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

FORM 10-K

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☐ TRANSITION REP			RITIES EXCHANGE ACT OF 1934	
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	3D SYST	TEMS CORPORAT	ΓΙΟΝ	
	(Exact name	of Registrant as Specified in its Cl	narter)	
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	Delaware (State or Other Jurisdiction of		95-4431352 (I.R.S. Employer	
	Incorporation or Organization)		Identification No.)	
	Ro	333 Three D Systems Circle ock Hill, South Carolina 29730 Principal Executive Offices and Zip	Code)	
	(Registrant's Telephone	Number, Including Area Co	de): (803) 326-3900	
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annua - an a	ant to Section 12(b) of the			
Title of ea	- Table 194	Trading Symbol	Name of each exchange on which registered	
Common Stock, par va	lue \$0.001 per share	DDD	New York Stock Exchange	
Securities registered pursuant to	Section 12(g) of the Act: None			
Indicate by check mark if the reg	gistrant is a well-known seasoned	issuer, as defined in Rule 405 of th	ne Securities Act. Yes □ No 🗷	
Indicate by check mark if the reg	gistrant is not required to file repo	orts pursuant to Section 13 or Section	on 15(d) of the Act. Yes □ No 🗷	
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			ta File required to be submitted pursuant to Rule d that the registrant was required to submit such file	
	the definitions of "large accelera		non-accelerated filer, a smaller reporting company iller reporting company," and "emerging growth co	
Large accelerated filer			Accelerated filer	X
Non-accelerated filer			Smaller reporting company	
Emerging growth company				

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

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

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

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

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

The aggregate market value of the registrant's Common Stock held by non-affiliates of the registrant on June 30, 2024 was \$396,822,398. For purposes of this computation, it has been assumed that the shares beneficially held by directors and executive officers of the registrant were "held by affiliates." This assumption is not to be deemed an admission by these persons that they are affiliates of the registrant.

The number of shares of the registrant's Common Stock outstanding as of March 17, 2025: 135,538,470.

DOCUMENTS INCORPORATED BY REFERENCE: Portions of the registrant's definitive proxy statement for its 2025 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission within 120 days after the end of the registrant's fiscal year ended December 31, 2024, are incorporated by reference into Part III of this Annual Report on Form 10-K.

3D SYSTEMS CORPORATION

Annual Report on Form 10-K For the Year Ended December 31, 2024

TABLE OF CONTENTS

PART I	4
Item 1. Business	4
Item 1A. Risk Factors	13
Item 1B. Unresolved Staff Comments	<u>26</u>
Item 1C. Cybersecurity	<u>26</u>
Item 2. Properties	28
Item 3. Legal Proceedings	<u>28</u>
Item 4. Mine Safety Disclosures	28
PART II	28
Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	28
Item 6. [Reserved]	30
Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations	31
Item 7A. Quantitative and Qualitative Disclosures about Market Risk	<u>53</u>
Item 8. Financial Statements and Supplementary Data	<u>54</u>
Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	<u>54</u>
Item 9A. Controls and Procedures	54
Item 9B. Other Information	<u>56</u>
Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections	<u>56</u>
PART III	<u>56</u>
Item 10. Directors, Executive Officers and Corporate Governance	<u>56</u>
Item 11. Executive Compensation	<u>56</u>
Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	<u>56</u>
Item 13. Certain Relationships and Related Transactions and Director Independence	<u>57</u>
Item 14. Principal Accountant Fees and Services	<u>57</u>
PART IV	<u>57</u>
Item 15. Exhibits and Financial Statement Schedules	<u>57</u>
Item 16. Form 10-K Summary	61

This Annual Report on Form 10-K ("Form 10-K") contains forward-looking statements, within the meaning of the Private Securities Litigation Reform Act of 1995, that involve risks and uncertainties. Many of the forward-looking statements are located in Part II, Item 7 of this Form 10-K under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations." Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from historical results or from any future results expressed or implied by such forward-looking statements. In many cases, you can identify forward-looking statements by terms such as "believes," "belief," "expects," "may," "will," "estimates," "intends," "anticipates," or "plans" or the negative of these terms or other comparable terminology. Forward-looking statements are based upon management's beliefs, assumptions and current expectations concerning future events and trends, using information currently available, and are necessarily subject to uncertainties, many of which are outside our control. Although we believe that the expectations reflected in the forward-looking statements are reasonable, forward-looking statements are not, and should not be relied upon as a guarantee of future performance or results, nor will they necessarily prove to be accurate indications of the times at or by which any such performance or results will be achieved. A number of important factors could cause actual results to differ materially from those expressed in or implied by the forward-looking statements. Factors that could cause such differences include, but are not limited to, those discussed in Part I, Item 1A of this Form 10-K under the heading "Risk Factors." All subsequent written and oral forward-looking statements attributable to the Company or to individuals acting on our behalf are expressly qualified in their entirety by this discussion. The Company assumes no obligation to revise or update any forwardlooking statements for any reason, except as required by law.

PART I

Item 1. Business

General

3D Systems Corporation ("3D Systems" or the "Company" or "we," "our" or "us") markets our products and services through subsidiaries in North America and South America (collectively referred to as "Americas"), Europe and the Middle East (collectively referred to as "EMEA") and Asia Pacific and Oceania (collectively referred to as "APAC"). We provide comprehensive 3D printing and digital manufacturing solutions, including 3D printers for plastics and metals, materials, software, and services, including maintenance, advanced manufacturing and applications engineering. Our solutions support advanced applications in two key industry verticals: Healthcare Solutions (which includes dental, medical devices, personalized health services and regenerative medicine) and Industrial Solutions (which includes aerospace, defense, transportation and general manufacturing). We have over 35 years of experience and expertise, which have proven vital to our development of an ecosystem and end-to-end digital workflow solutions that enable customers to optimize product designs, transform workflows, bring innovative products to market and drive new business models.

Business Strategy

Accelerating Additive Manufacturing Adoption

We partner with customers to enable them to adopt and scale additive manufacturing in their production environments. We believe that our additive manufacturing capabilities can help customers solve a number of design and manufacturing challenges - such as improved lead times, enhanced design freedom, part consolidation and the ability for mass customization. We believe that we have both the scale and the breadth of technologies, encompassing hardware platforms, materials and software, that our customers require for the successful implementation of additive manufacturing into their design and manufacturing processes. Using a strong application focus in each of our two business segments, our Applications Innovation Group integrates our printer hardware, materials, software and professional and technical services in unique combinations to solve a customer's product need. Once complete, we can scale the process for the customer to a certain production level through our Advanced Manufacturing solutions, and, with increasing demand, we can enable a customer to continue scaling to high volumes within their own production facilities. This transfer of the workflow involves providing the printing systems, materials and software, along with the process definition and other technical expertise, that enables a seamless transfer of capability to the manufacturer. We expect the result of this approach to drive recurring revenue streams as customers adopt additive manufacturing solutions and consume materials to produce parts, utilize software to manage the print process and manufacturing operations, and make use of our service offerings for application development, maintenance and upgrades. Our proficiency in providing industry focused application and solution development for customers includes a number of internal assets and capabilities, including:

- a. A full range of additive manufacturing hardware technologies and materials to address needs in metals and plastics (including biocompatible materials for medical use), wax and bioprinting
- An Application Innovation Group that includes industry and technology application experts, customer innovation and advanced manufacturing centers and post-sale service and support
- c. A software suite that enables end-to-end additive manufacturing including design, simulation, process management and manufacturing execution
- d. Scale that includes significant and diverse experience in production parts and applications combined with a global reach to service our customers worldwide

Investing in Regenerative Medicine

As an early and continuing innovator in additive manufacturing, we have significant experience in bringing this technology to new markets. Within our Healthcare Solutions segment, a portion of our business focuses on opportunities for additive manufacturing to be applied to regenerative medicine. To date, our efforts in the area of regenerative medicine have consisted primarily of pre-commercial bio-technology research and development ("R&D") in the areas described below.

Each year, end-stage organ failure kills millions of people, and the supply of donated organs is insufficient to meet the needs of patients seeking transplantation. Accordingly, our first area of focus is the use of additive manufacturing for human organ transplantation. In 2017, we entered into an arrangement that combined our 3D printing expertise and capabilities in human tissue engineering with the regenerative medicine and biotechnology expertise of a key strategic partner, with a long-term goal of developing the capability to 3D print lungs that will allow patients with end-stage lung disease to receive transplants that will enable them to enjoy long and active lives. In 2021, this program was expanded to also focus on developing the capability to print scaffolds for livers and kidneys, for which research continued through the start of 2024. Beginning in the first quarter of 2024, due to changes to our arrangement with and funding from our key strategic partner, the Company's continuing organ program returned to focusing on developing the capability to print human lung scaffolds, for which the related R&D efforts will continue to be primarily funded by our key strategic partner. Given the loss of funding for research on kidneys and liver from our key strategic partner, those programs were discontinued during the first quarter of 2024.

Our second area of focus seeks to utilize our bio-printing capabilities to design and manufacture 3D-printed vascularized "organs-on-chips" for use in drug development by pharmaceutical industry customers. Currently, drug development is an expensive and time-consuming process, and many drug therapies that appear promising during pre-clinical trials fail during human clinical trials. We believe that "organs-on-chips" can accelerate the drug development process and reduce the cost of pre-clinical drug testing, as well as reduce the pharmaceutical industry's reliance on animal testing. During 2024, our wholly-owned biotech company, Systemic Bio, continued its R&D work in this area with pharmaceutical industry customers. We are engaged in a review of strategic alternatives for Systemic Bio. During this review we plan to continue to provide internal funding to support Systemic Bio, including for product development and customer acquisition activities.

Products

We offer our customers a comprehensive range of 3D printers, materials, software, and digital design tools.

3D Printers and Materials

Our 3D printers transform digital data input generated by 3D design software, Computer Aided Design ("CAD") software or other 3D design tools, into printed parts using several unique print engines that employ proprietary, additive layer by layer building processes with a variety of materials. As part of our solutions-oriented strategy, we offer a broad range of 3D printing technologies including Stereolithography (SLA), Selective Laser Sintering, Direct Metal Printing, MultiJet Printing, ColorJet Printing, polymer extrusion, and extrusion and SLA based bioprinting. Our printers utilize a wide range of materials, the majority of which are proprietary materials that we develop, blend, and market. Our comprehensive range of materials includes plastic, nylon, metal, composite, elastomeric, wax, polymeric dental materials and biocompatible materials. We augment and complement our portfolio of engineered materials with materials that we purchase or develop with third parties under private label and distribution arrangements.

We work closely with our customers to optimize the performance of our materials in their applications. Our expertise in materials science and formulation, combined with our processes, software and equipment, enables us to provide unique solutions and help our customers select the material that best meets their needs with optimal cost and performance results.

As part of our solutions approach, our currently offered printers, with the exception of direct metal printers and bioprinters, have built-in intelligence to make them integrated, closed systems. For these integrated printers, we furnish materials specifically designed for use in those printers, which are packaged in smart cartridges and utilize material delivery systems. These integrated materials are designed to enhance system functionality, productivity, reliability and materials' shelf life, in addition to providing our customers with a built-in quality management system and a fully integrated workflow solution.

Software and Related Products

We provide digital design tools, including software, scanners and haptic devices. We offer solutions for product design, simulation, mold and die design, 3D scan-to-print, reverse engineering, production machining, metrology, inspection and manufacturing workflows. These products are designed to enable a seamless workflow for customers. We also offer proprietary software to prepare and optimize CAD data and manage the additive manufacturing processes. These software products provide automated support building and placement, build platform management, print simulation and print queue management capabilities. The outcome is the ability to improve the quality of prints, optimize design structure, shorten design to manufacturing lead time and minimize manufacturing costs.

Since the acquisition of Oqton, Inc. ("Oqton") in 2021, we have also offered an intelligent, cloud-based "manufacturing operating system" ("MOS") platform to customers that need to integrate a broad range of advanced manufacturing and automation technologies, including additive manufacturing solutions, in their production workflows. Many of 3D System's legacy stand-alone software applications are integrated into Oqton's legacy MOS, so that we can offer our customers a complete cloud-based software solution to automate and control their entire digital manufacturing process from order to delivery.

