U.S. dollars are referred to as translation adjustments. Translation adjustments are recorded as a separate component of stockholders' equity and are included in "Other cumulative comprehensive loss." Transactions denominated in currencies other than the functional currency are recorded based on exchange rates at the time such transactions arise. Subsequent changes in exchange rates result in transaction gains and losses, which are reflected in "Other (expense) income, net" as unrealized, based on period-end exchange rates, or realized, upon settlement of the transaction. Cash flows from our operations in foreign countries are translated at actual exchange rates when known, or at the average rate for the period. As a result, amounts related to assets and liabilities reported in the Consolidated Statements of Cash Flows will not agree to changes in the corresponding balances in the Consolidated Balance Sheets. The effects of exchange rate changes on cash balances held in foreign currencies are reported as a separate line item below cash flows from financing activities.

Cash and Cash Equivalents

For purposes of the Consolidated Financial Statements, we consider highly liquid investments purchased with an original maturity of three months or less to be cash equivalents.

Marketable Securities

In periods where we hold excess cash and cash equivalents, we invest in highly rated securities, with the primary objectives of preserving principal, providing access to liquidity to fund the ongoing operations and strategic needs of the Company and its subsidiaries, and achieving a yield that is commensurate with low risk and highly liquid securities. The Company's investment policy generally limits the amount of credit exposure to any one issuer.

During the year ended December 31, 2022, we did not hold marketable securities. During the year ended December 31, 2021, we held investments in U.S. Treasuries as well as A-1 or P-1 rated commercial paper. Our marketable securities were converted to cash and used in part to fund the acquisition of Arcadia; refer to Note 3 "Business Combination" for additional discussion of the Arcadia acquisition. The Company's investments in U.S. Treasury securities are measured at fair value with gains and losses recognized in the Consolidated Statement of Operations within "Other (expense) income, net."

Accounts Receivable

The Company measures expected credit losses for its accounts receivable using a current expected credit loss model, which is based on historical experience, adjusted for current conditions and reasonable and supportable forecasts. The Company has disaggregated pools of accounts receivable balances by business, geography and/or customer risk profile and has used history and other experience to establish an allowance for credit losses at the time the receivable is recognized. To measure expected credit losses, we have elected to pool trade receivables by segment and analyze Arcadia, DynaEnergetics and NobelClad accounts receivable balances as separate populations. Within each segment, receivables exhibit similar risk characteristics.

During the year ended December 31, 2022, our expected loss rate reflects uncertainties in market conditions present in our businesses, including supply chain disruptions, rising interest rates, as well as global geopolitical and economic instability. In addition, we reviewed receivables outstanding, including aged balances, and in circumstances where we are aware of a specific customer's inability to meet its financial obligation to us, we recorded a specific allowance for credit losses against the amounts due, reducing the net recognized receivable to the amount we estimate will be collected. The offsetting expense to specific allowances recorded are charged to "Selling and distribution expenses" in our Consolidated Statements of Operations. In total, net provisions of \$720 were recorded during the year ended December 31, 2022. For the years ended December 31, 2021 and 2020, we recorded net provisions of \$171 and \$3,039, respectively.

The following table summarizes activity in the allowance for credit losses on receivables from customers in each of our business segments:

	Arcadia	DynaEnergetics	NobelClad	DMC Global Inc.
Allowance for doubtful accounts, December 31, 2021	\$ —	\$ 2,758	\$ 15	\$ 2,773
Current period provision for expected credit losses	797	169	62	1,028
Write-offs charged against the allowance	(321)	(2,245)	—	(2,566)
Recoveries of amounts previously reserved	(232)	(76)	—	(308)
Impacts of foreign currency exchange rates and other	—	(3)	1	(2)
Allowance for doubtful accounts, December 31, 2022	\$ 244	\$ 603	\$ 78	\$ 925

Property, Plant and Equipment

Property, plant and equipment are recorded at cost, except for assets acquired in acquisitions which are recorded at fair value. Additions and improvements are capitalized. Maintenance and repairs are charged to operations as costs are incurred. Depreciation is computed using the straight-line method over the estimated useful life of the related asset (except leasehold improvements which are depreciated over the shorter of their estimated useful life or the lease term) as follows:

Buildings and improvements	15-40 years
Manufacturing equipment and tooling	3-15 years
Furniture, fixtures, and computer equipment	3-10 years
Other	3-10 years

Gross property, plant and equipment consisted of the following at December 31:

	2022	2021
Land	\$ 4,215	\$ 5,725
Buildings and improvements	63,184	58,536
Manufacturing equipment and tooling	85,477	79,855
Furniture, fixtures and computer equipment	24,800	18,910
Other	15,775	14,926
Construction in process	17,826	13,070
Total gross property, plant and equipment	\$ 211,277	\$ 191,022

Asset Impairments

Finite-lived assets are tested for impairment whenever events or changes in circumstances indicate that their carrying value may not be recoverable. We compare the expected undiscounted future operating cash flows associated with these finite-lived assets to their respective carrying values to determine if they are fully recoverable when indicators of impairment are present. If the expected future operating cash flows of an asset group are not sufficient to recover the related carrying value, we estimate the fair value of the asset group. Impairment is recognized when the carrying amount of the asset group is not recoverable and when carrying value exceeds the estimated fair value. Long-lived assets to be disposed of, if any, are reported at the lower of carrying amount or fair value less cost to sell.

For the years ended December 31, 2022 and December 31, 2021, no impairments were recorded. For the year ended December 31, 2020, we recognized an impairment charge of \$1,361 (recorded in "Restructuring expenses, net and asset impairments"). The COVID-19 pandemic-related collapse in oil and gas demand led to a downturn in well completions and a corresponding downturn in demand for DynaEnergetics' products. As a result, DynaEnergetics recorded asset impairment charges of \$1,181 on certain manufacturing assets that will no longer be utilized in production at its Blum, Texas and Troisdorf, Germany facilities. The fair value of the assets upon which an impairment charge was recorded was primarily based upon the Company's estimates as we negotiated disposal of the assets.

Goodwill

Goodwill represents the amount by which the purchase price exceeds the fair value of identifiable tangible and intangible assets and liabilities acquired in a business combination. Goodwill acquired in a business combination and determined to have an indefinite useful life is not amortized, but instead is tested for impairment at least annually during the fourth quarter or whenever events or changes in circumstances indicate that the carrying value might not be fully recoverable. For goodwill, impairment is assessed at the reporting unit level. A reporting unit is defined as an operating segment or a component of an operating segment to the extent discrete financial information is available that is reviewed by segment management. The Company's reporting units are each of the three operating segments: Arcadia, DynaEnergetics, and NobelClad.

To test goodwill for impairment, we first perform a qualitative assessment to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. For the qualitative assessment, we consider macroeconomic and market conditions, cost factors, financial performance and other relevant entity-specific events. If we conclude that it is more likely than not that the fair value of a reporting unit is less than its carrying value during the qualitative assessment, we quantitatively estimate the fair value of the reporting unit and compare the estimated fair value to its carrying value. Based on the results of the quantitative assessment, if the carrying value exceeds the fair value of the reporting unit, an impairment loss is recognized for the difference.

The assumptions used in a quantitative assessment require significant judgment, which include assumptions about future economic conditions and company-specific conditions and plans. In a quantitative assessment, a company estimates the fair value of a reporting unit by using the income approach, specifically a discounted cash flow analysis. A number of assumptions and estimates are required in performing the discounted cash flow analysis, including forecasts of revenues, costs of revenues, operating expenses, capital expenditures, discount rates, working capital changes, and terminal growth rates.

As of and for the years ended December 31, 2022 and 2021, all goodwill recorded within the Consolidated Balance Sheets relates to Arcadia. As of the date of the 2022 annual impairment test, we performed a quantitative assessment and concluded that the fair value of Arcadia exceeded its carrying value by approximately 10%. Discount rates are one of the more significant assumptions used in the income approach. If the Company increased the discount rate used by 75 basis points, the fair value of Arcadia would still exceed its carrying value. A decline in general economic conditions or equity valuations could impact the judgments and assumptions used to estimate the fair value of Arcadia, and the Company could be required to record an impairment charge in the future. If the Company was required to recognize an impairment charge, the Consolidated Balance Sheets and Consolidated Statements of Operations and Comprehensive Income (Loss) could be materially impacted; however, the non-cash charge would not impact the Company's consolidated cash flows, current liquidity, and capital resources.

Contract Liabilities

On occasion, we require customers to make advance payments prior to the shipment of their orders in order to help finance our inventory investment on large orders or to keep customers' credit limits at acceptable levels. Contract liabilities were as follows at December 31:

	2022	2021
Arcadia	\$ 27,634	\$ 14,697
DynaEnergetics	785	474
NobelClad	3,661	5,881
Total	<u>\$ 32,080</u>	<u>\$ 21,052</u>

We generally expect to recognize the revenue associated with contract liabilities over a time period no longer than one year, but unforeseen circumstances can cause delays in shipments associated with contract liabilities, including supply chain delays and disruptions as well as adequacy of labor supplies at our facilities and customers' facilities.

Revenue Recognition

The Company's revenues are primarily derived from consideration paid by customers for tangible goods. The Company analyzes its different products by segment to determine the appropriate basis for revenue recognition. Revenue is not generated from sources other than contracts with customers and revenue is recognized net of any taxes collected from customers, which are subsequently remitted to governmental authorities. There are no material upfront costs for operations that are incurred from contracts with customers.

Our rights to payments for goods transferred to customers within our DynaEnergetics and NobelClad business segments arise when control is transferred at a point in time and not on any other criteria. Our rights to payments for goods transferred to customers within our Arcadia business segment also generally arise when control is transferred at a point in time; however, at times, control of certain customized, project-based products passes to the customer over time. Payment terms and conditions vary by contract, although terms generally include a requirement of payment within 30 to 90 days across all of our segments. In instances when we require customers to make advance payments prior to the shipment of their orders, we record a contract liability. We have determined that our contract liabilities do not include a significant financing component given the short duration between order initiation and order fulfillment within each of our segments. Refer to Note 11 “Business Segments” for disaggregated revenue disclosures.

Arcadia

Customers agree to terms and conditions at the time of initiating an order. A significant portion of transactions contain standard architectural building materials that are not made-to-order, which include standard storefronts and entrances, windows, curtain walls, doors and interior partitions. In instances where multiple products are included within an order, each product represents a separate performance obligation given that: (1) the customer can benefit from each product on a standalone basis and (2) each product is distinct within the context of the contract.

The transaction price is readily determinable and fixed at the time the transaction is entered into with the customer. Arcadia is entitled to each product’s transaction price upon the customer obtaining control of the item. For standard architectural building materials that are not made-to-order, such control transfers at a point in time, which is generally when the product has been shipped to the customer and the legal title has been transferred. Upon shipment and title transfer, Arcadia has performed its contractual requirements such that it has a present right to payment, and the customer from that point forward bears all risks and rewards of ownership. In addition, at this date, the customer has the ability to direct the use of, or restrict access to, the asset. Payment discounts, rebates, refunds, or any other forms of variable consideration are typically not granted to Arcadia customers.

For contracts that contain only one performance obligation, the total transaction price is allocated to the sole performance obligation. For contracts which contain multiple distinct performance obligations, judgment is required to determine the standalone selling price (“SSP”) for each performance obligation. However, such judgment is largely mitigated given that standard architectural building materials purchased are generally shipped at the same time. In instances where products purchased are not shipped at the same time, Arcadia uses the contractually stated price to determine SSP as each performance obligation’s price has been approved by the customer and approximates the price sold separately.

At times, Arcadia will also contract with customers to supply customized architectural building materials based on design specifications, measurements, finishes, framing materials, and other options selected by the customer at the time an order is initiated. For these contracts, which are significantly less frequent in both volume and financial statement magnitude, Arcadia has an enforceable right to payment from its customers at the time an order is received and accepted for all manufacturing efforts expended on behalf of its customers. Due to the customized nature of these products, the Company has concluded that the substantial portion of the related goods produced have no alternative use, and therefore control of these products passes to the customer over time. We have concluded that recognizing revenue utilizing an over-time output method based upon units delivered reasonably depicts the fulfillment of our performance obligations under our contracts and the value received by the customer based upon our performance to date. This conclusion is further supported by the frequency of shipments in fulfilling these contracts. We have elected not to disclose our unsatisfied performance obligations as of December 31, 2022 under the short-term contract exemption as we expect such performance obligations will be satisfied within the next 12 months following the end of the reporting period.

Billings for customized architectural building materials occur at times upon delivery, but also can occur via pre-established billing schedules agreed upon at the commencement of the contract. Therefore, we frequently generate contract liabilities in instances when we have billed the customer in excess of revenue recognized for units delivered.

DynaEnergetics

Customers agree to terms and conditions at the time of initiating an order. Transactions contain standard products, which may include perforating system components, such as detonating cord, or systems and associated hardware, including Factory-Assembled, Performance-Assured™ DynaStage® perforating systems. In instances where multiple products are included within an order, each product represents a separate performance obligation given that: (1) the customer can benefit from each product on a standalone basis and (2) each product is distinct within the context of the contract. However, judgment is significantly mitigated given that products purchased are generally shipped at the same time.

The transaction price is readily determinable and fixed at the time the transaction is entered into with the customer. DynaEnergetics is entitled to each product's transaction price upon the customer obtaining control of the item. Such control occurs as of a point in time, which is generally based upon relevant International Commercial Terms ("Incoterms") as it relates to product ownership and legal title being transferred. Upon fulfillment of applicable Incoterms, DynaEnergetics has performed its contractual requirements such that it has a present right to payment, and the customer from that point forward bears all risks and rewards of ownership. In addition, at this date, the customer has the ability to direct the use of, or restrict access to, the asset. No payment discounts, rebates, refunds, or any other forms of variable consideration are included within contracts. DynaEnergetics also does not provide service-type warranties either via written agreement or customary business practice, nor does it allow customer returns without its prior approval.

NobelClad

Customers agree to terms and conditions at the time of initiating an order. The significant majority of transactions contain a single performance obligation - the delivery of a clad metal product. In instances where multiple products are included within an order, each product represents a separate performance obligation given that: (1) the customer can benefit from each product on a standalone basis and (2) each product is distinct within the context of the contract. However, judgment is significantly mitigated given that products purchased are generally shipped at the same time.

The transaction price is readily determinable and fixed at the time the transaction is entered into with the customer. NobelClad is entitled to each product's transaction price upon the customer obtaining control of the item. Such control occurs as of a point in time, which is generally based upon relevant Incoterms as it relates to product ownership and legal title being transferred. Upon fulfillment of applicable Incoterms, NobelClad has performed its contractual requirements such that it has a present right to payment, and the customer from that point forward bears all risks and rewards of ownership. In addition, at this date, the customer has the ability to direct the use of, or restrict access to, the asset. No payment discounts, rebates, refunds, or any other forms of variable consideration are included within NobelClad contracts. NobelClad also does not provide service-type warranties either via written agreement or customary business practice, nor does it allow customer returns.

Research and Development

Research and development costs include expenses associated with developing new products and processes as well as improvements to current manufacturing processes. Research and development costs were \$6,781, \$7,240, and \$7,910 for the years ended December 31, 2022, 2021 and 2020, respectively.

Income Taxes

We recognize deferred tax assets and liabilities for the expected future income tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities. Any effects of changes in income tax rates or tax laws are included in the provision for income taxes in the period of enactment. The deferred income tax impact of tax credits are recognized as an immediate adjustment to income tax expense. We recognize deferred tax assets for the expected future effects of all deductible temporary differences to the extent we believe these assets will more likely than not be realized. We record a valuation allowance when, based on current circumstances, it is more likely than not that all or a portion of the deferred tax assets will not be realized. In making such determination, we consider all available positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, tax planning strategies, recent financial operations and their associated valuation allowances, if any.

We recognize the tax benefits from uncertain tax positions only when it is more likely than not, based on the technical merits of the position, that the tax position will be sustained upon examination, including the resolution of any related appeals or litigation. The tax benefits recognized in the Consolidated Financial Statements from such a position are measured as the largest benefit that is more likely than not to be realized upon ultimate resolution. We recognize interest and penalties related to uncertain tax positions in operating expense.

Refer to Note 10 "Income Taxes" for further information on our income taxes.

Earnings Per Share

In periods with net income, the Company computes earnings per share ("EPS") using a two-class method, which is an earnings allocation formula that determines EPS for (i) each class of common stock (the Company has a single class of common stock), and (ii) participating securities according to dividends declared and participation rights in undistributed earnings. Restricted stock awards are considered participating securities in periods of net income as they receive non-forfeitable rights to

dividends as common stock. For the year ended December 31, 2022, we were in a net income position, and all potential dilutive shares were included in the determination of diluted EPS. Given we were in a net loss position for the years ended December 31, 2021 and 2020, all potentially dilutive shares were anti-dilutive and were therefore excluded from the determination of diluted EPS.

Basic EPS is calculated by dividing net income (loss) attributable to the Company's stockholders after adjustment of redeemable noncontrolling interest by the weighted-average number of common shares outstanding during the period. Net income (loss) available to common shareholders of the Company includes any adjustment to the redeemable noncontrolling interest value as of the end of the period presented. Refer to Note 3 "Business Combination" for further discussion of the calculation of the adjustment of the redeemable noncontrolling interest. Diluted EPS adjusts basic EPS for the effects of restricted stock awards, restricted stock units, performance share units and other potentially dilutive financial instruments (dilutive securities), only in the periods in which such effect is dilutive. The effect of the dilutive securities is reflected in diluted EPS by application of the more dilutive of (1) the treasury stock method or (2) the two-class method. For the applicable period presented, diluted EPS using the two-class method was more dilutive than the treasury stock method; as such, only the two-class method has been included below.

EPS was calculated as follows for the years ended December 31:

	2022	2021	2020
Net income (loss) attributable to DMC Global Inc. stockholders, as reported	\$ 12,247	\$ (202)	\$ (1,412)
Adjustment of redeemable noncontrolling interest	1,937	(4,424)	—
Less: Undistributed net income available to participating securities	(198)	—	—
Numerator for basic net income (loss) per share:	13,986	(4,626)	(1,412)
Add: Undistributed net income allocated to participating securities	198	—	—
Less: Undistributed net income reallocated to participating securities	(198)	—	—
Numerator for diluted net income (loss) per share:	13,986	(4,626)	(1,412)
Denominator:			
Weighted average shares outstanding for basic net income (loss) per share	19,360,677	17,610,711	14,790,296
Effect of dilutive securities ⁽¹⁾	8,488	—	—
Weighted average shares outstanding for diluted net income (loss) per share	19,369,165	17,610,711	14,790,296
Net income (loss) per share attributable to DMC Global Inc. stockholders:			
Basic	\$ 0.72	\$ (0.26)	\$ (0.10)
Diluted	\$ 0.72	\$ (0.26)	\$ (0.10)

⁽¹⁾ For the year ended December 31, 2022, 93,060 shares were excluded as their effect would have been anti-dilutive.

Fair Value of Financial Instruments

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. We are required to use an established hierarchy for fair value measurements based upon the inputs to the valuation and the degree to which they are observable or not observable in the market. The three levels in the hierarchy are as follows:

- Level 1 — Inputs to the valuation based upon quoted prices (unadjusted) for identical assets or liabilities in active markets that are accessible as of the measurement date.
- Level 2 — Inputs to the valuation include quoted prices in either markets that are not active, or in active markets for similar assets or liabilities, inputs other than quoted prices that are observable, and inputs that are derived principally from or corroborated by observable market data.

- Level 3 — Inputs to the valuation that are unobservable inputs for the asset or liability.

The highest priority is assigned to Level 1 inputs and the lowest priority to Level 3 inputs.

The carrying value of cash and cash equivalents, accounts receivable, accounts payable, and accrued expenses approximate their fair value. The carrying value of our revolving loans and term loan under our credit facility, when outstanding, also approximate their fair value because of the variable interest rate associated with those instruments, which reset each month at market interest rates. All of these items are considered Level 1 assets and liabilities.

Our foreign currency forward contracts are valued using quoted market prices or are determined using a yield curve model based on current market rates. As a result, we classify these instruments as Level 2 in the fair value hierarchy. Money market funds and mutual funds of \$8,444 and \$9,083 as of December 31, 2022 and 2021, respectively, held to satisfy future deferred compensation obligations are valued based upon the market values of underlying securities and are classified as Level 2 assets in the fair value hierarchy.

We did not hold any Level 3 assets or liabilities as of December 31, 2022 or December 31, 2021. However, the fair value measurement of certain assets and liabilities acquired as part of the Arcadia acquisition were based on significant inputs not observable in the market and thus represent Level 3 measurements within the fair value measurement hierarchy; refer to Note 3 for description of the valuation approaches to measure these assets and liabilities.

Restructuring

Restructuring expenses are incurred from time to time to improve operational efficiency across our businesses. During the years ended December 31, 2022 and 2021, we recorded total restructuring expenses of \$182 and \$127, respectively. These expenses were primarily related to employee severance. During the year ended December 31, 2020, we incurred charges across each of our businesses in relation to the COVID-19 pandemic. Total restructuring charges incurred are as follows and were reported in the "Restructuring expenses, net and asset impairments" line item in our Consolidated Statements of Operations for the year ended December 31, 2020:

	2020						Total
	Severance	Asset Impairment	Contract Termination Costs	Equipment Moving Costs	Other Exit Costs		
DynaEnergetics	\$ 936	\$ 1,181	\$ 19	\$ 126	\$ 660	\$ 2,922	
NobelClad	140	180	—	—	26	346	
Corporate	119	—	—	—	—	119	
Total	\$ 1,195	\$ 1,361	\$ 19	\$ 126	\$ 686	\$ 3,387	

Current year changes to the restructuring liability within accrued expenses are summarized below. The remaining liability is primarily related to previously accrued severance associated with NobelClad restructuring activities that occurred in 2019.

	December 31, 2021	Expense	Payments	Currency and Other Adjustments	December 31, 2022
Severance	\$ 829	\$ 147	\$ (29)	\$ (51)	\$ 896
Other exit costs	—	35	(21)	—	14
Total	\$ 829	\$ 182	\$ (50)	\$ (51)	\$ 910

Concentration of Credit Risk and Off Balance Sheet Arrangements

Financial instruments, which potentially subject us to a concentration of credit risk, consist primarily of cash, cash equivalents, and accounts receivable. Generally, we do not require collateral to secure receivables. At December 31, 2022, we had no financial instruments with off-balance sheet risk of accounting losses.

Other Cumulative Comprehensive Loss

Other cumulative comprehensive loss as of December 31, 2022, 2021, and 2020 consisted entirely of currency translation adjustments, including intra-entity foreign currency transactions that are classified as long-term investments.

Recent Accounting Pronouncements

We have considered all recent accounting pronouncements issued, but not yet effective, and we do not expect any to have a material effect on the Company's Consolidated Financial Statements.

3. BUSINESS COMBINATION

On December 16, 2021, the Company entered into an equity purchase agreement with Arcadia, Inc., a California corporation, the shareholders of Arcadia, Inc. and certain other parties (the "Equity Purchase Agreement"). On December 23, 2021, pursuant to the Equity Purchase Agreement, the Company completed the acquisition of a 60% controlling interest in Arcadia Products, LLC, a Colorado limited liability company resulting from the conversion of Arcadia, Inc. (collectively, "Arcadia") for closing consideration of \$261,000 in cash (excluding \$7,654 in acquired cash) and 551,458 shares of its common stock, par value \$0.05 per share. A portion of the cash consideration was placed into escrow and was subject to certain post-closing adjustments.

DMC acquired Arcadia as part of its strategy of building a diversified portfolio of industry-leading businesses with differentiated products and services. Arcadia supplies architectural building products, including exterior and interior framing systems, curtain walls, windows, doors, and interior partitions to the commercial construction market; and also supplies customized windows and doors to the high-end residential construction market.

The acquisition was funded by the Company through cash and marketable securities, equity, and debt financing. Assets acquired and liabilities assumed have been recorded at their fair values. Certain fair values were determined by management using the assistance of third-party valuation specialists. The valuation methods used to determine the fair value of intangible assets included the income approach—excess earnings method for customer relationships and customer backlog and the income approach—relief from royalty method for the trade name acquired. A number of assumptions and estimates were involved in the application of these valuation methods, including forecasts of revenues, costs of revenues, operating expenses, tax rates, capital expenditures, customer attrition, discount rates and working capital changes.