In December 2024, the Company entered into a definitive agreement for the sale of its Geomagic software business to Hexagon AB for \$123 million, subject to customary adjustments. The divestiture of Geomagic is expected to be completed by the end of the second quarter of 2025, subject to the satisfaction of certain closing conditions. Geomagic represents only a portion of the Company's broader software business, and its products primarily consist of reverse engineering, design and inspection software. Following the sale of Geomagic, the Company's remaining software business and continued investment and development efforts will primarily focus on software solutions and platforms that accelerate the adoption of 3D printing technologies in large-scale, production application environments. These software platforms specifically include 3D Sprint, 3DXpert, which are core to the Company's metal and polymer additive manufacturing solutions, and Oqton Industrial Manufacturing OS, which helps customers move from prototyping to a repeatable and high-quality production additive manufacturing process. Through these platforms, the Company will continue to offer software solutions for design, build preparation simulation, automation of repetitive tasks, inspection, preparing and optimizing CAD and polygon data, increasingly leveraging the power of artificial intelligence and machine learning to drive efficiency, improved workflows, higher productivity, repeatability, and quality.

For purposes of our accompanying consolidated financial statements, the assets and liabilities of the Geomagic business that we plan to sell have been reclassified and separately reported as held for sale in our balance sheet. Consistent with the remainder of our software business, Geomagic's operating results historically have been, and continue to be, included in the financial results reported for our Industrial Segment. Geomagic has not been separately reported as a discontinued operation in our accompanying consolidated financial statements, as the sale of this component of our software business does not represent a shift away from providing software products to our customers.

Services

Maintenance and Training Services

We provide a variety of customer services, local application support and field support on a worldwide basis for our products, including installation of new printers at customers' sites, maintenance agreements, periodic hardware upgrades and software updates. We also provide services to assist our customers and partners in developing new applications for our technologies to facilitate the use of our technology for specific applications, to train customers on the use of our printers and to maintain our printers at customers' sites. We provide these services, spare parts and field support either directly or through a network of reseller partners. We employ customer-support sales engineers to support our worldwide customer base, and we seek to continue to strengthen and enhance our partner network and service offerings.

Our 3D printers are sold with a warranty period ranging from 90 days to one year. After the warranty period, we generally offer service contracts that enable our customers to continue service and maintenance coverage. These service contracts are offered with various levels of support and options, and are priced accordingly. One entitlement of our service contracts is our service engineers provide regularly scheduled preventive maintenance visits to customer sites. Additionally, we provide training to our partners to enable them to also perform these services. Another contract entitlement on select printer models is proactive remote troubleshooting capability through our 3DConnect Service IoT platform. From time to time, we also offer upgrade kits for certain of our printers that enable our existing customers to take advantage of new or enhanced printer capabilities. In some cases, we have discontinued upgrade support and maintenance agreements for certain of our older legacy printers.

Advanced Manufacturing

As part of our strategy to help customers adopt additive manufacturing, we offer advanced manufacturing services through facilities in the Americas and EMEA regions. These facilities supplement customer manufacturing environments by allowing them to test and ramp production using our solutions before transitioning production to their environment and also providing them with flexible manufacturing capacity on an as-needed basis. This allows us to provide application and production expertise and refine the production process as part of our solutions approach. As the process is validated and volumes ramp, customers may choose to move production to their facilities using equipment, materials, software and services that they purchase from us. These facilities operate under stringent quality systems and are also utilized by customers in regulated industries such as healthcare and aerospace and defense for sustained outsourced production of hundreds of thousands of parts per year.

Software Services

In addition to our software license products, we offer software maintenance and cloud-software subscriptions, which includes updates and support for our licensed software products. Our licensed software is sold with a maintenance service that generally covers a period of one year. After this initial period, we offer single and multi-year maintenance contracts that enable our customers to continue coverage. These software service contracts typically include free software updates and various levels of technical support. In addition, we offer Oqton's legacy MOS as a cloud based-manufacturing operating system designed to automate digital production workflows and to enable machine monitoring, end-to-end manufacturing visibility and production traceability. For our cloud subscription solutions, customer support and software updates are included as part of the solution.

Healthcare Solutions Services

As part of our precision healthcare solutions services, we provide surgical planning, modeling, prototyping and manufacturing services. We offer printing and finishing of medical and dental devices, anatomical models and surgical guides and tools, as well as modeling, design and planning services, including VSPTM surgical planning solutions.

Global Operations

We operate in the Americas, EMEA and APAC regions, and market our products and services in those areas.

In maintaining operations outside the United States (the "U.S."), we expose our business to risks inherent in such operations, including currency exchange rate fluctuations. Information on foreign exchange risk appears in Part I, Item 1A, "Risk Factors," Part II, Item 7A, "Quantitative and Qualitative Disclosures about Market Risk" and Part II, Item 8, "Financial Statements and Supplementary Data" of this Form 10-K.

Marketing and Customers

Our Go-to-Market strategy focuses on an integrated approach that is directed at providing comprehensive design to manufacturing solutions meeting the broad spectrum of our customer needs. We utilize a wide range of marketing tools to generate demand and create awareness for our products and services worldwide. Our marketing and communications teams support our demand generation activities by providing marketing campaigns, digital presence and outreach, and event and targeted vertical seminar engagements.

We promote and sell our solutions globally through a direct sales force, channel partners and, in certain geographies, appointed distributors. Our customer success organization includes sales professionals, application engineers, vertical specialists, and other support teams throughout the Americas, EMEA and APAC regions. These teams are responsible for providing complete service to our customers and channel partners from a technical consultation to the sale of our software, printer, and services products.

Our application engineers collaborate closely with our customers to solve complex design and additive manufacturing challenges, leveraging our technology, software, materials and services to develop advanced applications across our Healthcare Solutions and Industrial Solutions segments. Additionally, our Customer Innovation Centers provide access to the resources necessary to develop, validate, and commercialize customer applications.

We sell our software solutions, including our Oqton MOS software, through a dedicated software sales team. Our software may be sold to customers with 3D printing equipment from competitive equipment manufacturers and, in some cases, we resell our software through these manufacturers.

Our customers include major companies as well as small and midsize businesses in a broad range of industries, including medical, dental, automotive, aerospace, durable goods, government, defense, technology, jewelry, electronics, education, consumer goods, energy, biotechnology and others. For the years ended December 31, 2024, 2023, and 2022, one customer accounted for approximately 16%, 15% and 23% of our consolidated revenue, respectively. We expect to maintain our relationship with this customer.

Seasonality

Historically, our results of operations have been subject to seasonal factors. Stronger demand for our products has historically occurred in our fourth quarter primarily due to our customers' capital expenditure budget cycles and our sales compensation incentive programs. Our first and third quarters have historically been our weakest quarters for overall unit demand. The first quarter has typically been a slow quarter for capital expenditures in general.

Production and Suppliers

In order to carry out the assembly and refurbishment of our 3D printer hardware, we utilize a combination of in-house operations and a limited outsourcing arrangement with a contract manufacturing company in Belgium from which we purchase finished printers pursuant to forecasts and customer orders that we supply. This supplier carries out quality control procedures on our printers prior to their shipment to customers and has responsibility for procuring the components and sub-assemblies either from us or third-party suppliers, which are sourced from a geographically diverse mix of countries. While the outsourced supplier of a small mix of our printers has responsibility for the supply chain and inventory of components for the printers they assemble, the components, parts and sub-assemblies that are used in our printers are generally available from several potential suppliers. During 2024, we completed our work to in-source the manufacturing of multiple printing platforms from contract manufacturing partners in order to realize improvements in production quality, cost efficiency, and inventory management, which resulted in the termination of outsourcing arrangements in the U.S. and Switzerland.

We produce materials at our facilities in Rock Hill, South Carolina, Marly, Switzerland and Soesterberg, Netherlands. We also have arrangements with third parties who blend certain materials according to our specifications that we sell under our own brand names, and we purchase certain complementary materials from third parties for resale to our customers.

Our equipment assembly and materials blending activities, advanced manufacturing services and certain R&D activities are subject to compliance with applicable federal, state and local provisions regulating the storage, use and discharge of materials into the environment. Our facilities engaged in such activities are subject to periodic compliance audits by applicable regulatory authorities. We believe that we are in compliance, in all material respects, with such regulations as currently in effect, and we expect continued compliance with them will not have a material adverse effect on our capital expenditures, results of operations or financial position.

As a company with global operations, we are subject to the laws of the U.S. and multiple foreign jurisdictions in which we operate and the rules and regulations of various governing bodies, which may differ among jurisdictions. Compliance with these laws, rules and regulations is not expected to have a material effect on our capital expenditures, results of operations or financial position.

Research and Development

The 3D printing industry continues to experience rapid technological change and developments in hardware, software and materials. Consequently, we have ongoing R&D programs to develop new products and to enhance our portfolio of products and services, as well as to improve and expand the capabilities of our solutions. Our efforts are often augmented by development arrangements with research institutions, including universities, customers, suppliers, assembly and design firms, engineering companies, materials companies, governments and other partners.

We are also engaged in various R&D efforts related to regenerative medicine. These efforts include the application of 3D printing technologies to the development of transplantable organs and non-organ human applications. These efforts are expected to result in new products that we will market directly or in conjunction with development or channel partners.

In addition to our internally developed technology platforms, we have acquired products and technologies developed by others by acquiring business entities that held ownership rights to such products and technologies. In other instances, we have licensed or purchased the intellectual property rights of technologies developed by third parties through agreements that may obligate us to pay a license fee or royalty, typically based upon a dollar amount per unit or a percentage of the revenue generated by such products.

Intellectual Property

We regard our technology platforms and materials as proprietary and seek to protect them through copyrights, patents, trademarks and trade secrets. At December 31, 2024 and 2023 we held 1,247 and 1,381 patents worldwide, respectively. At December 31, 2024 and 2023, we had 300 and 350 pending patent applications worldwide, respectively. The principal issued patents covering aspects of our various technologies will expire at varying times through the year 2034.

In addition, we are a party to various licenses that have had the effect of broadening the range of the patents, patent applications and other intellectual property available to us.

We have also entered into licensing or cross-licensing arrangements with various companies in the U.S. and other countries that enable those companies to utilize our technologies in their products or that enable us to use their technologies in our products. Under certain of these licenses, we are entitled to receive, or we are obligated to pay, royalties for the sale of licensed products in the U.S. or in other countries. The amount of such royalties was not material to our annual results of operations or financial position for the three-year period ended December 31, 2024.

We believe that, while our patents and licenses provide us with a competitive advantage, our success also depends on our marketing, business development, applications know-how and ongoing R&D efforts. Accordingly, we believe the expiration of any of the patents, patent applications, or licenses discussed above would not be material to our business or financial position.

Competition

We compete with other suppliers of 3D printers, materials, software and healthcare solutions as well as with suppliers of conventional manufacturing solutions. We compete with these suppliers for customers as well as channel partners for certain of our products. Development of new technologies or techniques not encompassed by the patents that we own or license may result in additional future competition.

Our competitors operate both globally and regionally, and many of them have well-recognized brands and product lines.

We believe principal competitive factors include the functionality and breadth of our technology and materials, process and application know-how, total cost of operation of the solution, product reliability and the ability to provide a complete solution to meet customer needs. We believe that our future success depends on our ability to provide high-quality solutions, introduce new products and services to meet evolving customer needs and market opportunities, and to extend our technologies to new applications. Accordingly, our ongoing R&D programs are intended to enable us to continue technology advancement and develop innovative new solutions for the marketplace.

Sustainability

We deliver leading additive solutions for industrial and healthcare applications using innovative 3D printing technologies, powered by the expertise of our global team. Innovation is core to who we are and how we work. Our solutions enable our customers to meet key product needs and advance their business models.