The following table sets forth the preliminary and final components of the fair value of total consideration transferred and net assets acquired. Measurement period adjustments were recognized in the period in which the adjustments were determined and calculated as if the accounting had been completed as of the acquisition date.

	Preliminary December 23, 2021	Measurement Period Adjustments	Final December 31, 2022
Cash, including cash acquired ⁽¹⁾	\$ 268,654	\$ 2,034	\$ 270,688
Equity	21,716	—	21,716
Future contractual consideration to be paid ⁽²⁾	—	1,110	1,110
Total fair value of consideration transferred	<u>290,370</u>	<u>3,144</u>	<u>293,514</u>
Assets acquired:			
Cash and cash equivalents	\$ 7,654	\$ —	\$ 7,654
Accounts receivable	31,456	—	31,456
Inventories	60,503	—	60,503
Prepaid expenses and other	2,438	(187)	2,251
Property, plant and equipment ⁽³⁾	17,323	4,770	22,093
Goodwill ⁽⁴⁾	141,266	459	141,725
Intangible assets ⁽⁵⁾	254,500	—	254,500
Other long-term assets ⁽⁶⁾	122	41,858	41,980
Total assets acquired	<u>515,262</u>	<u>46,900</u>	<u>562,162</u>
Liabilities assumed:			
Accounts payable	8,792	—	8,792
Other current liabilities ⁽⁶⁾	22,520	4,785	27,305
Other long-term liabilities ⁽⁶⁾	—	36,876	36,876
Total liabilities assumed	<u>31,312</u>	<u>41,661</u>	<u>72,973</u>
Redeemable noncontrolling interest ⁽⁷⁾	193,580	2,095	195,675
Total assets acquired and liabilities assumed	<u>\$ 290,370</u>	<u>\$ 3,144</u>	<u>\$ 293,514</u>

⁽¹⁾ Cash sources of funding included \$150,000 in new term loan debt and \$118,654 of cash and marketable securities on hand. During the year ended December 31, 2022, working capital estimates at the time of acquisition were finalized. In April 2022, \$640 was returned to the Company from the funds previously placed into escrow. In August 2022, the Company paid the prior shareholders of Arcadia \$2,674 in additional consideration to compensate for certain tax impacts of the transaction, as provided in the Equity Purchase Agreement.

⁽²⁾ Represents additional cash consideration to be paid over a three-year time period from the date of acquisition to certain prior shareholders.

⁽³⁾ Property, plant and equipment primarily consists of the following:

Land	\$ 1,500
Buildings and improvements	6,451
Manufacturing equipment and tooling	12,634
Furniture, fixtures, and computer equipment	211
Other	1,297
Total property, plant and equipment	<u>\$ 22,093</u>

The useful lives of property, plant and equipment are consistent with the Company's accounting policies.

⁽⁴⁾ Amounts recorded for goodwill resulting in a tax basis step-up are generally expected to be deductible for tax purposes. Tax deductible goodwill is estimated to be \$2,847.

⁽⁵⁾ Intangible assets consist of \$210,500 of customer relationships, \$22,000 of trade name, and \$22,000 of customer backlog after measurement period adjustments. During the year ended December 31, 2022, the Company reclassified \$500 from customer relationships to customer backlog due to changes in purchase price allocation estimates. A useful life of 15 years was assigned to both customer relationships and trade name, while a useful life of 7 months was assigned to customer backlog, and as such, customer backlog was fully amortized as of December 31, 2022.

⁽⁶⁾ The measurement period adjustments within "Other long-term assets", "Other current liabilities", and "Other long-term liabilities" primarily relate to \$1,219 of right-of-use assets, \$4,343 of current lease liabilities, and \$36,876 of long-term lease liabilities, respectively. These balances were recorded within the Consolidated Balance Sheet as of December 31, 2021; however, they were excluded from the preliminary purchase price footnote given their immaterial impact on total net assets acquired.

⁽⁷⁾ Redeemable noncontrolling interest represents 40% of the total fair value of Arcadia upon acquisition, inclusive of measurement period adjustments.

The results of Arcadia's operations have been included in DMC's Consolidated Financial Statements since December 23, 2021, the date of the acquisition. For the year ended December 31, 2021, Arcadia had no sales activity due to a planned shutdown between the acquisition date and December 31, 2021, but it did incur total expenses of \$2,020, including manufacturing expenses recorded within cost of products sold of \$1,044, selling, general and administrative expenses of \$613, and amortization of purchased intangible assets of \$363.

Acquisition expenses were \$1,581 for the year-ended December 31, 2021 and primarily included legal, accounting, and due diligence fees.

Redeemable noncontrolling interest

The limited liability company operating agreement for Arcadia (the "Operating Agreement") contains a right for the Company to purchase the remaining interest in Arcadia from the minority interest holder on or after the third anniversary of the acquisition closing date ("Call Option"). Similarly, the minority interest holder of Arcadia has the right to sell its remaining interest in Arcadia to the Company on or after the third anniversary of the acquisition closing date ("Put Option"). Both the Call Option and Put Option enable the respective holder to exercise their rights based upon a predefined calculation as included within the Operating Agreement.

The Company initially accounted for the noncontrolling interest at its acquisition date fair value. We determined that neither the Call Option nor the Put Option meet the definition of a derivative under ASC 815 Derivatives and Hedging as the Operating Agreement does not allow for contractual net settlement, the options cannot be settled outside the Operating Agreement through a market mechanism, and the underlying shares are deemed illiquid as they are not publicly traded and thus not considered readily convertible to cash. Additionally, the settlement price for both options is based upon a predefined calculation tied to adjusted earnings rather than a fixed price, and the formula is based upon a multiple of Arcadia's average adjusted earnings over a three-year period. As such, we have concluded that the Call Option and Put Option are embedded within the noncontrolling interest and therefore do not represent freestanding instruments.

Given that the noncontrolling interest is subject to possible redemption with redemption rights that are not entirely within the control of the Company, we have concluded that the noncontrolling interest should be accounted for in accordance with ASC 480 *Distinguishing Liabilities from Equity* ("ASC 480"). The noncontrolling interest is also probable of redemption, as the only criteria for the security to become redeemable is the passage of time. As such, the redeemable noncontrolling interest is classified in temporary equity, separate from the stockholders' equity section, in the Consolidated Balance Sheets.

At each balance sheet date subsequent to acquisition, two separate calculations must be performed to determine the value of the redeemable noncontrolling interest. First, the redeemable noncontrolling interest must be accounted for in accordance with ASC 810 Consolidation ("ASC 810") whereby income (loss) and cash distributions attributable to the redeemable noncontrolling interest holder are ascribed. After this occurs, applicable provisions of ASC 480 must be considered to determine whether any further adjustment is necessary to increase the carrying value of the redeemable noncontrolling interest. An adjustment would only be necessary if the estimated settlement amount of the redeemable noncontrolling interest, per the terms of the Operating Agreement, exceeds the carrying value calculated in accordance with ASC 810. If such adjustment is required, the impact is immediately recorded to retained earnings and therefore does not impact the Consolidated Statements of Operations or Comprehensive Income (Loss).

As of December 31, 2022, the redeemable noncontrolling interest is \$187,522 in comparison to our previous estimate at December 31, 2021 of \$197,196. The decrease is attributable to a decline in the estimated settlement amount of the redeemable noncontrolling interest due to a reduction in average adjusted earnings.

Promissory Note

In order to equalize after-tax consideration to the redeemable noncontrolling interest holder relative to an alternative transaction structure, immediately following the closing of the acquisition, the Company loaned approximately \$24,902 to the redeemable noncontrolling interest holder. The loan was evidenced by an unsecured promissory note, and the loan will be repaid out of proceeds from the sale of the redeemable noncontrolling interest holder's interests in Arcadia, whether received upon exercise of the Put Option, the Call Option or upon sales to third parties permitted under the terms of the Operating Agreement. The loan must be repaid in full by December 16, 2051 and is recorded within "Other assets" in the Consolidated Balance Sheets.

Unaudited Pro Forma Financial Information

Pro forma financial information is presented for informational purposes and is not intended to represent or be indicative of the actual results of operations of the combined business that would have been reported had the acquisition of Arcadia been completed at the beginning of fiscal year 2020, nor is it representative of future operating results of the Company.

ASC 805 requires pro forma adjustments to reflect the effects of fair value adjustments, transaction costs, capital structure changes, the tax effects of such adjustments, and also requires nonrecurring adjustments to be prepared and presented. The adjustments to the historical Arcadia financial results include removal of nonrecurring transaction costs. Results were further adjusted to reflect a full period of (a) fair value adjustments related to inventory and incremental intangible asset amortization, (b) interest expense with the higher principal and interest rates associated with the Company's term loan incurred to finance, in part, the acquisition of Arcadia, (c) the effects of integration costs on the results of Arcadia's operations, and (d) the effects of adjustments on income taxes.

The following unaudited pro forma combined financial information presents combined results of the Company and Arcadia as if the acquisition of Arcadia had occurred at the beginning of fiscal year 2020:

	Year Ended December 31,	
	2021	2020
Net sales	\$ 500,460	\$ 475,125
Net income attributable to DMC Global Inc. stockholders	\$ 17,541	\$ 8,324

4. INVENTORIES

Inventories are stated at the lower of cost (first-in, first-out) or net realizable value. Significant cost elements included in inventory are material, labor, freight, subcontract costs, and manufacturing overhead. As necessary, we write down inventory to its net realizable value by recording provisions for excess, slow moving and obsolete inventory. We regularly review inventory quantities on hand and values, and compare them to estimates of future product demand, market conditions, production requirements and technological developments.

Inventories consisted of the following as of December 31, 2022:

	Arcadia	DynaEnergetics	NobelClad	DMC Global Inc.
Raw materials	\$ 11,099	\$ 23,701	\$ 8,926	\$ 43,726
Work-in-process	11,468	21,198	7,587	40,253
Finished goods	55,074	16,802	456	72,332
Supplies	—	—	279	279
Total inventories	\$ 77,641	\$ 61,701	\$ 17,248	\$ 156,590

Inventories consisted of the following as of December 31, 2021:

	Arcadia	DynaEnergetics	NobelClad	DMC Global Inc.
Raw materials	\$ 12,168	\$ 15,209	\$ 7,655	\$ 35,032
Work-in-process	3,987	13,672	10,257	27,916
Finished goods	44,348	14,998	1,651	60,997
Supplies	—	—	269	269
Total inventories	<u>\$ 60,503</u>	<u>\$ 43,879</u>	<u>\$ 19,832</u>	<u>\$ 124,214</u>

5. PURCHASED INTANGIBLE ASSETS

Our purchased intangible assets include finite-lived core technology, customer backlog, customer relationships, and trademarks/trade names. Finite-lived intangible assets are amortized over the estimated useful life of the related assets. Customer relationships are amortized using an accelerated amortization method. The remaining weighted average amortization period of all purchased intangible assets is approximately 14 years in total. The remaining weighted average amortization periods of the purchased intangible assets by asset category are as follows:

Core technology	2 years
Customer relationships	14 years
Trademarks / Trade names	14 years

Our purchased intangible assets consisted of the following as of December 31, 2022:

	Gross	Accumulated Amortization	Net
Core technology	\$ 14,063	\$ (14,031)	\$ 32
Customer backlog	22,000	(22,000)	—
Customer relationships	244,650	(47,254)	197,396
Trademarks / Trade names	23,914	(3,417)	20,497
Total intangible assets	<u>\$ 304,627</u>	<u>\$ (86,702)</u>	<u>\$ 217,925</u>

Our purchased intangible assets consisted of the following as of December 31, 2021:

	Gross	Accumulated Amortization	Net
Core technology	\$ 15,647	\$ (14,209)	\$ 1,438
Customer backlog	21,500	—	21,500
Customer relationships	246,718	(36,047)	210,671
Trademarks / Trade names	24,037	(2,070)	21,967
Total intangible assets	<u>\$ 307,902</u>	<u>\$ (52,326)</u>	<u>\$ 255,576</u>

The change in the gross value of our purchased intangible assets at December 31, 2022 from December 31, 2021 was primarily due to foreign currency translation. Additionally, there was an adjustment due to recognition of tax benefit from tax amortization previously applied to certain goodwill related to the DynaEnergetics and NobelClad reporting units. After the goodwill associated with each reporting unit was impaired at December 31, 2015 and September 30, 2017, respectively, the tax amortization reduces other intangible assets' net value related to the historical acquisition.