We address risks and consider our ability to positively impact climate change, and social, economic and health challenges around the globe as we design and execute our sustainability strategy. Our sustainability strategy is organized into four pillars: Empowering Innovation, Evolving the Future of Manufacturing, Advancing Customer Solutions, and Upholding Responsible Business Practices.

Empowering Innovation

We are focused on empowering innovation through our people to drive industry-leading solutions to maintain a competitive edge in additive manufacturing. We leverage core talent strategies for the development of people, the diversity of talent to expand technology innovation, and the engagement of our global workforce. These strategies include investing in the technical skills development of our people, rewarding significant achievements in innovation, enabling cross-functional collaboration between our engineering, operations, and customer-facing teams, and creating opportunities for our global workforce to connect.

Evolving the Future of Manufacturing

We offer a broad portfolio of additive manufacturing products and services and are evolving the future of manufacturing for our customers. Innovation and speed to market are critical for our customers, and leveraging additive manufacturing capabilities enables our customers to shorten their innovation cycle while reducing their environmental impact. Our products and customer solutions allow customers to optimize their supply chain to reduce lead times, enabling localized production to reduce logistics and transportation cost and environmental impact, advancing material design to address customer needs, and utilizing digitization for prototyping to reduce waste.

Advancing Customer Solutions

We provide solutions to empower our customers to address their evolving sustainability priorities. Our unique offerings of hardware, software, materials, and services provide application-specific solutions powered by the expertise of our global team of application engineers. We are progressing our product development activities to address our customers' environmental and social priorities, such as extending product lifespans, addressing material recyclability, increasing energy and resource efficiency of our products and materials, and offering patient-centered healthcare solutions.

Upholding Responsible Business Practices

We hold ourselves accountable to operate in a responsible and ethical manner and adhere to corporate governance standards to enhance the long-term value of our Company. We leverage this foundation to influence our sustainability strategy, including utilizing our governance structure for oversight of our sustainability program. We execute responsible business practices across our sites with the goals of creating a safe, secure, healthy, and injury-free workplace, prioritizing product quality and safety in our design and manufacturing, complying with applicable laws and regulations, and being responsible stewards of the environment by collecting and measuring environmental data to understand our carbon footprint.

Human Capital

At 3D Systems, our mission is to deliver leading additive solutions for industrial and healthcare applications. In support of this purpose, we remain dedicated to empowering innovation through our people. Our human capital priorities include sourcing and retaining top talent across our teams, with an emphasis on leading edge engineering and technology expertise, advancing talent strategies to drive employee development and career progression, and upholding a safe and healthy work environment at our sites.

As of December 31, 2024, we had 1,833 full-time and part-time employees, compared to 1,925 full-time and part-time employees as of December 31, 2023. We continually evaluate our workforce needs to deliver on our Company's strategic priorities while balancing the cost structure of our business. Refer to the discussion of "Fiscal Year 2023 Restructuring Plan" in Part II, Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations," as well as Note 24 to our consolidated financial statements, for details regarding our previous restructuring plan, which included headcount reductions.

Our U.S. employees are not covered by collective bargaining agreements; however, some employees outside the U.S. are subject to local statutory employment and labor arrangements. We have not experienced any material work stoppages and believe that our relations with our employees are satisfactory.

Talent Management & Engagement

Our Company is advancing additive manufacturing through ongoing product innovation, and as such we recognize the importance of the retention, growth, and development of our employees – employees are necessary to achieving our long-term success. Our goal is to foster a workplace culture and employee experience that drives innovation with purpose, profitable growth, and delivers 'extraordinary' to our customers. To do so, we have established programs for acquiring strategic talent, developing our teams to build key capabilities and skills, and engaging, motivating, and retaining our employees to do their best work. We engage directly with employees to provide updates on our strategic priorities and Company progress, as well as solicit feedback through regular communications, global all-hands meetings, and business town hall updates. To address the evolving needs of our business, we perform strategic workforce and succession planning as well as ongoing evaluation of our organizational design, culture, and values.

Workforce Development

Employees span the Americas (59%), EMEA (32%), and APAC (9%) with approximately 42% of our employees located outside the U.S. This global representation promotes diversity of thought, experiences, culture, and backgrounds that enhances our ability to deliver innovative solutions to our customers, in support of our company value to 'build great teams.' We execute talent programs throughout the year in support of our commitment to maintain and engage our workforce. Our talent sourcing activities focus on building our future talent pipeline and attracting top talent.

Throughout an employee's career with 3D Systems, we are focused on fostering an engaged, inclusive, and purpose-driven culture through various company-wide programs. We are committed to fostering an environment where inclusion and belonging are central to how we work across our global teams and support employees with equitable opportunities to grow, contribute, develop, and thrive. Additionally, we extend our focus of inclusion within our local communities and strive to make a positive impact by serving our underserved populations through our 3D Gives Back volunteer program.

Compensation & Benefits

We design our compensation programs to be competitive and equitable to support employees in sharing in the success of 3D Systems. We tailor our compensation programs to attract and retain top talent to drive success in our current business priorities and emerging strategies. Additionally, we recognize that employees thrive when they have the resources to meet their needs and the time and support to succeed in their professional and personal lives. In support of this, we offer a wide variety of market competitive benefits to employees around the world. The Compensation Committee of the Board of Directors oversees the design of executive compensation and equity plans, which are designed to align executive pay to the delivery of long-term shareholder value.

Workplace Health & Safety

We are committed to creating a safe, secure, healthy, and injury-free work environment for our employees, customers, partners, and visitors. Our focus is on reducing significant safety risks and driving a strong safety culture through communication, awareness, and visible leadership. To assist in achieving this commitment, we provide substantial safety trainings and necessary equipment at all facilities, educating and encouraging our employees to proactively identify and eliminate unsafe actions and conditions. We have specific safety programs in place for those working in potentially high-hazard environments. We monitor injury and illness health and safety metrics across our organization to continually evaluate our safety programs to meet the needs of our teams.

Available Information

Refer to our website to learn more about our company culture, code of conduct, values, and sustainability initiatives. Our website address is www.3DSystems.com. The information contained on our website is neither a part of, nor incorporated by reference into, this Form 10-K or any other document that we file with or furnish to the Securities and Exchange Commission ("SEC"). We make available, free of charge through our website, our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, amendments to those reports and other documents that we file with the SEC, as soon as reasonably practicable after we electronically file them with, or furnish them to, the SEC.

Many of our corporate governance materials, including our Code of Conduct, Code of Ethics for Senior Financial Executives and Directors, Corporate Governance Guidelines, current charters of each of the standing committees of the Board of Directors and our corporate charter documents and by-laws are available on our website.

Information about our Executive Officers

The information appearing in the table below sets forth the position or positions held by each of our executive officers and his or her age as of March 26, 2025. All of our executive officers serve at the pleasure of the Board of Directors. There are no family relationships among any of our executive officers or directors.

Name and Current Position	Age as of March 26, 2025
Jeffrey A. Graves	63
President and Chief Executive Officer	
Jeffrey D. Creech	62
Executive Vice President and Chief Financial Officer	
Charles W. Hull	85
Executive Vice President and Chief Technology Officer for Regenerative Medicine	
Reji Puthenveetil	56
Executive Vice President, Additive Solutions and Chief Commercial Officer	
Phyllis Nordstrom	46
Executive Vice President, Chief People Officer and Chief Administrative Officer	
Joseph Zuiker	60
Executive Vice President, Engineering and Operations	
Andrew W. B. Wright	55

Senior Vice President, General Counsel and Secretary

Jeffrey A. Graves, President and Chief Executive Officer. Dr. Graves was appointed the Company's President and Chief Executive Officer in May 2020. Prior to joining the Company, from 2012 to May 2020, Dr. Graves served as Chief Executive Officer, President and Director of MTS Systems Corporation, a global supplier of test, simulation, and measurement systems. From 2005 until 2012, Dr. Graves served as President and Chief Executive Officer of C&D Technologies, Inc., a technology company that produces and markets systems for the power conversion and storage of electrical power. Dr. Graves also held leadership roles with Kemet Corporation, an electronic component manufacturing company, as Chief Operating Officer from 2001 to 2003 and Chief Executive Officer from 2003 to 2005. Previously, he held a number of leadership and technical roles with General Electric, Rockwell Automation and Howmet Corporation. In addition to serving on the Company's Board of Directors, Dr. Graves has served on the board of directors of Integra Lifesciences Holdings Corporation since December 2023. He retired from his position on the board of directors of Hexcel Corporation in May 2024, having served as a Director of Hexcel since 2007. In addition to Integra and Hexcel, Dr. Graves previously served as a director of FARO Technologies and Teleflex Corporation.

Jeffrey D. Creech, Executive Vice President and Chief Financial Officer. Mr. Creech was appointed the Company's Executive Vice President and Chief Financial officer in December 2023. Prior to joining the company, from 2022 to 2023, Mr. Creech was a Senior Director of The Finley Group, a niche consulting firm engaged primarily in the support, assistance, and remediation of companies in financial distress. Prior to joining the Finley Group, Mr. Creech was Chief Operating Officer and Chief Financial Officer at Nutramax Laboratories, a privately held manufacturer of human and animal health and dietary

supplements, from April 2019 to November 2021, where his primary responsibilities included oversight of all financial and operational activities, human resources, and information technology. Prior to his tenure at Nutramax, from May 2017 to September 2018, Mr. Creech served as President of Springs Creative Products Group, a specialized textile operation, where his role included oversight, at an executive level, of most aspects of the Company's operations.

Charles W. Hull, Executive Vice President, Chief Technology Officer for Regenerative Medicine. Mr. Hull is a founder of the Company and served as a member of our Board of Directors from 1993 to May 2022 when he was designated Director Emeritus. He has served as Chief Technology Officer since 1997, as Executive Vice President since 2000 and as Chief Technology Officer for Regenerative Medicine since 2021. Mr. Hull has also previously served in various other executive capacities at the Company since 1986, including Chief Executive Officer, Vice Chairman of the Board of Directors and President and Chief Operating Officer.

Reji Puthenveetil, Executive Vice President, Additive Solutions and Chief Commercial Officer. Mr. Puthenveetil was promoted to his current role in January 2024 and has responsibility for the Company's commercial operations for both the Healthcare Solutions and Industrial Solutions business units. In July 2020, Mr. Puthenveetil joined the Company as Executive Vice President, Industrial Solutions. Prior to joining the Company, Mr. Puthenveetil spent 25 years as a management consultant for Group Newhouse helping companies, such as Lockheed Martin, Xcel Energy, Kia Motors, and Thales Group.

Phyllis Nordstrom, Executive Vice President, Chief People Officer and Chief Administrative Officer. Ms. Nordstrom has served as Executive Vice President, Chief People Officer and Chief Compliance Officer since August 2021. Effective December 2022, she was further appointed as the Company's Chief Administrative Officer. Prior to joining 3D Systems, from May 2016 through July 2021, Ms. Nordstrom was Senior Vice President and Chief Risk & Compliance Officer at MTS Systems Corporation, where she was the leader of business ethics, corporate compliance, corporate sustainability, and internal audit and risk management. Over her 25-year career, Ms. Nordstrom has also held leadership roles at PricewaterhouseCoopers, Target, and US Bank.

Joseph Zuiker, Executive Vice President, Engineering and Operations. Dr. Zuiker has served as Executive Vice President of Engineering and Operations since December 2022. Prior to joining 3D Systems, Dr. Zuiker served as Vice President of Engineering, Operations, and Order Fulfillment for MTS Systems Corporation where he worked from July 2017 until December 2022. Prior to joining MTS Systems, he was Senior Director of Technology for Halliburton Corporation's Sperry Drilling from September 2011 to July 2016. Dr. Zuiker also worked for General Electric from December 1995 to August 2011 in various roles of increasing responsibility, including General Manager of GE Gasification Technology and General Manager of GE Hydro Technology. Dr. Zuiker is also a Six Sigma Master Black Belt.

Andrew W. B. Wright, Senior Vice President, General Counsel and Secretary. Mr. Wright has served as Senior Vice President, General Counsel and Secretary since June 2024. Prior to joining 3D Systems, from November 2017 to June 2024, he was General Counsel and Secretary for Akoustis Technologies, Inc. Prior to joining Akoustis, from August 2013 to November 2017, he held Assistant General Counsel and Associate General Counsel roles at Toshiba Global Commerce Solutions, Inc. Prior to joining Toshiba Global Commerce Solutions, from January 1998 to August 2013, he held multiple roles of increasing responsibility within the IBM Corporation legal department supporting IBM Systems and Technology Group and IBM Software Group. Prior to joining IBM Corporation, from August 1994 to December 1997, Mr. Wright worked at Parker, Poe, Adams & Bernstein L.L.P.

Item 1A. Risk Factors

You should carefully read the following discussion of significant factors, events and uncertainties when evaluating our business and the forward-looking information contained in this Form 10-K. The events and consequences discussed in these risk factors could materially and adversely affect our business, operating results, liquidity or financial condition. While we believe we have identified and discussed below the key risk factors affecting our business, these risk factors do not identify all the risks we face, and there may be additional risks and uncertainties that we do not presently know or that we do not currently believe to be significant that may have a material adverse effect on our business, operating results, liquidity or financial condition in the future.

Operational & Financial Risk Factors

Current macro-economic trends and geopolitical landscape have been adversely affecting, and could continue to adversely affect, our business, results of operations and financial condition due to their impact on the industries in which we and our customers operate, and due to the unknown speed, extent and nature of the reversal of those trends.

Certain global macro-economic trends have been adversely impacting the global economic environment and have contributed towards inflationary pressures on many goods, commodities and services globally. The high rates of inflation globally have caused governments and central banks to act to curb inflation, including by raising interest rates, which is intended to temper economic activity and which, if more powerful than intended, could trigger recessionary conditions in individual countries or regions, or globally. These macro-economic trends have been impacting our target markets and our results of operations. For example, rising interest rates, which are meant to slow down inflation, have been worsening credit/financing conditions for our customers and adversely impacting their ability to purchase our products.

While we believe that we are well-positioned to withstand the current adverse macro-economic trends, given our balance sheet (primarily due to our reserves of cash and cash equivalents) and our emphasis on operational efficiencies and execution, we continue to monitor the situation, assessing further implications for our operations, supply chain, liquidity, cash flow and customer orders, in an effort to mitigate potential new adverse consequences should they arise. However, there is no assurance that we will succeed at doing so.

Current or future downturns could also have a material adverse impact on our business partners 'stability and financial strength. Given the uncertainties associated with these trends in the current macro-economic environment, it is difficult to fully assess the magnitude of their effects on our, and our business partners.' business, financial condition and results of operations. The trends associated with the current economic environment may also have the effect of amplifying many of the other risks described herein.

Current political relations could potentially impact trade and tariff restrictions, which could adversely affect our operations, supply chains, and profitability. Changes in trade policies or political relations between countries may result in delays, increased costs, or disruptions in our ability to source materials, manufacture, or distribute products, which could have a material negative impact on our business.

The loss of, continued reduction or substantial decline in revenue from larger clients could have a material adverse effect on our revenues, profitability and liquidity.

We have experienced revenue concentration with a large customer that for the years ended December 31, 2024, 2023, and 2022 represented approximately 16%, 15% and 23% of our consolidated revenue, respectively. The further loss of revenue from, deterioration of the financial condition of, or a significant change to the business of this customer could have a material adverse effect on our business, financial condition, and results of operations. Additionally, this concentration exposes us to concentrated credit risk, as a significant portion of our accounts receivable may be from a single customer. If we are unable to collect our receivables, or are required to take additional reserves, our results of operations and cash flow from operations will be adversely affected.

Changes in business conditions may cause our goodwill, intangible assets, long-lived tangible assets, or right-of-use assets to become impaired.

Goodwill is subject to an impairment test on an annual basis and when circumstances indicate that an impairment is more likely than not. Long-lived assets – consisting of tangible assets, intangible assets, and right-of-use assets – are assessed for recoverability and tested for impairment at the asset group level, and testing is required when circumstances indicate that the carrying value of an asset group is not recoverable. Circumstances that may require goodwill to be tested more frequently than the annual impairment test, or indicate that a long-lived asset group is not recoverable, include a significant adverse change in the business climate, current-period operating or cash flow losses combined with a history of operating or cash flow losses, projections or forecasts that demonstrate continuing losses, or a decision to dispose of a business or product line. We face some uncertainty in our business environment due to a variety of challenges, including changes in customer demand and in the trading price of our common stock and market capitalization during the three month period ended September 30, 2024. While we recorded impairment charges of \$145.0 million related to goodwill, intangible assets, tangible assets, and right-of-use assets during 2024 and an impairment charge of \$302.8 million related to our goodwill and intangible assets during 2023, we may experience additional unforeseen circumstances that adversely affect the value of these assets and trigger an evaluation of their

carrying amounts. Future impairments of goodwill, intangible assets, long-lived tangible assets, or right-of-use assets could materially adversely affect our results of operations and financial condition.

Our uneven sales cycle makes planning and inventory management difficult and future financial results less predictable.

Our quarterly sales often have reflected a pattern in which a disproportionate percentage of each quarter's total sales occur towards the end of the quarter, in particular for sales of hardware and software products. This uneven sales pattern makes predicting net revenue, earnings, cash flow from operations and working capital for each financial period difficult, increases the risk of unanticipated variations in our quarterly results and financial condition and places pressure on our inventory management and logistics systems. If predicted demand is substantially greater than orders, there may be excess inventory. Alternatively, if orders substantially exceed predicted demand, we may not be able to fulfill all of the orders received in each quarter and such orders may be canceled. Furthermore, depending on when they occur in a quarter, developments such as an information systems failure, component pricing movements, component shortages or global logistics disruptions could adversely impact our inventory levels and results of operations in a manner that is disproportionate to the number of days in the quarter affected.

The variety of products that we sell could cause significant quarterly fluctuations in our gross profit margins, and those fluctuations in margins could cause fluctuations in operating income or loss and net income or loss.

We regularly work to expand and improve our products, materials and services offerings, geographic areas in which we operate and the distribution channels we use to reach various target product applications and customers. This variety of products, applications, channels and regions involves a range of gross profit margins that can cause substantial quarterly fluctuations in gross profit and gross profit margins depending upon the mix of product shipments from quarter to quarter. Additionally, the introduction of new products or services may further heighten quarterly fluctuations in gross profit margins due to manufacturing ramp-up and start-up costs. We may experience significant quarterly fluctuations in gross profit margins or operating income or loss due to the impact of the mix of products, offerings, geographic areas and distribution channels we use to sell our products, materials and offerings from period to period.

Our products and services may experience quality problems from time to time that can result in decreased sales and operating margin, product returns, product liability, and warranty or other claims that could result in significant expenses and harm to our reputation.

We sell complex hardware and software products, materials and services that can contain undetected design and manufacturing defects or errors when first introduced or as enhancements are released that, despite testing, are not discovered until after the product has been installed and used by customers. Sophisticated software and applications, such as those sold by us, may contain "bugs" that can unexpectedly interfere with the software's intended operation. Defects may also occur in components and products we purchase from third parties. There can be no assurance we will be able to detect and fix all defects in the hardware, software, materials and services we sell. Failure to do so could result in lost revenue, product returns, product liability, delayed market acceptance of those products and services, claims from distributors, end-users or others, increased end-user service and support costs, and significant warranty claims and other expenses to correct the defects. Additionally, such quality problems may result in a diversion of management time and attention and harm to our reputation.

We also sell end-use parts to customers in the aerospace, medical, and semiconductor industries and 3D printing systems to customers in the aerospace industry, which carry with them a greater potential for liability claims against us. In the case of end-use parts, our sales to customers in the aerospace, medical, and semiconductor industries, in particular, make us more susceptible to product and other liability claims, which characterize operations in those industries. Sales of our 3D printing systems to customers in the aerospace industry similarly carry with them potential liability claims if the parts produced by those systems do not function properly. Any such claims that are not adequately covered by insurance or for which insurance is not available may adversely affect our results of operations and financial condition.

We depend on external vendors and suppliers for the components and spare parts for our 3D printers and for chemicals and packaging used in our materials. Supply and logistical disruptions occur periodically for many of our supply chain partners. If these relationships were to terminate or these or other disruptions, such as extreme weather events, worsen, our business could be disrupted while we locate alternative sources of supply and our expenses may increase.

We purchase components and sub-assemblies for our printers from third-party suppliers that we provide to our customers as spare parts. Additionally, we purchase raw chemicals and packaging that are used in our materials, as well as certain of those materials, from third-party suppliers.

While there are typically several potential suppliers of parts for our products, we currently choose to use only one or a limited number of suppliers for several of these items, including our lasers, materials and certain jetting components. Our reliance on a single or limited number of suppliers involves many risks, including, among others, the following:

- Potential shortages of some key components;
- · Disruptions in the operations of these suppliers;
- · Product performance shortfalls; and
- Reduced control over delivery schedules, assembly capabilities, quality and costs.

Increased occurrence of extreme weather events, increased temperature, and related disruptions may impact our ability to reliably procure key inputs from third-party suppliers, which could increase our costs and interrupt supply and adversely impact our business.

Periodic delays on the inbound supply chain at our partners and our own facilities have also created challenges. We continue to identify alternative solutions, but an inability to source from alternative suppliers in a timely manner could impact our ability to fulfill demand.

While we believe that, if necessary, we can obtain all the components necessary for our spare parts and materials from other manufacturers, we require any new supplier to become "qualified" pursuant to our internal procedures, which could involve evaluation processes of varying durations. Our spare parts and raw chemicals used in our materials production are subject to various lead times. In addition, at any time, certain suppliers may decide to discontinue production of a part or raw material that we use, or may not have supplies available due to supplier business disruption. Any unanticipated change in the sources of our supplies, or unanticipated supply limitations, could increase production or related costs and consequently reduce margins.

If our forecasts exceed actual orders, we may hold large inventories of slow-moving or unusable parts, which could have an adverse effect on our cash flow, profitability and results of operations. Inversely, we may lose orders if our forecast is low and we are unable to meet demand. There is considerable uncertainty on the business impact from labor and supply limitations on our vendors, suppliers, and partners. If disruptions to global businesses continue or worsen it could have a material adverse effect on our financial condition and results of operations.

We are subject to environmental, health and safety laws and regulations related to our operations and the use of our systems and materials, including requirements imposed due to use of our products by our customers, which could subject us to compliance costs and/or potential liability in the event of non-compliance.

In areas of operations that involve handling hazardous materials, failure to maintain safe working conditions could result in workplace injuries, regulatory penalties, and reputational harm, as well as increased costs related to litigation, insurance, and compliance.

The export of our products internationally subjects us to environmental laws and regulations concerning the import and export of chemicals and hazardous substances such as the United States Toxic Substances Control Act, or TSCA, and the Registration, Evaluation, Authorization and Restriction of Chemical Substances, or REACH. These laws and regulations require the testing and registration of some chemicals that we ship along with, or that form a part of, our systems and other products. If we fail to comply with these or similar laws and regulations, we may be required to make significant expenditures to reformulate the chemicals that we use in our products and materials or incur costs to register such chemicals to gain and/or regain compliance. Additionally, we could be subject to significant fines or other civil and criminal penalties should we not achieve such compliance.

We are furthermore subject to extensive environmental, health and safety laws, regulations and permitting requirements in multiple jurisdictions due to our use of chemicals and production of waste materials as part of our operations and in connection with the operation of our systems by our customers. In certain cases, the required compliance with health or safety regulations is imposed by our customers themselves. These laws, regulations and requirements (which include the Directive on Waste Electrical and Electronic Equipment of the European Union (EU) and the EU Directive on Restriction of Use of Certain Hazardous Substances) govern, among other things, the generation, use, storage, registration, handling and disposal of chemicals and waste materials, the presence of specified substances in electrical products, the emission and discharge of hazardous materials into the ground, air or water, the cleanup of contaminated sites, including any contamination that results from spills due to our failure to properly dispose of chemicals and other waste materials and the health and safety of our employees. Under these laws, regulations and requirements, we could also be subject to liability for improper disposal of chemicals and waste materials, including those resulting from the use of our systems and accompanying materials by end-users.