Expected future amortization of purchased intangible assets is as follows:

For the years ended December 31:		
2023	\$	22,666
2024		21,155
2025		19,053
2026		17,426
2027		15,806
Thereafter		121,819
	\$	<u>217,925</u>

6. LEASES

The Company leases real properties for use in manufacturing and as administrative and sales offices, and leases automobiles and office equipment. The Company determines if a contract contains a lease arrangement at the inception of the contract. For leases in which the Company is the lessee, leases are classified as either finance or operating. Right-of-use (“ROU”) assets are initially measured at the present value of lease payments over the lease term plus initial direct costs, if any. If a lease does not provide a discount rate and the implicit rate cannot be readily determined, an incremental borrowing rate is used to determine the present value of future lease payments. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term within the Consolidated Statement of Operations. Lease and non-lease components within the Company’s lease agreements are accounted for together. Variable lease payments are recognized in the period in which the obligation is incurred. The Company has no leases in which the Company is the lessor.

Nearly all of the Company’s leasing arrangements are classified as operating leases. ROU asset and lease liability balances were as follows for the periods presented:

	December 31, 2022	December 31, 2021
ROU asset	\$ 48,470	\$ 52,219
Current lease liability	7,041	6,126
Long-term lease liability	43,001	47,000
Total lease liability	\$ 50,042	\$ 53,126

The ROU asset is reported in “Other assets” while the current lease liability is reported in “Other current liabilities” and the long-term lease liability is reported in “Other long-term liabilities” in the Company’s Consolidated Balance Sheets. Cash paid for operating lease liabilities are recorded as operating cash outflows in the Company’s Consolidated Statements of Cash Flows.

Arcadia leases certain office, manufacturing, distribution and warehouse facilities from entities affiliated with the redeemable noncontrolling interest holder and former president of Arcadia. There were eight related party leases in effect as of December 31, 2022, with expiration dates ranging from calendar years 2025 to 2031. As of December 31, 2022, the total ROU asset and related lease liability recognized for related party leases was \$28,902 and \$29,399, respectively. During the year ended December 31, 2022, related party lease expense was \$4,625.

Total operating lease expense included in the Company’s Consolidated Statements of Operations was \$1,883, \$4,453 and \$3,950 for the years ended December 31, 2022, 2021, and 2020, respectively. Short term and variable lease costs were not significant for any period presented.

Certain of the Company’s leases contain renewal options and options to extend the leases for up to five years, and a majority of these options are reflected in the calculation of the ROU assets and lease liability due to the likelihood of renewal.

The following table summarizes the weighted average lease terms and discount rates for operating lease liabilities:

	December 31, 2022	December 31, 2021
Weighted average remaining lease term	7.9 years	9.0 years
Weighted average discount rate	4.3 %	4.4 %

The following table represents maturities of operating lease liabilities as of December 31, 2022:

Due within 1 year	\$ 7,041
Due after 1 year through 2 years	8,548
Due after 2 years through 3 years	8,431
Due after 3 years through 4 years	7,264
Due after 4 years through 5 years	6,690
Thereafter	21,481
Total future minimum lease payments	59,455
Less imputed interest	(9,413)
Total	\$ 50,042

7. DEBT

Outstanding borrowings consisted of the following at December 31:

	2022	2021
Syndicated credit agreement:		
U.S. Dollar revolving loan	\$ —	\$ —
Term loan	135,000	150,000
Commerzbank line of credit	—	—
Outstanding borrowings	135,000	150,000
Less: debt issuance costs	(2,202)	(2,575)
Total debt	132,798	147,425
Less: current portion of long-term debt	(15,000)	(15,000)
Long-term debt	\$ 117,798	\$ 132,425

Syndicated Credit Agreement

On December 23, 2021, we entered into a five-year \$200,000 syndicated credit agreement (“credit facility”) which included a \$150,000 Term Loan, which is amortizable at 10% of principal per year with a balloon payment for the outstanding balance upon the credit facility maturity date in 2026, and allows for revolving loans of up to \$0,000. The credit facility has an accordion feature to increase the commitments by \$100,000 under the revolving loan class and/or by adding a term loan subject to approval by applicable lenders. We entered into the credit facility with a syndicate of four banks, with KeyBank, N.A. acting as administrative agent. The credit facility is secured by the assets of DMC including accounts receivable, inventory, and fixed assets, including Arcadia and its subsidiary, as well as guarantees and share pledges by DMC and its subsidiaries.

Borrowings under the \$150,000 Term Loan and \$50,000 revolving loan limit can be in the form of Adjusted Daily Simple Secured Overnight Financing Rate (“SOFR”) loans or one month Adjusted Term SOFR loans. Additionally, U.S. dollar borrowings on the revolving loan can be in the form of Base Rate loans (Base Rate borrowings are based on the greater of the administrative agent’s Prime rate, an adjusted Federal Funds rate or an adjusted SOFR rate). SOFR loans bear interest at the applicable SOFR rate plus an applicable margin (varying from 1.50% to 3.00%). Base Rate loans bear interest at the defined Base Rate plus an applicable margin (varying from 0.50% to 2.00%). As of December 31, 2022, no amounts were outstanding on the revolver.

The credit facility includes various covenants and restrictions, certain of which relate to the payment of dividends or other distributions to stockholders; redemption of capital stock; incurrence of additional indebtedness; mortgaging, pledging or disposition of major assets; and maintenance of specified ratios.

The leverage ratio is defined in the credit facility as the ratio of Consolidated Funded Indebtedness (as defined in the credit facility) on the last day of any trailing four quarter period to Consolidated Pro Forma EBITDA (as defined in the credit facility) for such period. The maximum leverage ratio permitted by our credit facility is 3.25 to 1.0 from the quarter ended December 31, 2022 through the quarter ended March 31, 2023, and 3.0 to 1.0 from the quarter ended June 30, 2023 and thereafter.

The debt service coverage ratio is defined in the credit facility as the ratio of Consolidated Pro Forma EBITDA less the sum of capital distributions paid in cash (other than those made with respect to preferred stock issued under the Operating Agreement), Consolidated Unfunded Capital Expenditures (as defined in the credit facility), and net cash income taxes to the sum of cash interest expense, any dividends on the preferred stock paid in cash, and scheduled principal payments on funded indebtedness. Under our credit facility, the minimum debt service coverage ratio permitted is 1.35 to 1.0.

As of December 31, 2022, we were in compliance with all financial covenants and other provisions of our debt agreements.

Line of Credit with German Bank

We maintain a line of credit with a German bank with a borrowing capacity of €7,000 for our NobelClad and DynaEnergetics operations in Europe. This line of credit is also used to issue bank guarantees to customers to secure advance payments made by them. As of December 31, 2022 and 2021, we had no outstanding borrowings under this line of credit and bank guarantees of €2,221 and €2,997, respectively, were secured by the line of credit. The line of credit bears interest at a EURIBOR-based variable rate which at December 31, 2022 was 6.76%. The line of credit has open-ended terms and can be canceled by the bank at any time.

Debt Issuance Costs

Included in "Long-term debt" are deferred debt issuance costs of \$2,202 and \$2,575 as of December 31, 2022 and 2021, respectively. Deferred debt issuance costs are being amortized over the remaining term of the credit facility, which expires on December 23, 2026.

8. STOCKHOLDERS' EQUITY AND EMPLOYEE STOCK PLANS

Employee stock plans

Our stock-based compensation expense results from restricted stock awards ("RSAs"), restricted stock units ("RSUs"), performance share units ("PSUs"), and stock issued under the Employee Stock Purchase Plan. The following table sets forth the total stock-based compensation expense included in the Consolidated Statements of Operations for the years ended December 31:

	2022	2021	2020
Cost of products sold	\$ 506	\$ 604	\$ 652
General and administrative expenses	8,304	5,360	4,408
Selling and distribution expenses	1,248	610	615
Stock-based compensation expense	10,058	6,574	5,675
Income tax benefit	(1,716)	(1,342)	(1,313)
Stock-based compensation expense, net of income taxes	<u>8,342</u>	<u>5,232</u>	<u>4,362</u>
Earnings per share impact			
Basic	<u>\$ 0.43</u>	<u>\$ 0.30</u>	<u>\$ 0.29</u>
Diluted	<u>\$ 0.43</u>	<u>\$ 0.30</u>	<u>\$ 0.29</u>

On November 4, 2016, our stockholders approved the 2016 Omnibus Incentive Plan ("2016 Plan"). The 2016 Plan provides for the granting of various types of equity-based incentives, including stock options, RSAs, RSUs, stock appreciation rights, performance shares, performance units, other stock-based awards, and cash-based awards. Our stockholders approved a total of 5,000,000 shares available for grant under the 2016 Plan, less 1,639,881 of RSAs and RSUs previously granted under the 2006 Stock Incentive Plan ("2006 Plan") as of the 2006 Plan's expiration of September 21, 2016. As of the inception of the 2016 Plan on September 21, 2016, 3,360,119 shares were available for grant under the 2016 Plan. As of December 31, 2022, there are 1,979,627 shares available for future grant.

RSAs and RSUs are granted to employees and non-employee directors based on time-vesting. For RSAs or RSUs granted to employees, vesting typically occurs in one-third increments on the first, second, and third anniversary of the grant date. For RSAs or RSUs granted to non-employee directors, vesting occurs on the first anniversary of the grant date. Each RSA represents a restricted share of common stock that has voting and dividend rights and becomes fully unrestricted upon vesting. Each RSU represents the right to receive one share of stock upon vesting.

The fair value of RSAs and RSUs granted to employees and non-employee directors is based on the fair value of DMC's stock on the grant date. RSAs and RSUs granted to employees and non-employee directors are amortized to compensation expense over the vesting period on a straight-line basis. Our policy is to recognize forfeitures of RSAs and RSUs as they occur.

PSUs are granted to employees with vesting based on performance and market conditions. Each PSU represents the right to receive stock upon the achievement of certain conditions. A target number of PSUs is awarded on the grant date, and the recipient is eligible to earn shares of common stock between 0% and 200% of the number of targeted PSUs awarded. A portion of an employee's grant is based on actual performance against a target Adjusted EBITDA goal while the remainder is based on relative total shareholder return ("TSR") performance compared to our peer group disclosed in our Proxy Statement. For awards granted in 2020 through 2022, 25% of the grant was based on the achievement of targeted Adjusted EBITDA and 75% of the grant was based on the achievement of relative TSR performance. For PSUs granted prior to 2020, 50% of the grant was based on the achievement of target Adjusted EBITDA and 50% of the grant was based on the achievement of relative TSR performance. The PSUs earned, if any, cliff vest at the end of the third year following the year of grant based on the degree of satisfaction of the PSUs performance and market conditions.

The fair value of PSUs with target Adjusted EBITDA performance conditions is based on the fair value of DMC's stock on the grant date, and the value is amortized to compensation expense over the vesting period and is adjusted based on the estimated probable satisfaction of the performance condition at the end of each reporting period. The fair value of PSUs with TSR performance conditions is based on a third-party valuation simulating a range of possible TSR outcomes over the performance period, and the resulting fair value is amortized to compensation expense over the vesting period on a straight-line basis. Our policy is to recognize forfeitures of PSUs as they occur.

In December 2022, we recorded a nonrecurring expense of \$1,959 associated with the retirement of the former president of Arcadia. Expense recorded includes \$59 of accelerated stock-based compensation, with the remainder representing cash compensation to be paid in the future in accordance with the terms of the executive's pre-existing employment agreement.