These or future laws and regulations could potentially require the expenditure of significant amounts for compliance or remediation. If our operations fail to comply with such laws or regulations, we may be subject to fines and other civil, administrative or criminal sanctions, including the revocation of permits and licenses necessary to continue our business activities. In addition, we may be required to pay damages or civil judgments in respect of third-party claims, including those relating to personal injury (including exposure to hazardous substances that we generate, use, store, handle, transport, manufacture or dispose of), property damage or contribution claims. Some environmental laws allow for strict, joint and several liabilities for remediation costs, regardless of fault. We may be identified as a potentially responsible party under such laws. If we fail to comply with any such regulations or are subject to related liability, such developments could have a material adverse effect on our business, financial condition and results of operations.

If we do not generate net cash flow from operations and if we are unable to raise additional capital, our financial condition could be adversely affected and we may not be able to execute our business strategy.

We cannot assure you that we will generate cash from operations or identify and secure other potential sources to fund future working capital needs and meet capital expenditure requirements.

If we are unable to generate such cash flow, we may be required to adopt one or more alternatives, such as selling assets, restructuring or incurring additional debt or obtaining additional equity capital on terms that may be onerous or highly dilutive. Our ability to obtain additional capital or refinance any indebtedness will depend on, among other things, our ability to find a buyer for the assets and the capital markets, our financial condition at such time and the terms and conditions of any such financing or indebtedness. We may not be able to engage in any of these activities or engage in these activities on desirable terms.

The lack of additional capital resulting from any inability to generate cash flow from operations or to raise equity or debt financing could force us to substantially curtail or cease operations and would, therefore, have an adverse effect on our business and financial condition. Furthermore, we cannot assure you that any necessary funds, if available, would be available on attractive terms or that they would not have a significantly dilutive effect on our existing stockholders. If our financial condition were to worsen and we become unable to attract additional equity or debt financing or enter into other strategic transactions, we would not be able to execute our business strategy and we could default on our debt obligations, become insolvent or be forced to declare bankruptcy.

Our business could be adversely impacted in the event of a failure of our information technology infrastructure or a successful cyber-attack.

We extensively rely on information technology systems and networks to operate our Company and meet our business objectives. Due to evolving cybersecurity threats, it has and will continue to be difficult to prevent, detect, mitigate, and remediate cybersecurity incidents. We experience cybersecurity threats, threats to our information technology infrastructure, and unauthorized attempts to gain access to our sensitive information. We face threats that vary from those common to most industries, to more advanced and persistent threats from highly organized adversaries who target us because of the products and services we provide. We also rely on information technology and third-party vendors to support our operations, including our secure processing of personal, confidential, sensitive, proprietary and other types of information. To date, risks from cybersecurity threats, including as a result of previous cybersecurity incidents, have not materially affected us, including our business strategy, results of operations, or financial condition, but we face ongoing risks from cybersecurity threats that may from time to time in the future cause material adverse impacts on our business strategy, results of operations, or financial condition. Despite ongoing efforts to continually improve our and our vendors' ability to protect against cybersecurity threats and the implementation of various safeguards, including increasing our cyber insurance, regularly conducting Company-wide cybersecurity awareness training, and establishing a dedicated team of personnel to address cyber-based threats, we may not be able to fully protect all information systems, and such incidents may lead to reputational harm, revenue and customer loss, and legal action, among other consequences.

We may also need to expend additional resources to adapt our cybersecurity program to the evolving threat landscape and to investigate and remediate vulnerabilities or other identified risks. Given the persistence, sophistication, volume, and novelty of threats we face, we may not be successful in preventing or mitigating cybersecurity threats that could have a material adverse effect on us. The costs related to cybersecurity threats or other disruptions may also not be fully insured or indemnified by other means. Such events could result in the loss of competitive advantages derived from our R&D efforts or other intellectual property, which could result in early obsolescence of our products and services. The occurrence of any of these events could adversely affect our internal operations, the services we provide to our customers, impact our financial results and reputation, or result in litigation, fines, and penalties.

We are subject to numerous laws, regulations, and contractual obligations designed to protect our regulated data, and that of our customers. These include complex and evolving laws, rules, regulations, and standards in many jurisdictions, as well as contractual obligations, relating to cybersecurity and data privacy. Such laws, rules, regulations, and standards pose increasingly complex compliance challenges and potential costs. Any loss of sensitive information and failure to comply with these requirements or other applicable laws and regulations in this area, could result in significant regulatory non-compliance exposure or other penalties and legal liabilities.

Servicing or refinancing our debt may require a significant amount of cash, and we may not have sufficient cash or the ability to raise the funds necessary to settle conversions of the 0% convertible senior notes due 2026 (the "Notes") in cash, repay the Notes at maturity, or repurchase the Notes as required following a fundamental change.

As of December 31, 2024, we had approximately \$214.4 million outstanding of the Notes. Our ability to service or refinance our remaining indebtedness, including the Notes, or to make cash payments in connection with any conversions of the Notes, depends on our future performance, which is subject to economic, financial, competitive, and other factors beyond our control. Our business may not generate cash flow from operations in the future sufficient to service our debt and make necessary capital expenditures. If we are unable to generate such cash flow, we may be required to adopt one or more alternatives, such as selling assets, restructuring debt, or obtaining additional debt financing or equity capital on terms that may be onerous or highly dilutive. Our ability to refinance our indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations. In addition, any of our future debt agreements may contain restrictive covenants that may prohibit us from adopting any of these alternatives.

In the event the conditional conversion feature of the Notes is triggered, holders of Notes will be entitled to convert the Notes at any time during specified periods at their option. If one or more holders elect to convert their Notes, we would be required to settle any converted principal through the payment of cash, which could adversely affect our liquidity. In addition, even if holders do not elect to convert their Notes, we could be required under applicable accounting rules to reclassify all or a portion of the outstanding principal of the Notes as a current rather than long-term liability, which would result in a material reduction of our net working capital.

In addition, holders of the Notes have the right to require us to repurchase all or a portion of their Notes upon the occurrence of a fundamental change (as defined in the applicable indenture governing the Notes) at a repurchase price equal to 100% of the principal amount of the Notes to be repurchased. If the Notes have not previously been converted or repurchased, we will be required to repay such Notes in cash at maturity.

Our ability to make required cash payments in connection with conversions of the Notes, repurchase the Notes in the event of a fundamental change, or to repay or refinance the Notes at maturity will depend on market conditions and our future performance, which is subject to economic, financial, competitive, and other factors beyond our control. As a result, we may not have enough available cash or be able to obtain financing at the time we are required to repurchase or repay the Notes or pay cash with respect to Notes being converted.

The indenture governing the Notes (the "Indenture") contains covenants that impose significant restrictions on us, and the failure to comply with these covenants could result in an event of default under these instruments.

The indenture governing the Notes contains customary covenants, events of default and other provisions. A breach of the covenants or other provisions under the Indenture could result in an event of default under the Notes, which, if not cured or waved, could have a material adverse effect on our business, results of operations and financial condition, including through the imposition of special interest. During the three months ended June 30, 2024, the Company became non-compliant with certain terms of the Indenture due to its failure to file its 2023 Form 10-K and its Form 10-Q for the three months ended March 31, 2024 and provide them to the Trustee by the applicable deadline under the terms of the Indenture. These defaults did not become an event of default under the terms of the Indenture given that the Company filed its 2023 Form 10-K and its Form 10-Q for the three months ended March 31, 2024 prior to the end of the cure period provided by the Indenture, which cure period was not initiated by the Trustee or holders of the Notes. The Company did not incur any special interest as a result of the defaults, nor did the Notes become subject to any other actions by the Trustee or the holders. As of December 31, 2024, the Company was in Compliance with all of the covenants included within the Indenture.

Our operations and business performance could suffer if we are unable to attract and retain senior management or other key employees.

Our success depends largely on our ability to attract, hire, develop, and retain senior management and key employees, such as engineers, scientists, and other key skilled employees supporting our products and services. The engagement and retention of our global teams is dependent on maintaining an inclusive culture where our people feel valued, respected, and have equal opportunities for growth and development.

Our senior management team is critical to the leadership of our business operations and the development and execution of our business strategy. When changes occur within senior management or within key employee roles, we are required to manage the continuity of our business, and typically incur incremental costs including search costs, relocation costs, and timing associated with onboarding and knowledge transfer. High demand exists for senior management and other key employees with experience in additive manufacturing and certain technical skills, and there can be no assurance that we will be able to attract and retain such talent. We experience intense competition for qualified talent.

While we aim to provide competitive compensation packages to attract and retain senior management and key employees and engage in regular succession planning for these positions, larger competitors with more resources available to them can make it difficult for us to successfully compete for key talent. If we cannot attract and retain sufficiently qualified talent, such as engineers, scientists, and other key technically skilled employees, or have an adequate succession plan in place, we may be unable to develop, commercialize, and sell new or existing products and services. Furthermore, increasing competition for critical technical skills in the regions surrounding our facilities could require us to pay more to hire and retain key employees, thereby increasing labor costs.

Business Strategy Risk Factors

We have made, and may make in the future, strategic acquisitions and divestitures that may involve significant risks and uncertainties. We may not realize the anticipated benefits of past or future acquisitions and integration of these acquisitions may disrupt our business and divert management attention. Likewise, our potential future divestitures may be unsuccessful and negatively impact our business.

As a result, from time to time, we evaluate acquisition candidates that fit our business objectives. Acquisitions involve certain risks and uncertainties, including, among others, the following:

- The inability to successfully improve operating efficiency and reduce costs through our restructuring initiatives;
- Difficulty in integrating newly acquired businesses and operations in an efficient and cost-effective manner, which
 may also impact our ability to realize the potential benefits associated with the acquisition;
- · The risk that significant unanticipated costs or other problems associated with integration may be encountered;
- The risk that we do not fully integrate our acquisitions, which could drive greater complexity and higher costs in our business operations;
- The challenges in achieving strategic objectives, cost savings and other anticipated benefits;
- The risk that our marketplaces do not evolve as anticipated and that the technologies acquired do not prove to be those needed to be successful in the marketplaces that we serve;
- The risk that we assume significant liabilities that exceed the limitations of any applicable indemnification provisions
 or the financial resources of any indemnifying party;
- The inability to maintain a relationship with key customers, vendors and other business partners of the acquired businesses;
- The difficulty in maintaining controls, procedures and policies during the transition and integration;
- The potential loss of key employees of the acquired businesses;
- The risk of diverting management attention from our existing operations;
- Difficulties in coordinating geographically disparate organizations and corporate cultures and integrating management personnel with different business backgrounds;
- The potential failure of the due diligence process to identify significant problems, liabilities or other challenges of an acquired company or technology;
- The risk that we incur significant costs associated with such acquisition activity that may negatively impact our operating results before the benefits of such acquisitions are realized, if at all;
- The entry into marketplaces where we have no or limited direct prior experience and where competitors have stronger marketplace positions;
- The exposure to litigation or other claims in connection with our assuming claims or litigation risks from terminated employees, customers, former shareholders or other third parties; and

 The risk that historical financial information may not be representative or indicative of our results as a combined company.

Historically, we have grown organically and from acquisitions, and we intend to continue to grow in such manner. Our infrastructure will require, among other things, continued development of our financial and management controls and management information systems, management of our sales channel, continued capital expenditures, the ability to attract and retain qualified management personnel and the training of new personnel. We cannot be sure that our infrastructure, systems, procedures, business processes and managerial controls will be adequate to support the growth in our operations. Any delays in, or problems associated with, implementing, or transitioning to, new or enhanced systems, procedures, or controls to accommodate and support the requirements of our business and operations and to effectively and efficiently integrate acquired operations may adversely affect our ability to meet customer requirements, manage our product inventory, and record and report financial and management information on a timely and accurate basis. These potential negative effects could prevent us from realizing the benefits of an acquisition transaction or other growth opportunity.