A summary of the activity of our unvested RSAs issued under the 2016 Plan is as follows:

	2016 Plan	
	Shares	Weighted Average Grant Date Fair Value
Balance at December 31, 2020	249,565	\$ 27.81
Granted	120,872	50.48
Vested	(140,537)	26.96
Forfeited	(250)	45.47
Balance at December 31, 2021	229,650	\$ 40.26
Granted	196,955	26.43
Vested	(151,828)	36.01
Forfeited	(1,000)	29.77
Balance at December 31, 2022	273,777	\$ 32.71

A summary of the activity of our unvested RSUs issued under the 2016 Plan is as follows:

	2016 Plan	
	Shares	Weighted Average Grant Date Fair Value
Balance at December 31, 2020	71,440	\$ 31.65
Granted	12,989	67.78
Vested	(32,131)	29.95
Forfeited	—	—
Balance at December 31, 2021	52,298	\$ 41.67
Granted	27,397	28.59
Vested	(35,101)	34.29
Forfeited	(73)	25.81
Balance at December 31, 2022	44,521	\$ 39.47

A summary of the activity of our unvested PSUs issued under the 2016 Plan is as follows:

	2016 Plan	
	Shares	Weighted Average Grant Date Fair Value
Balance at December 31, 2020	56,110	\$ 57.63
Granted	44,861	59.65
Vested	(40,000)	26.47
Balance at December 31, 2021	60,971	\$ 79.56
Granted	84,165	31.45
Vested	(404)	48.23
Balance at December 31, 2022	144,732	\$ 51.67

As of December 31, 2022, total unrecognized stock-based compensation related to unvested awards was as follows:

	Unrecognized stock compensation	Weighted-average recognition period
Unvested RSAs	\$ 5,275	1.4 years
Unvested RSUs	\$ 930	1.5 years
Unvested PSUs	\$ 2,485	1.1 years

Employee Stock Purchase Plan

We have an Employee Stock Purchase Plan (“ESPP”) pursuant to which we are authorized to issue up to 850,000 shares of DMC common stock, of which 181,955 shares remain available for future purchase as of December 31, 2022. The offerings begin on the first day following each previous offering (“Offering Date”) and end six months from the Offering Date (“Purchase Date”). The ESPP provides that full time employees may authorize DMC to withhold up to 15% of their earnings, subject to certain limitations, to be used to purchase stock at the lesser of 85% of the fair market value of the stock on the Offering Date or the Purchase Date. In connection with the ESPP, 12,975, 12,120, and 18,462 shares of our stock were purchased during the years ended December 31, 2022, 2021, and 2020, respectively. Our total stock-based compensation expense for 2022, 2021, and 2020 includes \$67, \$121, and \$133, respectively, in compensation expense associated with the ESPP.

Equity Offering

On May 3, 2021, the Company announced a registered public offering ("Offering") of its stock under an automatic shelf registration statement on Form S-3ASR filed on May 3, 2021. The Company entered into an underwriting agreement with KeyBanc Capital Markets Inc. ("KeyBanc"), as representative of the underwriters (collectively, the "Underwriters"), pursuant to which the Company agreed to sell 2,500,000 shares of its \$0.05 par value common stock to the Underwriters. In addition, the Underwriters were granted an option, exercisable within 30 days, to purchase up to an additional 375,000 shares of common stock to cover over-allotments, if any, on the same terms and conditions.

On May 7, 2021, DMC issued a total of 2,875,000 shares of its common stock, which included the exercise of the over-allotment option, at a market price of \$5 per share resulting in gross proceeds of \$129,375. Net proceeds from the offering were \$123,461, after deducting underwriter fees and other expenses of \$5,914. The net proceeds from the offering were primarily used in the acquisition of Arcadia. Between the offering date and the acquisition date, we invested the proceeds from the offering in highly liquid marketable securities, including commercial paper and U.S. Treasury securities.

At-the-Market Equity Program

On October 22, 2020, the Company commenced an at-the-market ("ATM") equity program under a shelf registration statement filed on May 12, 2020, which allows it to sell and issue up to \$75 million in shares of its common stock from time to time. The Company entered into an Equity Distribution Agreement on October 22, 2020 with KeyBanc relating to the issuance and sale of shares of common stock pursuant to the program. KeyBanc is not required to sell any specific amount of securities but will act as our sales agent using commercially reasonable efforts consistent with its normal trading and sales practices, on mutually agreed terms between KeyBanc and us. KeyBanc is entitled to compensation for shares sold pursuant to the program in an amount up to 1.5% of the gross proceeds of any shares of common stock sold under the Equity Distribution Agreement. The Company may at any time suspend solicitation and offers under the Equity Distribution Agreement, and the Equity Distribution Agreement may be terminated by either KeyBanc or us at any time upon three days' written notice or automatically upon the issuance and sale of all shares subject to the ATM equity program.

During the twelve months ended December 31, 2020, the Company sold 608,360 shares of common stock through its ATM program for gross proceeds of \$6,132 at a weighted average price per share of \$42.95. Net proceeds from such sales were \$25,740, after deducting commissions paid to the sales agents of approximately \$92.

During the twelve months ended December 31, 2021, the Company sold 397,820 shares of common stock through its ATM equity program for gross proceeds of \$5,647 at a weighted average price per share of \$64.47. Net proceeds from such sales were \$25,262, after deducting commissions paid to the sales agents of approximately \$85.

During the twelve months ended December 31, 2022, the Company did not sell any shares of common stock through its ATM equity program.

Since the inception of the program, the Company has sold 1,006,180 shares of common stock for gross proceeds of \$1,779 at a weighted average price per share of \$51.46. Total net proceeds from sales through the ATM program have been \$1,002. We primarily used the net proceeds from the ATM equity program in the acquisition of Arcadia. Prior to the use of the proceeds in the Arcadia acquisition, a portion of the proceeds from the ATM program were invested in highly liquid marketable securities, including commercial paper and U.S. Treasury securities.

9. EMPLOYEE BENEFIT PLANS

401(k) Plan

We offer a contributory 401(k) plan to our U.S. employees, including Arcadia employees beginning in March 2022. We make matching contributions equal to 00% of each employee's contribution up to 3% of qualified compensation and 50% of the next 2% of qualified compensation contributed by each employee. Total DMC contributions were \$1,772, \$1,057, and \$1,069 for the years ended December 31, 2022, 2021 and 2020, respectively.

Foreign Subsidiary Defined Benefit and Defined Contribution Plans

We have defined benefit pension plans at certain foreign subsidiaries for which we have recorded an unfunded pension obligation of \$,352 and \$2,018 as of December 31, 2022 and 2021, respectively, which is included in "Other long-term

liabilities" in the Consolidated Balance Sheets. Annual adjustments to the obligation are based upon actuarial calculations and are recorded within "General and administrative expenses" in the Consolidated Statements of Operations. We recognized income of \$536 and \$222 for the years ended December 31, 2022 and 2021, respectively, and expense of \$122 for the year ended December 31, 2020.

During the fourth quarter of 2020, a new defined contribution pension plan went into effect for employees at certain foreign subsidiaries, which replaced the defined benefit plan. Under the new plan, pension benefits will be financed both through contributions by the Company and employees. The Company contributes between 1.5% and 4.5% of the employee's salary annually. During the years ended December 31, 2022, 2021 and 2020, the Company contributed \$61, \$282 and \$323, respectively, to the defined contribution plan. Past contributions into the defined benefit plan were unchanged by the new defined contribution plan.

Deferred Compensation Plan

The Company maintains a Non-Qualified Deferred Compensation Plan (the "Plan") as part of its overall compensation package for certain employees. Participants are eligible to defer a portion of their annual salary, their annual incentive bonus, and their equity awards through the Plan on a tax-deferred basis. Deferrals into the Plan are not matched or subsidized by the Company, nor are they eligible for above-market or preferential earnings.

The Plan provides for deferred compensation obligations to be settled either by delivery of a fixed number of shares of DMC's common stock or in cash, in accordance with participant contributions and elections. For deferred equity awards, subsequent to equity award vesting and after a period prescribed by the Plan, participants can elect to diversify contributions of equity awards into other investment options available to Plan participants. Once diversified, contributions of equity awards will be settled by delivery of cash.

The Company has established a grantor trust commonly known as a "rabbi trust" and contributed certain assets to satisfy the future obligations to participants in the Plan. These assets are subject to potential claims of the Company's general creditors. The assets held in the trust include unvested RSAs, vested company stock awards, company-owned life insurance ("COLI") on certain employees, and money market and mutual funds. Unvested RSAs and common stock held by the trust are reflected in the Consolidated Balance Sheets within "Treasury stock, at cost, and company stock held for deferred compensation, at par" at the par value of the common stock or unvested RSAs. These accounts are not adjusted for subsequent changes in the fair value of the common stock. COLI is accounted for at the cash surrender value while money market and mutual funds held by the trust are accounted for at fair value.

Deferred compensation obligations that will be settled in cash are accounted for on an accrual basis in accordance with the terms of the Plan. These obligations are adjusted based on changes in value of the underlying investment options chosen by Plan participants. Deferred compensation obligations that will be settled by delivery of a fixed number of previously vested shares of the Company's common stock are reflected in the Consolidated Statements of Stockholders' Equity within "Common stock" at the par value of the common stock or unvested RSAs. These accounts are not adjusted for subsequent changes in the fair value of the common stock.

The balances related to the deferred compensation plan are as follows for the years ended December 31:

		2022	2021
Consolidated Balance Sheet location			
Deferred compensation assets	Other assets	\$ 13,566	\$ 13,812
Deferred compensation obligations	Other long-term liabilities	\$ 15,292	\$ 15,944

10. INCOME TAXES

The domestic and foreign components of income (loss) before taxes for our operations consist of the following for the years ended December 31:

	2022	2021	2020
Domestic	\$ (302)	\$ (9,970)	\$ (7,103)
Foreign	23,511	7,416	5,143
Total income (loss) before income taxes	\$ 23,209	\$ (2,554)	\$ (1,960)

The components of the provision (benefit) for income taxes consist of the following for the years ended December 31:

	2022	2021	2020
Current – Federal	\$ 2,288	\$ (707)	\$ 162
Current – State	927	209	196
Current – Foreign	6,760	800	1,407
Current income tax expense	9,975	302	1,765
Deferred – Federal	(1,024)	(1,386)	(1,997)
Deferred – State	(175)	(996)	156
Deferred – Foreign	600	536	(472)
Deferred income tax benefit	(599)	(1,846)	(2,313)
Income tax provision (benefit)	\$ 9,376	\$ (1,544)	\$ (548)

Our deferred tax assets and liabilities consist of the following at December 31:

	2022	2021
Deferred tax assets:		
Net operating loss carryforward	\$ 6,565	\$ 7,388
Inventory differences	965	805
Equity compensation	1,850	1,661
Investment in joint venture	1,658	187
Restructuring	201	196
Purchased intangible assets and goodwill	527	759
Accrued employee compensation and benefits	4,144	4,113
Lease liabilities	2,880	2,795
Other, net	786	826
Gross deferred tax assets	19,576	18,730
Less valuation allowances	(6,277)	(6,640)
Total deferred tax assets	13,299	12,090
Deferred tax liabilities:		
Depreciation and amortization	(4,736)	(4,466)
Right-of-use assets	(2,633)	(2,551)
Other, net	(205)	(345)
Total deferred tax liabilities	(7,574)	(7,362)
Net deferred tax assets	\$ 5,725	\$ 4,728

As of December 31, 2022, we had loss carryforwards for tax purposes totaling approximately \$2,854, comprised of \$38,404 foreign and \$4,450 domestic state loss carryforwards, which will be available to offset future taxable income in certain jurisdictions. The significant majority of foreign losses can be carried forward indefinitely, while all other losses generally have carryforward periods of 5 to 20 years, depending on jurisdiction. We have analyzed the net operating losses and established valuation allowances on those where we have determined the realization is not more likely than not to occur.

We assess the available positive and negative evidence to estimate if sufficient future taxable income will be generated to use existing deferred tax assets. Additionally, a three-year cumulative loss at a Consolidated Financial Statement level may be viewed as negative evidence impacting a jurisdiction that by itself is not in a three-year cumulative loss position. We continue to record valuation allowances against deferred tax assets where we do not believe sufficient future taxable income will be generated. Changes in our valuation allowance in 2022 are primarily attributable to changes in currency revaluation and movements in the underlying deferred tax assets. In 2021, we recorded a net decrease of \$1,926 in our valuation allowance,

primarily comprised of releases in the United States for state taxes and France due to a change in our estimates of future income in those jurisdictions, as well as remeasurement of our German valuation allowance due to a change in our German effective tax rate and currency revaluation. The amount of the deferred tax assets considered realizable can be adjusted in future periods if positive evidence such as current and expected future taxable income outweighs negative evidence.

A reconciliation of our income tax provision computed by applying the Federal statutory income tax rate of 21% to income before taxes is as follows for the years ended December 31:

	2022	2021	2020
Statutory U.S. federal income tax	\$ 4,874	\$ (536)	\$ (412)
Foreign rate differential	2,868	1,690	1,223
Permanent items	980	683	210
U.S. state income tax, net of federal benefit	569	(338)	(24)
(Income) loss attributable to noncontrolling interest	(333)	170	—
Equity compensation	202	(1,476)	(715)
Return to provision adjustments	134	(345)	(565)
Deemed repatriation of foreign earnings	64	—	—
German legal entity structuring	—	—	1,161
DynaEnergetics Siberia shut down	—	—	324
Research credits	—	—	(115)
Other	(14)	11	10
Change in valuation allowances	32	(1,403)	(1,645)
Income tax provision (benefit)	<u>\$ 9,376</u>	<u>\$ (1,544)</u>	<u>\$ (548)</u>

DMC files income tax returns in the U.S. federal jurisdiction, as well as various U.S. state and foreign jurisdictions. The Company is not currently under examination in any jurisdiction.

DMC's U.S. federal tax returns are open for examination for the tax years 2018 onward. Most of DMC's state tax returns remain open to examination for the tax years 2018 onward. DMC's foreign tax returns generally remain open to examination for the tax years 2018 onward, depending on jurisdiction.

At December 31, 2022 and 2021, the balance of unrecognized tax benefits was \$2,106 and zero, respectively. Included in the balance of unrecognized tax benefits as of December 31, 2022 are \$1,835 of tax benefits that, if recognized, would affect the effective tax rate. We recognize interest and penalties related to uncertain tax positions in operating expense. As of December 31, 2022 and 2021, our accrual for interest and penalties related to uncertain tax positions was zero.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	2022
Unrecognized tax benefits, December 31, 2021	\$ —
Additions based on tax positions related to the current year	2,106
Additions for tax positions of prior years	—
Reductions for tax positions of prior years	—
Settlements	—
Unrecognized tax benefits, December 31, 2022	<u>\$ 2,106</u>

The Tax Cuts and Jobs Act ("TCJA"), enacted in December 2017, provides that foreign earnings generally can be repatriated to the U.S. without federal tax consequence. We have reassessed the assertion that cumulative earnings by our foreign subsidiaries are indefinitely reinvested. We continue to permanently reinvest the earnings of our international subsidiaries and therefore we do not provide for U.S. income taxes or withholding taxes that could result from the distribution of those earnings to the U.S. parent. If any such earnings were ultimately distributed to the U.S. in the form of dividends or otherwise, or if the shares of our international subsidiaries were sold or transferred, we could be subject to additional U.S. federal and state income taxes. Due to the multiple avenues in which earnings can be repatriated, and because a large portion of these earnings are not liquid, it is not practical to estimate the amount of additional taxes that might be payable on these amounts of undistributed foreign income.

11. BUSINESS SEGMENTS

Our business is organized into three segments: Arcadia, DynaEnergetics, and NobelClad. In December 2021, DMC acquired a 60% controlling interest in Arcadia. Arcadia supplies architectural building products, including exterior and interior framing systems, curtain walls, windows, doors, and interior partitions to the commercial construction market; it also supplies customized windows and doors to the high-end residential construction market. DynaEnergetics designs, manufactures and distributes highly engineered products utilized by the global oil and gas industry principally for the perforation of oil and gas wells. NobelClad is a leader in the production of explosion-welded clad metal plates for use in the construction of corrosion resistant industrial processing equipment, as well as specialized transition joints for use in construction of commuter rail cars, ships, and LNG processing equipment.

The accounting policies of our segments are the same as those described in Note 2 "Significant Accounting Policies". Our reportable segments are separately managed, strategic business units that offer different products and services, and each segment has separate financial information available that is evaluated regularly by the Chief Operating Decision Maker ("CODM") in allocating resources and assessing performance. Each segment's products are marketed to different customer types and require different manufacturing processes and technologies.

Segment information is as follows as of and for the years ended December 31:

	2022	2021	2020
Net sales:			
Arcadia	\$ 299,527	\$ —	\$ —
DynaEnergetics	264,327	175,356	146,395
NobelClad	90,232	84,759	82,766
Net sales	<u>\$ 654,086</u>	<u>\$ 260,115</u>	<u>\$ 229,161</u>

	2022	2021	2020
Income (loss) before income taxes:			
Arcadia	\$ 3,962	\$ (2,020)	\$ —
DynaEnergetics	39,055	8,235	6,150
NobelClad	7,989	9,783	6,886
Segment operating income	51,006	15,998	13,036
Unallocated corporate expenses	(13,164)	(11,826)	(8,357)
Unallocated stock-based compensation*	(7,852)	(6,574)	(5,675)
Other (expense) income, net	(594)	152	(233)
Interest expense, net	(6,187)	(304)	(731)
Income (loss) before income taxes	<u>\$ 23,209</u>	<u>\$ (2,554)</u>	<u>\$ (1,960)</u>

*Stock-based compensation is not allocated to wholly owned segments, DynaEnergetics and NobelClad. Stock-based compensation is allocated to the Arcadia segment as 60% of such expense is attributable to the Company, whereas the remaining 40% is attributable to the redeemable noncontrolling interest holder.

	2022	2021	2020
Depreciation and Amortization:			
Arcadia	\$ 39,222	\$ 415	\$ —
DynaEnergetics	7,877	8,126	7,263
NobelClad	3,730	3,807	3,504
Segment depreciation and amortization	50,829	12,348	10,767
Corporate and other	378	346	314
Consolidated depreciation and amortization	<u>\$ 51,207</u>	<u>\$ 12,694</u>	<u>\$ 11,081</u>

	2022	2021	2020
Acquisition of property, plant and equipment			
Arcadia	\$ 7,168	\$ 42	\$ —
DynaEnergetics	5,660	5,455	11,741
NobelClad	5,298	2,730	1,975
Segment acquisition of property, plant and equipment	18,126	8,227	13,716
Corporate and other	458	432	137
Consolidated acquisition of property, plant and equipment	<u>\$ 18,584</u>	<u>\$ 8,659</u>	<u>\$ 13,853</u>

	2022	2021
Assets:		
Arcadia	\$ 498,257	\$ 501,166
DynaEnergetics	183,991	156,593
NobelClad	54,528	53,467
Segment assets	736,776	711,226
Cash and cash equivalents	25,144	30,810
Prepaid expenses and other assets	106,101	111,606
Deferred tax assets	7,633	6,930
Corporate property, plant and equipment	3,324	3,840
Consolidated assets	<u>\$ 878,978</u>	<u>\$ 864,412</u>

The geographic location of our property, plant and equipment, net of accumulated depreciation, is as follows at December 31:

	2022	2021
United States	\$ 102,804	\$ 94,209
Germany	26,479	27,680
Canada	84	101
France	71	75
Rest of the world	7	13
Total	<u>\$ 129,445</u>	<u>\$ 122,078</u>

The disaggregation of revenue earned from contracts with customers based on the geographic location of the customer is as follows. For Arcadia, net sales have been presented consistent with United States regional definitions as provided by the American Institute of Architects. For DynaEnergetics and NobelClad, all net sales are from products shipped from our manufacturing facilities and distribution centers located in the United States, Germany, and Canada. The following represents our net sales based on the geographic location of the customer for years ended December 31:

Arcadia

	2022
West	\$ 235,705
South	37,061
Northeast	14,103
Midwest	12,658
Total Arcadia	<u>\$ 299,527</u>

DynaEnergetics

	2022	2021	2020
United States	\$ 211,025	\$ 136,053	\$ 110,903
Canada	17,156	12,149	3,830
Egypt	5,780	3,244	3,413
India	5,133	1,154	5,814
Turkey	4,602	3,153	2,887
Iraq	3,574	72	3,287
Oman	3,188	2,830	2,551
Indonesia	2,022	1,131	1,832
Kuwait	1,801	1,559	1,716
United Arab Emirates	1,525	230	840
Algeria	1,305	976	1,068
Hong Kong	1,158	1,731	435
Romania	851	776	425
Pakistan	843	543	876
Norway	545	1,219	368
Germany	521	774	605
Ukraine	—	3,742	1,591
Rest of the world ⁽¹⁾	3,298	4,020	3,954
Total DynaEnergetics	<u>\$ 264,327</u>	<u>\$ 175,356</u>	<u>\$ 146,395</u>

⁽¹⁾Rest of the world does not include any individual country comprising sales greater than 1% of total DynaEnergetics revenue.

NobelClad

	2022	2021	2020
United States	\$ 38,818	\$ 37,283	\$ 38,311
Canada	9,610	4,779	6,597
Germany	4,630	2,496	5,100
China	3,902	10,365	5,389
Sweden	3,743	1,205	1,569
United Arab Emirates	3,582	3,613	4,008
South Korea	3,242	2,144	1,972
India	3,116	1,908	1,421
Saudi Arabia	2,212	328	481
Netherlands	2,094	1,984	1,765
France	2,057	2,197	2,895
South Africa	1,970	886	870
Australia	1,799	1,301	1,519
Italy	1,766	1,422	1,220
Norway	1,309	992	2,215
Brazil	1,228	—	276
Belgium	603	2,547	1,213
Spain	449	473	2,670
Taiwan	431	415	588
Argentina	230	405	298
Russia ⁽¹⁾	191	4,057	—
Singapore	60	1,009	207
Rest of the world ⁽²⁾	3,190	2,950	2,182
Total NobelClad	<u>\$ 90,232</u>	<u>\$ 84,759</u>	<u>\$ 82,766</u>

⁽¹⁾ Future sales to Russia have been suspended indefinitely due to the ongoing conflict in Ukraine.

⁽²⁾ Rest of the world does not include any individual country comprising sales greater than 1% of total NobelClad revenue.

During the years ended December 31, 2022 and 2021, no single customer accounted for greater than 10% of total net sales. During the year ended December 31, 2020, one customer in our DynaEnergetics segment accounted for approximately 12% of total net sales. As of December 31, 2022, one DynaEnergetics customer accounted for approximately 15% of consolidated accounts receivable. As of December 31, 2021, no single customer accounted for greater than 10% of consolidated accounts receivable.

12. DERIVATIVE INSTRUMENTS

We are exposed to foreign currency exchange risk resulting from fluctuations in exchange rates, primarily the U.S. dollar to the euro, the U.S. dollar to the Canadian dollar and, to a lesser extent, other currencies, arising from intercompany and third-party transactions entered into by our subsidiaries that are denominated in currencies other than their functional currency. Changes in exchange rates with respect to these transactions result in unrealized gains or losses if such transactions are unsettled at the end of the reporting period or realized gains or losses at settlement of the transaction. We use foreign currency forward contracts to offset foreign exchange rate fluctuations on foreign currency denominated asset and liability positions. None of these contracts are designated as accounting hedges, and all changes in the fair value of the forward contracts are recognized in "Other (expense) income, net" within our Consolidated Statements of Operations.

We execute derivatives with a specialized foreign exchange brokerage firm as well as other large financial institutions. The primary credit risk inherent in derivative agreements is the possibility that a loss may occur from the nonperformance of a counterparty to the agreements. We perform a review of the credit risk of our counterparties at the inception of the contract and on an ongoing basis. We anticipate that our counterparties will be able to fully satisfy their obligations under the agreements but will take action if doubt arises regarding the counterparties' ability to perform.

As of December 31, 2022 and 2021, the notional amounts of the forward currency contracts the Company held were \$1,907 and \$13,032, respectively. At December 31, 2022 and 2021, the fair values of outstanding foreign currency forward contracts were \$0.

The following table presents the location and amount of net gains (losses) from hedging activities, which offset foreign currency gains and losses recorded in the normal course of business that are not presented below, for the years ended December 31:

Derivative type	Income Statement Location	2022	2021	2020
Foreign currency contracts	Other (expense) income, net	\$ 352	\$ (271)	\$ (1,058)

13. COMMITMENTS AND CONTINGENCIES

Contingent Liabilities

The Company records an accrual for contingent liabilities when a loss is both probable and reasonably estimable. If some amount within a range of loss appears to be a better estimate than any other amount within the range, that amount is accrued. When no amount within a range of loss appears to be a better estimate than any other amount, the lowest amount in the range is accrued.