Likewise, we have in the past, and may in the future, divest certain business operations. Divestitures involve a number of risks, including the diversion of management's attention, significant costs and expenses, goodwill and other intangible asset impairment charges, the loss of customer relationships and cash flow, and the disruption of operations in the affected business. Failure to timely complete or consummate a divestiture may negatively affect valuation of the affected business or result in restructuring charges.

In the event of an unsuccessful acquisition or divestiture, our competitive position, revenues, results of operations and financial condition could be adversely affected.

We believe that our future success depends on our ability to deliver products and services that meet changing technology and customer needs.

Our business may be affected by rapid technological change, changes in user and customer requirements and preferences, frequent new product and service introductions embodying new technologies and the emergence of new standards and practices, any of which could render our existing products and proprietary technology obsolete. Accordingly, our ongoing R&D programs are intended to enable us to maintain technological leadership. We believe, to remain competitive, we must identify product needs in the market, effectively define product specifications and performance to satisfy market needs, and timely launch new products to market. However, there is a risk that we may not be able to:

- Develop or obtain leading technologies useful in our business;
- Enhance our existing products;
- Develop new product, service and technology capabilities that address the increasingly sophisticated and varied needs
 of prospective customers, particularly in the area of printer speeds, materials functionality and environmental impacts.
- Respond to technological advances and emerging industry standards and practices on a cost-effective and timely basis;
 or
- Recruit or retain key technology employees.

If we are unable to meet changing technology and customer needs, our competitive position, revenue, results of operations and financial condition could be adversely affected.

The success of our regenerative medicine efforts depends on developing and commercializing products, either ourselves or in conjunction with development partners, that are subject to technical and market risks.

Our regenerative medicine program requires us to develop products that enable the application of additive manufacturing to human organ transplantation and organ models used for drug discovery and development. These initiatives may require significant investment and technical achievement of viable product candidates may not be achieved. Despite significant investment requirements, our regenerative medicine efforts may result in only nominal revenue with no guarantee of future revenue growth. Our development efforts remain subject to risks including but not limited to, ongoing funding commitments from our development partners and unanticipated technical or other hurdles to commercialization. For example, in the first quarter of 2024, revised funding arrangements with our key strategic partner refocused the Company's continuing organ program on developing the capability to print human lung scaffolds, and away from developing the capability to print scaffolds for livers and kidneys. Any products developed through our research efforts are subject to safety, regulatory and efficacy risks that may result in delays to commercialization, cause us to incur additional expenses or fail to achieve commercialization. In addition, any products that achieve commercialization and regulatory approval are subject to market risks including reimbursement from third-party payers and competition from existing or new products that aim to address similar indications. In addition, difficulties in our research efforts may lead to disputes our strategic partners and other third parties, such as the dispute with former shareholders of Volumetric described under the heading "Termination of Volumetric Milestones Related to Potential Earnout Payments" in Note 22 to the consolidated financial statements.

Regulatory, Legislative and Legal Risk Factors

We are subject to U.S. and other anti-corruption laws, trade controls, economic sanctions, privacy regulations, and other similar laws and regulations. Our failure to comply with these laws and regulations could subject us to civil, criminal and administrative penalties and harm our reputation.

Doing business on a worldwide basis requires us to comply with the laws and regulations of the U.S. government and various other foreign jurisdictions. These laws and regulations place restrictions on our operations, trade practices, partners and investments.

In particular, our operations are subject to U.S. and foreign anti-corruption and trade control laws and regulations, such as the Foreign Corrupt Practices Act ("FCPA") and United Kingdom Bribery Act (the "Bribery Act"), export controls and economic sanctions programs, including those administered by the U.S. Treasury Department's Office of Foreign Assets Control ("OFAC"), the State Department's Directorate of Defense Trade Controls ("DDTC") and the Bureau of Industry and Security ("BIS") of the Department of Commerce. As a result of doing business in foreign countries and with foreign customers, we are exposed to a heightened risk of violating anti-corruption and trade control laws and sanctions regulations.

As part of our business, we may deal with state-owned business enterprises, the employees of which are considered foreign officials for purposes of the FCPA's prohibition on providing anything of value to foreign officials for the purposes of obtaining or retaining business or securing any improper business advantage. In addition, the provisions of the Bribery Act extend beyond bribery of foreign public officials and also apply to transactions with individuals that a government does not employ. Some of the international locations in which we operate lack a developed legal system and have higher than normal levels of corruption. Our continued expansion outside the U.S., including in Brazil, China, India and developing countries, and our development of new partnerships worldwide, could increase the risk of FCPA, OFAC or Bribery Act violations in the future.

As an exporter, we must comply with various laws and regulations relating to the export of products and technology from the U.S. and other countries having jurisdiction over our operations. In the U.S., these laws include the International Traffic in Arms Regulations ("ITAR") administered by the DDTC, the Export Administration Regulations ("EAR") administered by the BIS and trade sanctions against embargoed countries and destinations administered by OFAC. The EAR governs products, parts, technology and software which present military or weapons proliferation concerns, so-called "dual use" items, and ITAR governs military items listed on the United States Munitions List. Any failures to comply with these laws and regulations could result in fines, adverse publicity and restrictions on our ability to export our products, and repeat failures could carry more significant penalties.

Violations of anti-corruption and trade control laws and sanction regulations are punishable by civil penalties, including fines, denial of export privileges, injunctions, asset seizures, debarment from government contracts and revocations or restrictions of licenses, as well as criminal fines and imprisonment and could harm our reputation, create negative shareholder sentiment and affect our share value. We have established policies and procedures designed to assist our compliance with applicable U.S. and international anti-corruption and trade control laws and regulations, including the FCPA, the Bribery Act and trade controls and sanctions programs administered by OFAC, the DDTC and BIS, and have trained our employees to comply with these laws and regulations. However, there can be no assurance that all of our employees, consultants, agents or other associated persons will not take actions in violation of our policies and these laws and regulations. Additionally, there can be no assurance that our policies and procedures will effectively prevent us from violating these regulations in every transaction in which we may engage or provide a defense to any alleged violation. In particular, we may be held liable for the actions that our joint venture partners take inside or outside of the United States, even though our partners may not be subject to these laws. Such a violation, even if our policies prohibit it, could have an adverse effect on our reputation, business, financial condition and results of operations. In addition, various state and municipal governments, universities and other investors maintain prohibitions or restrictions on investments in companies that do business with sanctioned countries, persons and entities, which could adversely affect our reputation, business, financial condition and results of operations.

Many governments, regulators, investors, employees, customers, and other stakeholders are increasingly focused on environmental considerations relating to businesses, including climate change and greenhouse gas emissions, as well as use of plastic materials. We monitor new and changing international, federal, and state environmental reporting obligations. As new or increased regulations take effect, these changing requirements may impose significant operational costs to comply, and expand compliance requirements for our products, our operations, and our supply chain, which could negatively impact our competitive position.

In addition, we have operations globally and are subject to various privacy and data protection laws, which encompasses the collection, use, disclosure, and storage of personal information and personally identifiable health information. This requires us to dedicate resources to implement controls and infrastructure to protect personal and health information needed to conduct our business activities. Failure to do so could subject us to potential regulatory fines, penalties, litigation, and could negatively impact our business and reputation.

We are subject to complex government laws and regulations relating to certain product sets and failure to meet the stringent requirements could impact our business operations and financial position.

Our medical device business is subject to extensive global regulations and enforcement, including in the Food and Drug Administration (FDA) in the U.S., and other governmental authorities for which our product is distributed. There are complex approvals for medical devices to be placed on the market, as well as ongoing responsibilities under these regulations. Failure to comply with the applicable regulation for which the medical device applies could result in corrective actions, recalls, removal of local authority approvals, ceasing business activities, fines, and criminal prosecution.

Failure to comply with the terms of our settlement agreements with the U.S. Departments of State, Commerce, and Justice could have a material and adverse impact on our business, results of operations and financial condition, and, even if we comply with those settlement agreements, the costs and burdens of compliance could be significant, and we may face additional investigations and proceedings from other governmental entities or third parties related to the same or similar conduct underlying the agreements.

In October 2017, we received an administrative subpoena from the BIS requesting the production of records in connection with possible violations of U.S. export control laws, including with regard to our former Quickparts.com, Inc. subsidiary. In addition, while collecting information responsive to the above-referenced subpoena, our internal investigation identified potential violations of the ITAR administered by the DDTC and potential violations of the EAR administered by the BIS. On June 8, 2018 and thereafter, we submitted voluntary disclosures to BIS and DDTC identifying potentially unauthorized exports between 2012 and 2017, including to China, of controlled items including technical data. In connection with these matters, in August 2020, we received two federal grand jury subpoenas issued by the U.S. District Court for the Northern District of Texas. The Company responded to these two subpoenas and fully cooperated with the U.S. Department of Justice ("DOJ") in the related investigation.

In February 2023, the Company settled these matters with all three agencies. See Note 22, "Commitments and Contingencies," to our consolidated financial statements included in Part II, Item 8, "Financial Statements and Supplementary Data" of this Form 10-K for additional information.

Compliance with the terms of these agreements, which imposed measures to strengthen the Company's export compliance programs, could impose additional costs on the Company. If we fail to comply with the terms of these agreements, additional monetary penalties or government actions could have a material adverse effect on our business, financial condition and results of operations.

Since 2018, we have implemented new compliance procedures to identify and prevent potential violations of export controls laws, trade sanctions and government contracting laws and regulations and from November 2018 through October 2024 maintained a separate Compliance Committee of the Board of Directors to further enhance board oversight of compliance risks. As we continue to implement additional compliance enhancements, we may discover additional potential violations of export controls laws, trade sanctions or government contracting laws. If we identify any additional potential violations, we will submit voluntary disclosures to the relevant agencies and cooperate with such agencies on any related investigations. However, if we are found to have violated one or more export control laws, trade sanctions or government contracting laws, we could be subject to various civil or criminal penalties, significant compliance, litigation, settlement costs or other losses, resulting in a material adverse effect on our business, results of operations and financial condition. We may also be subject to negative publicity related to these matters, which could harm our reputation, reduce demand for our products, solutions and services, result in employee attrition and negatively impact our stock price.

As a result of the delayed filing of our 2023 Form 10-K, our Form 10-Q for the quarter ended March 31, 2024, our Form 10-Q for the quarter ended June 30, 2024, and our Form 10-Q for the quarter ended September 30, 2024, the Company has experienced risks and costs and expects to experience additional risks and costs in the future, including with respect to the SEC's ongoing investigation.

As a result of the circumstances giving rise to the delayed filing of our 2023 Form 10-K, our Form 10-Q for the quarter ended March 31, 2024, our Form 10-O for the guarter ended June 30, 2024, and the Form 10-O for the guarter ended September 30, 2024, the Company has experienced risks and costs and expects to experience additional risks and costs in the future. The audit of the financial statements included in our 2023 Form 10-K was time-consuming, required the Company to incur additional incremental expenses and affected management's attention and resources. Further, the measures to strengthen internal controls being implemented continue to require and will likely require in the future greater management time and Company resources to implement and monitor. Although we have now filed our 2023 Form 10-K, our Form 10-Q for the quarter ended March 31, 2024, our Form 10-Q for the quarter ended June 30, 2024, and our Form 10-Q for the quarter ended September 30, 2024, our failure to make these filings in a timely manner has led to further investigation and scrutiny by the SEC, which has been conducting a formal investigation of the Company since April 2022 as a follow on to the previously disclosed SEC voluntary request for documents. Although the Company is cooperating with the SEC, the Company cannot predict the ultimate outcome of the SEC's investigation. Any allegations or adverse findings by the SEC could harm our reputation, negatively impact our stock price and have a material adverse effect on our business, financial condition and results of operations. Moreover, the expense and distraction to management of cooperating with and responding to the SEC could have a material adverse effect on the Company even if the investigation is ultimately closed or resolved in a manner favorable to the Company. See also the risk factor below entitled "We are no longer eligible to use a Form S-3 registration statement, which could impair our capital-raising activities."

We derive a significant portion of our revenue from business conducted outside the U.S. and are subject to the risks of doing business outside the U.S.

We face many risks inherent in conducting business activities outside the U.S. that, unless managed properly, may adversely affect our profitability, including our ability to collect amounts due from customers. While most of our operations outside the U.S. are conducted in highly developed countries, our operations could be adversely affected by, among others, the following:

- Unexpected changes in laws, regulations and policies of non-U.S. governments relating to investments and operations, as well as U.S. laws affecting the activities of U.S. companies abroad;
- Changes in regulatory requirements, including export controls, tariffs and embargoes, other trade restrictions, competition, environmental, corporate practices and data privacy concerns;
- Political policies, political or civil unrest, terrorism or epidemics and other similar outbreaks;
- Fluctuations in currency exchange rates;
- Limited protection for the enforcement of contract and intellectual property rights in some countries;
- Difficulties in staffing and managing foreign operations;
- Operating in countries with a higher incidence of corruption and fraudulent business practices;
- Potentially adverse changes in taxation;
- · The impact of public health epidemics on employees and the global economy; and

Other factors, depending upon the specific country in which we conduct business.

These uncertainties may make it difficult for us and our customers to accurately plan future business activities and may lead our customers in certain countries to delay purchases of our products and services. More generally, these geopolitical, social and economic conditions could result in increased volatility in global financial markets and economies.

The consequences of terrorism or armed conflicts are unpredictable, and we may not be able to foresee events that could have an adverse effect on our market opportunities or our business. We are uninsured for losses and interruptions caused by terrorism, acts of war and similar events.

We seek to minimize the risks associated with interest rates, foreign exchange rates and commodity prices through regular operating and financing activities. However, our efforts to minimize our exposure to market risks from changes in interest rates, foreign currency exchange rates and commodity prices may prove to be insufficient or unsuccessful.

We may incur substantial costs enforcing or acquiring intellectual property rights and defending against third-party claims as a result of litigation or other proceedings.

In connection with the enforcement of our own intellectual property rights, the acquisition of third-party intellectual property rights or disputes related to the validity or alleged infringement of third-party intellectual property rights, including patent rights, we have been, and may in the future be, subject to claims, negotiations or complex, protracted litigation. Intellectual property disputes and litigation may be costly and can be disruptive to our business operations by diverting the attention and energy of management and key technical personnel, and by increasing our costs of doing business. Although we have successfully defended or resolved past litigation and disputes, we may not prevail in any ongoing or future litigation and disputes, which could adversely affect our results of operations and financial condition.

Third-party intellectual property claims asserted against us could subject us to significant liabilities, require us to enter into royalty and licensing arrangements on unfavorable terms, prevent us from assembling or licensing certain of our products, subject us to injunctions restricting our sale of products, cause severe disruptions to our operations or the marketplaces in which we compete or require us to satisfy indemnification commitments with our customers, including contractual provisions under various license arrangements. In addition, we may incur significant costs in acquiring the necessary third-party intellectual property rights for use in our products. Any of these could seriously harm our business, operating results, liquidity and financial condition.

We may not be able to protect our intellectual property rights and confidential information, including our digital content, from third-party infringers or unauthorized copying, use or disclosure.

Although we defend our intellectual property rights and endeavor to combat unlicensed copying and use of our digital content and intellectual property rights through a variety of techniques, preventing unauthorized use or infringement of our rights ("piracy attacks") is inherently difficult. If our intellectual property becomes subject to piracy attacks, our business may be harmed.

Additionally, we endeavor to protect the secrecy of our digital content, confidential information and trade secrets. If unauthorized disclosure of our trade secrets occurs, we could potentially lose trade secret protection. The loss of trade secret protection could make it easier for third parties to compete with our products by copying previously confidential features, which could adversely affect our business, results of operations, revenue and operating margins. We also seek to protect our confidential information and trade secrets through the use of non-disclosure agreements. However, there is a risk that our confidential information and trade secrets may be disclosed or published without our authorization, and in these situations it may be difficult and/or costly for us to enforce our rights.

Changes in, or interpretation of, tax rules and regulations may impact our effective tax rate and future profitability.

We are a U.S. based, multinational company subject to taxation in multiple U.S. and foreign tax jurisdictions. Our future effective tax rates could be adversely affected by changes in statutory tax rates or interpretation of tax rules and regulations in jurisdictions in which we do business, changes in the amount of revenue or earnings in the countries with varying statutory tax rates, or by changes in the valuation of deferred tax assets and liabilities.

In addition, we are subject to audits and examinations of previously filed income tax returns by the Internal Revenue Service and other domestic and foreign tax authorities. We regularly assess the potential impact of such examinations to determine the adequacy of our provision for income taxes and have reserved for potential adjustments that we expect may result from the current examinations. We believe such estimates to be reasonable; however, there is no assurance that the final determination of any examination will not have an adverse effect on our operating results and financial position.

Material weaknesses in our internal control over financial reporting could result in material misstatements in our financial statements not being prevented or detected, which could affect investor confidence in the accuracy and completeness of our financial statements and could negatively impact our stock price and financial condition.

As a public company, we are required to comply with Section 404 of the Sarbanes-Oxley Act. If we fail to abide by the applicable requirements of Section 404, regulatory authorities, such as the SEC, could subject us to sanctions or investigation, and our independent registered public accounting firm may not be able to certify as to the effectiveness of our internal control over financial reporting pursuant to an audit of our internal controls. Even effective internal controls can provide only reasonable assurance with respect to the preparation and fair presentation of financial statements. Accordingly, our internal control over financial reporting may not prevent or detect misstatements because of their inherent limitations, including the possibility of human error, the circumvention or overriding of controls, or fraud.

Management, including our Chief Executive Officer and Chief Financial Officer, assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2024. Based on its assessment, management has concluded that the Company did not maintain effective internal control over financial reporting as of December 31, 2024, due to the following material weaknesses.

- We did not design and maintain adequate controls within the revenue process that resulted in material weaknesses, either individually or in aggregate. Contract terms, pricing, standalone selling price models, and determination of timing of revenue recognition were not adequately reviewed prior to entry in the Company's information systems. In addition, we did not effectively implement an accounting system that appropriately captures the allocation of the transaction price to the performance obligations to support revenue accounting;
- We did not design and maintain adequate controls over certain assumptions used in the valuation of indefinite-lived intangible assets, goodwill and other long-lived assets related to an impairment charge, that resulted in material weaknesses, either individually or in aggregate;
- We did not design and maintain adequate controls within the financial close and reporting process that resulted in
 material weaknesses, either individually or in aggregate. We did not maintain comprehensive formal accounting
 policies. We also did not maintain controls over manual journal entries, balance sheet account reconciliations, and
 financial statement disclosures. In part due to an inadequate level of review, such reviews were not always performed
 on a consistent and timely basis; and
- We did not design and maintain adequate controls over the accounting treatment for certain technical matters, including controls related to complex and/or non-routine transactions and arrangements, that resulted in material weaknesses, either individually or in aggregate.

Certain of the material weaknesses described above (items 1 and 2) were initially identified at December 31, 2020 and continued to exist at December 31, 2024. As further described in Item 9A, Management's Report on Internal Control over Financial Reporting, we began implementing a remediation plan in January 2021 designed to improve our internal control over financial reporting through the development and implementation of more formal policies, processes and documentation procedures relating to our financial reporting, the hiring of additional accounting personnel, and the training of personnel on proper execution of designed control procedures.

While we believe our remediation plans should remediate the material weaknesses, we cannot provide assurance of when the material weaknesses will be remediated, nor can we be certain of whether additional actions will be required or the costs of any such actions. Moreover, we cannot provide assurance that additional material weaknesses will not arise in the future. While the material weaknesses discussed in Item 9A, "Management's Report on Internal Control over Financial Reporting," did not result in material misstatements of our annual or interim consolidated financial statements, any failure to remediate the material weaknesses, or the identification of new material weaknesses in our internal control over financial reporting, could result in material misstatements in our financial statements that may continue undetected, negatively impacting the public perception of the Company and our securities and cause us to fail to meet our reporting and financial obligations or incur significant additional costs to remediate the material weaknesses, each of which could negatively affect our stock price, harm our ability to raise capital on favorable terms in the future or otherwise have a negative impact on our financial condition.

We are no longer eligible to use a Form S-3 registration statement, which could impair our capital-raising activities.

As a result of our failure to timely file our 2023 Form 10-K, our Form 10-Q for the quarter ended March 31, 2024, our Form 10-Q for the quarter ended June 30, 2024, and the Form 10-Q for the quarter ended September 30, 2024 with the SEC, we are no longer eligible to use a Form S-3 registration statement. Further, we are also no longer a "well-known seasoned issuer," as such term is used in the SEC's regulations, which otherwise would allow us to, among other things, file automatically effective Form S-3 registration statements. Our eligibility to use a Form S-3 registration statement may not be restored until December 1, 2025, and then only if we have not had any other filing delinquency that would preclude Form S-3 eligibility and satisfy all other requirements for Form S-3 eligibility. During any period when we are not eligible to use Form S-3 or qualify as a "well-known seasoned issuer," our capital-raising ability may be impaired. Under these circumstances, we would be required to conduct the offering on an exempt basis, such as in accordance with Rule 144A, or file a registration statement on Form S-1. Using a Form S-1 registration statement for a public offering would likely take significantly longer than using a registration statement on Form S-3 and increase our transaction costs, and could, to the extent we are not able to conduct offerings using alternative methods, adversely impact our ability to raise capital or complete acquisitions of other companies in a timely manner.

Item 1B. Unresolved Staff Comments

None.

Item 1C. Cybersecurity

We recognize the critical importance of maintaining the safety and security of our systems and data. We have implemented a layered cybersecurity program to assess, identify, and manage risks from cybersecurity threats that may result in material adverse effects on the confidentiality, integrity, and availability of our information systems.

Governance

As part of the Company's risk management activities, we prioritize the identification and management of risks which includes risks related to cybersecurity.

Board of Directors

Our Board has delegated to the Audit Committee the oversight of cybersecurity risks, including overseeing the actions management has taken to monitor or mitigate such exposure. The Audit Committee reviews the measures implemented by the Company to identify and mitigate data protection and cybersecurity risks on a periodic basis. As part of such reviews, the Audit Committee receives reports and presentations from members of the team responsible for overseeing the Company's cybersecurity program, including the Chief Information Officer (CIO), which address a wide range of topics including recent developments, evolving standards, vulnerability assessments, third-party and independent reviews, the threat environment, and technological trends. The Audit Committee and such members of our management team also report to the Board at least annually on cybersecurity matters. We have defined guidelines by which certain cybersecurity incidents are escalated within the Company and, where appropriate, reported promptly to the Audit Committee and the Board, as well as ongoing updates regarding any such incident.

Management

At the management level, our CIO and Head of Cybersecurity have extensive cybersecurity knowledge and skills gained from work experience at the Company and other publicly traded companies. Our CIO has worked in the IT industry for numerous private and publicly traded companies for more than 35 years. During this time, he has led both the IT and Cybersecurity efforts. He holds both a bachelor's degree and an MBA, and has obtained numerous certifications throughout his career, including a Project Management Professional (PMP) and Cisco certified Network Professional (CCNP). Our Head of Cybersecurity has worked in the Cybersecurity industry for more than 22 years. He has also worked in leadership roles at numerous private and public companies, and holds a bachelor's degree and a Master's Degree in Cybersecurity. He has obtained numerous certifications, including a Certified Ethical Hacker (CEH), Computer Hacking Forensic Investigator (CHFI), and is a Certified Chief Information Security Officer (C|CISO). He is a founding member of the Carolina CISO leadership network. Together, they have also had extensive training and hands-on experience with quality management, process efficiency, auditing, and security incident management and response. They lead the team responsible for implementing, monitoring, and maintaining cybersecurity, including data protection practices across our business. The Head of Cybersecurity receives reports on cybersecurity threats from both our internal and external partners on a regular basis. The Chief Administrative Officer and Chief Executive Officer receive regular reports from the Head of Cybersecurity and the CIO on the cyber program and measures implemented by the Company to identify and mitigate cybersecurity risks. Our CIO and Head of Cybersecurity work closely with our Company's Legal and Compliance teams to oversee compliance with legal, regulatory, and contractual security requirements, and also attend meetings with the Audit Committee and the Board that include cybersecurity updates.