Legal Proceedings

From time to time, we may become involved in various lawsuits and legal proceedings which arise in the ordinary course of business. However, litigation is subject to inherent uncertainties, and an adverse result in these or other matters may arise from time to time that may harm our business. We are currently not aware of any such legal proceedings or claims that we believe will have, individually or in the aggregate, a material adverse effect on our business, financial condition or operating results except as set forth below:

Wage and Hour Matters

Felipe v. Arcadia, Inc. and One Stop Employment Services, Inc. ("One Stop"). This complaint was filed on October 22, 2021 in Los Angeles Superior Court and purports to allege a class action on behalf of all non-exempt California employees who worked on behalf of One Stop or Arcadia at any time during the four years preceding the date of the complaint. One Stop is a staffing agency which provides temporary workers, including to Arcadia. The complaint states claims under California's labor laws and under its general Unfair Business Practices Act, California Business & Professions Code section 17200. The plaintiff has subsequently dismissed the class action claims without prejudice, acknowledging that Arcadia's arbitration agreement likely bars such class claims. The plaintiff also filed a separate action under California's Private Attorneys General Act ("PAGA") alleging essentially the same wage and hour violations. This action included other Arcadia employees. In *Viking River Cruises, Inc. versus Moriana*, the U.S. Supreme Court concluded that arbitration agreements may bar representative PAGA claims. However, *Viking River* left open certain state law issues, which the California Supreme Court has agreed to address. Currently, Felipe's PAGA representative claims are stayed, and will likely remain stayed until a California Supreme Court ruling. The plaintiff has however commenced arbitration on individual claims, though no dates have yet been set in that arbitration.

Mayorga v. Arcadia, Inc. This complaint was filed on November 15, 2021 in Los Angeles Superior Court. It purported to allege a class action on behalf of all of the Company's non-exempt California employees who worked at the Company within four years before the date the complaint was filed. It asserts claims substantially similar to those asserted in the *Felipe* case but does not include One Stop as a defendant. The plaintiff amended his complaint to delete class action claims and any individual non-PAGA claims. Accordingly, plaintiff's complaint is now limited to PAGA collective action claims. As in *Felipe*, those PAGA representative claims are currently stayed and will likely remain stayed until the California Supreme Court addresses the state law issues left open by the U.S. Supreme Court's decision in *Viking River Cruises, Inc. versus Moriana*. The plaintiff has however commenced arbitration on a solely individual basis of his wage and hour claims. The arbitral body has appointed an arbitrator to adjudicate those claims and a hearing has been set for 2024. The remaining *Mayorga* PAGA representative claims have now been assigned to the same judge as the *Felipe* case.

We have agreed to mediate the *Felipe* claims in May 2023, and in any settlement arising out of this process, we would intend to resolve the claims in both *Mayorga* and *Felipe* to the extent asserted on behalf of other employees.

Arcadia intends to vigorously defend against the *Felipe* and *Mayorga* actions. Due to the nature of these matters and inherent uncertainties, it is not possible to provide an evaluation of the likelihood of an unfavorable outcome or an estimate of the amount or range of potential loss, if any. Further, under the Equity Purchase Agreement, certain amounts have been placed in escrow pending resolution of these matters.

14. SUBSEQUENT EVENTS

On January 15, 2023, our former President and Chief Executive Officer ("CEO") stepped down. The Company and former CEO have entered into a separation agreement pursuant to which, among other things, the former CEO will receive, subject to the terms and conditions of the agreement, certain severance benefits consistent with his pre-existing employment agreement with the Company. These severance benefits include up to 18 months of salary, a lump sum bonus cash payment, and accelerated vesting of outstanding equity awards. The Company will evaluate the financial statement impacts of this matter during the first quarter of 2023.

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

There are no changes in or disagreements with accountants on accounting and financial disclosure for the fiscal year ended December 31, 2022.

ITEM 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our Chief Executive Officers and Chief Financial Officer have evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934). Based on that evaluation, the Company's Chief Executive Officers and Chief Financial Officer concluded that the Company's disclosure controls and procedures were effective as of December 31, 2022. Our management's annual report on internal control over financial reporting is set forth below.

Management’s Report on Internal Control over Financial Reporting

The management of DMC Global Inc. (“DMC” or the “Company”) is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f).

Under the supervision and with the participation of DMC’s management, including its Chief Executive Officers and Chief Financial Officer, management conducted an evaluation of the effectiveness of DMC’s internal control over financial reporting as of December 31, 2022 based on the 2013 framework in "Internal Control - Integrated Framework" issued by the Committee of Sponsoring Organizations of the Treadway Commission. In designing and evaluating the internal control over financial reporting, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. 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.

Based upon this evaluation, our Chief Executive Officers and Chief Financial Officer concluded that, as of December 31, 2022, our internal controls over financial reporting were effective.

DMC’s internal control over financial reporting as of December 31, 2022 has also been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in their attestation report which expressed an unqualified opinion and is included elsewhere herein.

Changes in Internal Control Over Financial Reporting

There has been no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) promulgated under the Exchange Act) during the fourth quarter of 2022, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

/s/ David C. Aldous

David C. Aldous
Co-President and Chief Executive Officer
February 27, 2023

/s/ Michael Kuta

Michael Kuta
Co-President and Chief Executive Officer and Chief Financial Officer
February 27, 2023

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of DMC Global Inc.

Opinion on Internal Control Over Financial Reporting

We have audited DMC Global Inc.'s internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, DMC Global Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity and redeemable noncontrolling interest and cash flows for each of the three years in the period ended December 31, 2022, and the related notes and our report dated February 27, 2023 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with 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/ Ernst & Young LLP

Denver, Colorado
February 27, 2023

ITEM 9B. Other Information

Not applicable.

PART III

ITEM 10. Directors, Executive Officers and Corporate Governance

Item 10 incorporates information by reference to our Proxy Statement for the 2023 Annual Meeting of Stockholders, which is expected to be filed with the SEC within 120 days of the close of fiscal year 2022.

ITEM 11. Executive Compensation

Item 11 incorporates information by reference to our Proxy Statement for the 2023 Annual Meeting of Stockholders, which is expected to be filed with the SEC within 120 days of the close of fiscal year 2022.

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

Item 12 incorporates information by reference to our Proxy Statement for the 2023 Annual Meeting of Stockholders, which is expected to be filed with the SEC within 120 days of the close of fiscal year 2022.

For information regarding securities authorized for issuance under our equity compensation plans see the Proxy Statement for our 2023 Annual Meeting of Shareholders, which information is incorporated herein by reference.

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

Item 13 incorporates information by reference to our Proxy Statement for the 2023 Annual Meeting of Stockholders, which is expected to be filed with the SEC within 120 days of the close of fiscal year 2022.

ITEM 14. Principal Accounting Fees and Services

Item 14 incorporates information by reference to our Proxy Statement for the 2023 Annual Meeting of Stockholders, which is expected to be filed with the SEC within 120 days of the close of fiscal year 2022.

PART IV

ITEM 15. Exhibits and Financial Statement Schedules

(a)(1) **Financial Statements**

See Index to Financial Statements in Item 8 of this Annual Report on Form 10-K, which is incorporated herein by reference.

(a)(2) **Financial Statement Schedules**

All financial statement schedules have been omitted, since the required information is not applicable or is not present in amounts sufficient to require submission of the schedule, or because the information required is included in the consolidated financial statements and accompanying notes included in this Form 10-K.

(a)(3) **Exhibits**

Exhibit Number	Description
1.1	Equity Distribution Agreement by and between the Company and KeyBanc Capital Markets Inc., dated as of October 22, 2020 (incorporated by reference to Exhibit 1.1 to the Company's Form 8-K filed with the Commission on October 22, 2020).
3.1	Certificate of Amendment of Amended and Restated Certificate of Incorporation of the Company (incorporated by reference to Exhibit 3.1 to the Company's Form 10-Q filed with the Commission on August 4, 2022).
3.2	Amended and Restated Certificate of Incorporation of the Company (incorporated by reference to Exhibit 4.1 to the Company's Form 8-K filed with the Commission on November 4, 2016).
3.3	Amended and Restated Bylaws of the Company (incorporated by reference to Exhibit 3.4 to the Company's Form 8-K filed with the Commission on August 27, 2018).
4.1	Description of Capital Stock.
10.1	Credit Agreement dated as of December 23, 2021, by and among the Company, the borrowers party thereto, the guarantors party thereto, the Lenders party thereto, and KeyBank National Association, as administrative agent, (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the Commission on December 28, 2021).
10.2	Amended and Restated Limited Liability Company Agreement of Arcadia Products, LLC, dated December 23, 2021, by and among Arcadia Products, LLC, DMC Global Inc., DMC Korea, Inc., and New Arcadia Holdings, Inc. (incorporated by reference to Exhibit 10.2 to the Company's Form 8-K filed with the Commission on December 28, 2021).
10.3	Executive Employment Agreement, dated December 23, 2021, by and among James Schladen, DMC Global Inc. and Arcadia Products, LLC, (incorporated by reference to Exhibit 10.3 to the Company's Form 8-K filed with the Commission on December 28, 2021).
10.4	Restrictive Covenant Agreement, dated December 23, 2021, by and among James Schladen and Victoria Schladen, individually and as trustees of the Schladen Family Trust, Arcadia Products, LLC and DMC Global Inc. (incorporated by reference to Exhibit 10.4 to the Company's Form 8-K filed with the Commission on December 28, 2021).
10.5	Promissory Note, dated December 23, 2021, issued by Synergex Group LLC, trustee of the Munera Family ESBT to DMC Global Inc. (incorporated by reference to Exhibit 10.5 of the Company's Form 8-K filed with the Commission on December 28, 2021).
10.6	Management Services Agreement, dated December 23, 2021, between Arcadia Products, LLC and DMC Global Inc. (incorporated by reference to Exhibit 10.6 of the Company's Form 8-K filed with the Commission on December 28, 2021).
10.7	Consulting Services Agreement, dated December 23, 2021, between Synergex Group LLC, trustee of the Munera Family ESBT to DMC Global Inc. (incorporated by reference to Exhibit 10.7 to the Company's Form 8-K filed with the Commission on December 28, 2021).
10.8	Equity Purchase Agreement, dated December 16, 2021, by and among DMC Global Inc., Arcadia, Inc., New Arcadia Holdings, Inc. and each of the shareholders of Arcadia named therein, (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the Commission on December 21, 2021).
10.9	Employment Agreement, dated as of March 1, 2013, by and between the Company and Kevin Longe (incorporated by reference to Exhibit 10.2 to the Company's Form 10-K filed with the Commission on March 14, 2013). *

Exhibit Number	Description
	Severance and Release Agreement, dated as of February 13, 2023, by and between the Company and Kevin Longe (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on February 16, 2023). *
10.10	Employment Offer Letter dated February 23, 2014, from the Company to Michael L. Kuta (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the Commission on March 31, 2014). *
10.11	Employment Agreement dated July 26, 2013, from the Company to Ian Grieves (incorporated by reference to Exhibit 10.7 to the Company's Form 10-K filed with the Commission on March 9, 2017). *
10.12	Employment Offer Letter dated July 17, 2016, from the Company to Michelle H. Shepston (incorporated by reference to Exhibit 10.8 to the Company's Form 10-K filed with the Commission on March 9, 2017). *
10.13	Employment Agreement dated July 24, 2020 from the Company to Antoine Nobili. (incorporate by reference to Exhibit 10.10 to the Company's Form 10-K filed with the Commission on February 22, 2021). *
10.14	Employment Offer Letter dated December 20, 2022, from the Company to Eric Walter (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on January 20, 2023).*
10.15	Performance-Based Plan (incorporated by reference to Exhibit 10.3 to the Company's Form 8-K filed with the Commission on May 24, 2013). *
10.16	Amended and Restated Nonqualified Deferred Compensation Plan. (incorporated by reference to Exhibit 10.13 to the Company's Form 10-K filed with the Commission on March 8, 2018) *
10.17	2016 Omnibus Incentive Plan dated November 4, 2016 (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the Commission on November 4, 2016).
10.18	Form of Executive Officer Restricted Stock Award Agreement under 2016 Omnibus Incentive Plan (incorporated by reference to Exhibit 10.16 to the Company's Form 10-K filed with the Commission on March 9, 2017). *
10.19	Form of Director Restricted Stock Award Agreement under 2016 Omnibus Incentive Plan. (incorporated by reference to Exhibit 10.18 to the Company's Form 10-K filed with the Commission on March 8, 2018)
10.20	Form of Executive Officer Restricted Stock Unit Agreement under 2016 Omnibus Incentive Plan (incorporated by reference to Exhibit 10.17 to the Company's Form 10-K filed with the Commission on March 9, 2017). *
10.21	Form of Executive Officer Performance Unit Agreement under 2016 Omnibus Incentive Plan (incorporated by reference Exhibit 10.20 to the Company's Form-10-K filed with the Commission on March 1, 2022).*
10.22	Form of Indemnification Agreement (incorporated by reference to Exhibit 10.4 to the Company's Form 8-K filed with the Commission on January 24, 2011). *
10.23	Sublease for Dunbar, Pennsylvania clad metal shooting site dated December 16, 2000 by and between Mypodiamond, Inc. and the Company. (incorporated by reference to Exhibit 10.22 to the Company's Form 10-K filed with the Commission on March 8, 2018)
10.24	License Agreement dated July 29, 2008 by and between Coolspring Stone Supply Company, Inc. ("CSSC") and the Company. (incorporated by reference to Exhibit 10.23 to the Company's Form 10-K filed with the Commission on March 8, 2018)
10.25	First Amendment to License Agreement dated September 24, 2012 by and between CSSC and the Company. (incorporated by reference to Exhibit 10.24 to the Company's Form 10-K filed with the Commission on March 8, 2018)
10.26	Second Amendment to License Agreement dated March 31, 2018 by and between CSSC and the Company (incorporated by reference to Exhibit 10.25 to the Company's Form 10-K filed with the Commission on February 21, 2019).
10.27	Third Amendment to License Agreement dated July 1, 2022 by and between CSSC and the Company (incorporated by reference to Exhibit 10.31 to the Company's Form 10-Q filed with the Commission on November 3, 2022)
10.28	Risk Allocation, Consulting and Services Agreement dated April 1, 2008 by and between Snoddy Management, Inc. ("SMI") and the Company. (incorporated by reference to Exhibit 10.25 to the Company's Form 10-K filed with the Commission on March 8, 2018)
10.29	First Amendment to Risk Allocation, Consulting and Services Agreement dated September 24, 2012 by and between SMI and the Company. (incorporated by reference to Exhibit 10.26 to the Company's Form 10-K filed with the Commission on March 8, 2018)
10.30	Second Amendment to Risk Allocation, Consulting and Services Agreement dated March 31, 2018 by and between SMI and the Company (incorporated by reference to Exhibit 10.28 to the Company's Form 10-K filed with the Commission on February 21, 2019).

Exhibit Number	Description
10.31	Third Amendment to Risk Allocation, Consulting and Services Agreement dated July 1, 2022 by and between SMI and the Company (incorporated by reference to Exhibit 10.32 to the Company's Form 10-Q filed with the Commission on November 3, 2022)
10.32	Company's Employee Stock Purchase Plan, as amended (incorporated by reference from Appendix A to the Company's Definitive Proxy Statement filed April 5, 2017, relating to the Company's 2017 Annual Meeting of Stockholders).*
10.33	Lease Agreement for Broomfield, Colorado office space dated August 20, 2018 between Semaho, Inc. and the Company (incorporated by reference to Exhibit 10.28 to the Company's Form 10-Q filed on October 25, 2018).
21.1	Subsidiaries of the Company.
23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
31.1	Certification of the Co-President and Chief Executive Officer pursuant to 17 CFR 240.13a-14(a) or 17 CFR 240.15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of the Co-President and Chief Executive Officer and Chief Financial Officer pursuant to 17 CFR 240.13a-14(a) or 17 CFR 240.15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of the Co-President and Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of the Co-President and Chief Executive Officer and Chief Financial Officer 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 the Annual Report on Form 10-K of DMC Global Inc. For the year ended December 31, 2022, formatted in XBRL (eXtensible Business Reporting Language): (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Operations, (iii) the Consolidated Statements of Comprehensive Income (Loss), (iv) the Consolidated Statement of Stockholders' Equity and Redeemable Noncontrolling Interest, (v) the Consolidated Statements of Cash Flows, and (vi) the Notes to Consolidated Financial Statements.**

* Management contract or compensatory plan or arrangement.

** Pursuant to Rule 406T of Regulation S-T, the Interactive Data Files on Exhibit 101 hereto are deemed not filed or part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.

SIGNATURES

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

DMC Global Inc.

February 27, 2023

By: /s/ Michael Kuta
Michael Kuta
Co-President and Chief Executive Officer and Chief Financial 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 Company and in the capacities and on the dates indicated.

<u>SIGNATURE</u>	<u>TITLE</u>	<u>DATE</u>
<u>/s/ David C. Aldous</u> David C. Aldous	Co-President and Chief Executive Officer and Director (Principal Executive Officer)	February 27, 2023
<u>/s/ Michael Kuta</u> Michael Kuta	Co-President and Chief Executive Officer and Chief Financial Officer (Principal Financial and Accounting Officer)	February 27, 2023
<u>/s/ Richard P. Graff</u> Richard P. Graff	Interim Chairman and Director	February 27, 2023
<u>/s/ Andrea E. Bertone</u> Andrea E. Bertone	Director	February 27, 2023
<u>/s/ Robert A. Cohen</u> Robert A. Cohen	Director	February 27, 2023
<u>/s/ Ruth I. Dreessen</u> Ruth I. Dreessen	Director	February 27, 2023
<u>/s/ Michael A. Kelly</u> Michael A. Kelly	Director	February 27, 2023
<u>/s/ Clifton Peter Rose</u> Clifton Peter Rose	Director	February 27, 2023

DESCRIPTION OF CAPITAL STOCK

Our authorized capital stock consists of 50,000,000 shares of common stock, par value \$0.05 per share, and 4,000,000 shares of preferred stock, par value \$0.05 per share.

Common Stock

Holders of shares of our common stock are entitled to one vote per share on all matters to be voted on by stockholders. The holders of our common stock are entitled to receive such dividends, if any, as may be declared from time to time by our board of directors out of funds legally available therefor. Upon our liquidation or dissolution, the holders of our common stock are entitled to share ratably in the distribution of assets, subject to the rights of the holders of shares of preferred stock, if any. Holders of our common stock have no preemptive rights, subscription rights or conversion rights. There are no redemption or sinking fund provisions with respect to the common stock.

Preferred Stock

Our certificate of incorporation authorizes our board of directors to establish one or more series of preferred stock and to determine, with respect to any series of preferred stock, the terms and rights of the series, including dividend rights, conversion rights, exchange rights, terms of redemption, redemption price or prices, liquidation preferences, the number of shares constituting any series and the designation of such series. The rights of the holders of common stock will be subject to, and may be adversely affected by, the rights of the holders of any preferred stock issued by us.

Purposes and Effects of Certain Provisions of Our Certificate of Incorporation and Bylaws

General

Our certificate of incorporation and bylaws contain provisions that could make more difficult the acquisition of control of our company by means of a tender offer, open market purchases, a proxy contest or otherwise. A description of these provisions is set forth below.

Preferred Stock

We believe that the availability of the preferred stock under our certificate of incorporation will provide us with flexibility in structuring possible future financings and acquisitions and in meeting other corporate needs which might arise. Having these authorized shares available for issuance will allow us to issue shares of preferred stock without the expense and delay of a special stockholders' meeting. The authorized shares of preferred stock, as well as shares of common stock, will be available for issuance without further action by our stockholders, unless action is required by applicable law or the rules of any stock exchange on which our securities may be listed. Our board of directors has the power, subject to applicable law, to issue series of preferred stock that could, depending on the terms of the series, impede the completion of a merger, tender offer or other takeover attempt. Our board of directors will make any determination to issue shares based on its judgment as to our and our stockholders' best interests. In so acting, our board of directors could issue preferred stock having terms which could discourage an acquisition attempt or other transaction that some, or a majority, of the stockholders might believe to be in their best interests or in which stockholders might receive a premium for their stock over the then prevailing market price of the stock.

Stockholder Action and Voting Provisions

Our certificate of incorporation (i) does not permit stockholders to act by written consent, (ii) permits our board of directors to amend our bylaws and requires that amendments to our bylaws approved by stockholders receive the approval of holders of two-thirds of all voting securities then outstanding and (iii) generally prohibits our stockholders from filling any vacancies that arise on our board of directors. In addition, an amendment to these provisions would require the approval of holders of two-thirds of all voting securities then outstanding. Further, our bylaws impose certain notice requirements on stockholders seeking to propose nominees for our board of directors or other business to be conducted at a stockholders' meeting.

Limitation of Director and Officer Liability

Our certificate of incorporation and bylaws contain provisions that (i) limit the liability of our directors and officers with respect to the performance of their duties to us and (ii) generally require us to indemnify and advance expenses to our directors and officers in connection with legal proceedings associated with such duties, in each case to the extent permitted by Delaware law. These provisions may have the effect of reducing the likelihood of derivative litigation against our directors and officers and may discourage or deter stockholders or management from bringing a lawsuit against our directors or officers for breach of their duty of care, even though such an action, if successful, might otherwise have benefited our company and its stockholders. These provisions do not limit or affect a stockholder's ability to seek and obtain relief under federal securities laws.

Special Meetings of Stockholders

Our bylaws provide that special meetings of stockholders may be called only by our board of directors, the chairman of the board of directors, and our Chief Executive Officer.

SUBSIDIARIES OF THE COMPANY

Name of Subsidiary	State or Jurisdiction of Incorporation
DMC Korea Inc.	Colorado
DynaEnergetics Europe GmbH	Germany
DynaEnergetics Canada Inc.	Canada
NobelClad Europe GmbH	Germany
DynaEnergetics US, Inc.	Colorado
Dynamic Materials Corporation (HK) Ltd.	Hong Kong
NobelClad Europe SA	France
Dynamic Materials Corporation (Shanghai) Trading Co. Ltd.	China
Arcadia Products, LLC	Colorado
3225 E. Washington Blvd., LLC	California

**CONSENT OF INDEPENDENT REGISTERED PUBLIC
ACCOUNTING FIRM**

We consent to the incorporation by reference in the following Registration Statements:

- (1) Registration Statement (Form S-3 No. 333-238211, Form S-3 ASR 333-255719)
- (2) Registration Statement (Form S-8 No. 333-211328, Form S-8 No. 333-143355, Form S-8 No. 333-188796) pertaining to the Company's 2006 Stock Incentive Plan,
- (3) Registration Statement (Form S-8 No. 333-182979 and Form S-8 No. 333-218177) pertaining to the Company's Employee Stock Purchase Plan, and
- (4) Registration Statement (Form S-8 No. 333-214460) pertaining to the Company's 2016 Omnibus Incentive Plan;

Of our reports dated February 27, 2023, with respect to the consolidated financial statements of DMC Global, Inc. and the effectiveness of internal control over financial reporting of DMC Global, Inc. included in this Annual Report (Form 10-K) of DMC Global, Inc. for the year ended December 31, 2022.

/s/ Ernst & Young LLP

Denver, Colorado
February 27, 2023

CERTIFICATIONS

I, David C. Aldous, certify that:

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

Dated: February 27, 2023

/s/ David C. Aldous

David C. Aldous
Co-President and Chief Executive Officer
of DMC Global Inc.

CERTIFICATIONS

I, Michael Kuta, certify that:

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

Dated: February 27, 2023

/s/ Michael Kuta

Michael Kuta

Co-President and Chief Executive Officer and
Chief Financial Officer of DMC Global Inc.

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

In connection with the Annual Report of DMC Global Inc. (the "Company") on Form 10-K for the period ended December 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, David C. Aldous, co-President and Chief Executive Officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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

February 27, 2023

/s/ David C. Aldous

David C. Aldous
Co-President and Chief Executive Officer
of DMC Global Inc.

A signed original of this written statement required by Section 906 has been provided to DMC Global Inc. and will be retained by DMC Global Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

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

In connection with the Annual Report of DMC Global Inc. (the "Company") on Form 10-K for the period ended December 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Michael Kuta, co-President and Chief Executive Officer and Chief Financial Officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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

February 27, 2023

/s/ Michael Kuta

Michael Kuta

Co-President and Chief Executive Officer and
Chief Financial Officer of DMC Global Inc.

A signed original of this written statement required by Section 906 has been provided to DMC Global Inc. and will be retained by DMC Global Inc. and furnished to the Securities and Exchange Commission or its staff upon request.