Internal Cybersecurity Team

Our internal Cybersecurity Team, led by the Head of Cybersecurity, is responsible for the implementation, monitoring, and maintenance of our cybersecurity program, including the Company's data protection practices. Reporting to our Head of Cybersecurity are a number of experienced and trained information security professionals who have previous work experience and educational backgrounds in information technology and security, and who also have industry recognized cybersecurity certifications. In addition to our internal cybersecurity capabilities, we also utilize a number of third-party experts to assist with assessing, identifying, and managing our cybersecurity risks.

Risk Management and Strategy

Each year, we conduct an enterprise risk evaluation by reviewing our progress on existing risk action plans, assessing the current environment against our risk universe, and gathering insights through engagement with senior leadership. The results of this assessment are summarized, a risk owner is assigned, and the identified risks are integrated into the strategic planning process. Risks are monitored throughout the year as part of ongoing business reviews.

Additionally, the results of our cybersecurity program risk review are integrated into enterprise risk management results. Cybersecurity risks are assessed alongside other enterprise risks, with specific actions and mitigation strategies incorporated into the overall risk action plans, ensuring alignment with the Company's broader risk management and strategic objectives. As progress is made in our cybersecurity program, the risk level is updated in our broader enterprise risk management program.

Our cybersecurity program leverages people, processes, and technology to identify and respond to cybersecurity threats in a timely manner. We maintain continuous monitoring of our network and also assess, identify, and manage risks from cybersecurity threats through various mechanisms, which may include incident response planning, risk assessments, control gap analyses, threat modeling, penetration tests, and vulnerability scanning.

Our cybersecurity assessment analyses have identified and prioritized steps to further enhance our cybersecurity practices. We maintain cyber insurance, regularly conduct company-wide cybersecurity awareness training, and have a dedicated team of Company personnel to address cybersecurity threats. We intend to implement additional security measures and processes to enhance our detection and response to cybersecurity incidents as appropriate.

We have adopted a Cybersecurity Incident Response Plan (the "IRP") to provide a standardized framework for responding to and escalating security incidents. The IRP sets out a coordinated approach to investigating, containing, documenting, and mitigating incidents, including reporting findings and keeping senior management and other key stakeholders informed and involved as needed.

Material Cybersecurity Risks, Threats & Incidents

To date, risks from cybersecurity threats, including as a result of previous cybersecurity incidents, have not materially affected us, including our business strategy, results of operations, or financial condition, but we face certain ongoing risks from cybersecurity threats that, if realized, are reasonably likely to have such an affect. Additional information on cybersecurity risks we face can be found in Part I, Item 1A "Risk Factors" of this Report under the heading "Our business could be adversely impacted in the event of a failure of our information technology infrastructure or a successful cybersecurity incident," which should be read in conjunction with the foregoing information.

Item 2. Properties

Our headquarters are located in Rock Hill, South Carolina. As of December 31, 2024, we own minimal facilities, and we lease facilities in the U.S., EMEA, and APAC. Our leased facilities support our Healthcare Solutions segment, Industrial Solutions segment, and Corporate functions and consist of office space, manufacturing facilities, and warehouse or storage space that supports the distribution of our products.

Item 3. Legal Proceedings

Information relating to legal proceedings is included under the header "Litigation" in Note 22 to the consolidated financial statements in Item 8 of this Form 10-K, which is incorporated by reference into this Item 3.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

Our common stock is listed on the New York Stock Exchange ("NYSE") under the trading symbol "DDD."

As of March 26, 2025, our outstanding common stock was held by approximately 1,151 stockholders of record. This figure does not reflect the beneficial ownership of shares held in a nominee's name.

Dividends

We do not currently pay, and have not paid, any dividends on our common stock, and we currently intend to retain any future earnings for use in our business. Any future determination as to the declaration of dividends on our common stock will be made at the discretion of the Board of Directors and will depend on our earnings, operating and financial condition, capital requirements, and other factors deemed relevant by the Board of Directors, including the applicable requirements of the Delaware General Corporation Law, which provides that dividends are payable only out of surplus or current net profits.

The payment of dividends on our common stock may be restricted by the provisions of credit agreements or other financing documents that we may enter into or the terms of securities that we may issue from time to time. Currently, no such agreements or documents limit our declaration of dividends or payments of dividends.

Issuance of Unregistered Securities and Issuer Purchases of Equity Securities

We did not repurchase any of our equity securities in the open market during 2024; however, shares of common stock were surrendered to us for payment of tax withholding obligations in connection with the vesting of restricted stock awards and units pursuant to our Amended and Restated 2015 Incentive Stock Plan. For information regarding the securities authorized for issuance under our equity compensation plans, see "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters—Equity Compensation Plans" in Item 12 of this Form 10-K. Also, see Note 17 to the consolidated financial statements in Item 8 of this Form 10-K.

	Total number of shares (or units) purchased	Average price paid per share (or unit)		
October 1, 2024 - October 31, 2024	·—-	\$		
November 1, 2024 - November 30, 2024	7,715		2.97	
December 1, 2024 - December 31, 2024	29,308		3.83	
Total	37,023	a \$	3.65	

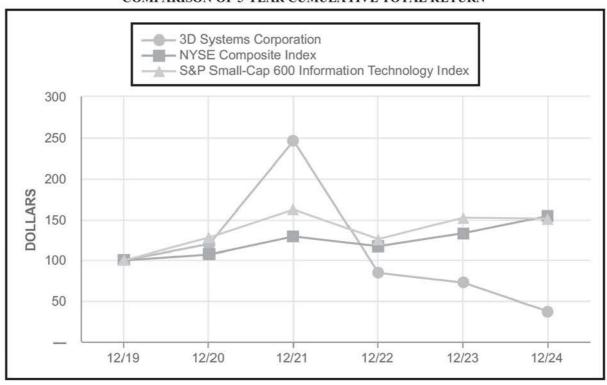
a. Represents shares of common stock surrendered to us for payment of tax withholding obligations in connection with the vesting of restricted stock awards and units.

Stock Performance Graph

The graph below shows, for the five years ended December 31, 2024, the cumulative total return on an investment of \$100 assumed to have been made on December 31, 2019 in our common stock. For purposes of the graph, cumulative total return assumes the reinvestment of all dividends. The graph compares such return with those of comparable investments assumed to have been made on the same date in (a) the NYSE Composite Index, and (b) the S&P Small-Cap 600 Information Technology Index, which are published market indices with which we are sometimes compared.

Although total return for the assumed investment assumes the reinvestment of all dividends on December 31 of the year in which such dividends were paid, we paid no cash dividends on our common stock during the periods presented.

COMPARISON OF 5-YEAR CUMULATIVE TOTAL RETURN



	mber 31, 2019	mber 31, 2020	mber 31, 2021	mber 31, 2022	mber 31, 2023	mber 31, 2024
3D Systems Corporation	\$ 100	\$ 120	\$ 246	\$ 85	\$ 73	\$ 37
NYSE Composite Index	100	107	129	117	133	154
S&P Small-Cap 600 Information Technology Index	100	128	162	126	152	151

b. The average price paid reflects the average market value of shares withheld for tax purposes.

Item 6. [Reserved]

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

The following discussion and analysis should be read together with our consolidated financial statements, and notes thereto, included in Item 8 of this Form 10-K. Certain statements contained in this discussion may constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements involve a number of risks, uncertainties and other factors that could cause actual results to differ materially from those reflected in any forward-looking statements. See "Risk Factors" in Part I, Item 1A and "Forward-Looking Statements."

For discussion related to our results of operations and changes in financial condition for fiscal 2023 compared to fiscal 2022, refer to Part II, Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" ("MD&A") in our fiscal 2023 Form 10-K. Our fiscal 2023 Form 10-K was filed with the SEC on August 13, 2024. Discussion of our segment results for fiscal 2023 compared to fiscal 2022 have been included herein due to the retroactive application of the change in our segment measure of profitability to gross profit for all periods reported in our segment footnote. Refer to Note 21 for additional details.

Business Overview

3D Systems Corporation ("3D Systems" or the "Company" or "we," "our" or "us") markets our products and services through subsidiaries in North America and South America (collectively referred to as "Americas"), Europe and the Middle East (collectively referred to as "EMEA") and Asia Pacific and Oceania (collectively referred to as "APAC"). We provide comprehensive 3D printing and digital manufacturing solutions, including 3D printers for plastics and metals, materials, software, and services, including maintenance, advanced manufacturing and applications engineering. Our solutions support advanced applications in two key industry verticals: Healthcare Solutions and Industrial Solutions. We have over 35 years of experience and expertise, which have proven vital to our development of an ecosystem and end-to-end digital workflow solutions that enable customers to optimize product designs, transform workflows, bring innovative products to market and drive new business models.

The Company has two reportable segments: Healthcare Solutions and Industrial Solutions. Our reportable segments are based upon the industry verticals that they serve. For Healthcare Solutions, those industry verticals include dental, medical devices, personalized health services and regenerative medicine. For Industrial Solutions, those industry verticals include aerospace, defense, transportation and general manufacturing. We architect solutions specific to customers' needs through a combination of materials, hardware platforms, software, professional services and advanced manufacturing – creating a path to integrating additive manufacturing into traditional production environments. As a result, manufacturers achieve design freedom, increase agility, scale production and improve their overall total cost of operation. Our technologies and process knowledge enable over a million production parts to be made through additive manufacturing each day.

Recent Developments

Fiscal Year 2023 Restructuring Plan

Restructuring Plan Objectives and Status of Execution

In 2023, the Company commenced a multi-faceted restructuring plan (the "2023 Restructuring Plan") which was intended to improve operating efficiencies throughout the organization and drive long-term value creation. The key initiatives of the plan were announced in 2023 and included:

- improving manufacturing efficiencies related to the Company's European metal printer operations by (1) in-sourcing
 certain metal printer platforms into the Company's Riom, France manufacturing facility and (2) co-locating the
 engineering and manufacturing of in-sourced metal printer products in order to improve cycle time from development
 to production;
- reducing headcount throughout all functions and areas of the Company; and
- rationalizing the Company's geographic footprint through the exit of leased facilities.

As of December 31, 2024, the Company has completed its in-sourcing activities. Actions taken to reduce headcount under the 2023 Restructuring Plan commenced during the year ended December 31, 2023 and were completed during the year ended December 31, 2024.

During the fourth quarter of 2023, as part of its efforts to rationalize its geographic footprint, the Company began identifying and evaluating opportunities to exit leased facilities, whether by early termination of a lease, non-renewal of a lease, or ceasing use with an intent to sublease a facility. As part of these restructuring efforts, during the year ended December 31, 2024, the Company (1) partially or fully exited 18 leased facilities that were identified as part of the Company's plan and (2) commenced active marketing efforts to sublease the available space in facilities that were either partially or fully exited, but have a continuing lease. The Company exited one additional lease in the first quarter of 2025, and has now exited all facilities identified as part of its facilities rationalization plan under the 2023 Restructuring Plan.

2023 Restructuring Plan Costs, Cash Settlements and Recognized Liabilities

Headcount Reductions

We incurred a total of \$8.2 million in severance and termination benefit costs related to headcount reductions between inception of our 2023 Restructuring Plan and the completion of headcount reductions under the plan during the year ended December 31, 2024. These costs were generally recognized when probable and estimable because they were typically determined consistent with the Company's past practices or statutory law. Accordingly, a substantial portion of the severance and termination benefit costs attributable to our 2023 Restructuring Plan were recorded during our fiscal year ended December 31, 2023, while the execution of the headcount reductions and the settlements of the associated costs continued into and throughout our fiscal year ended December 31, 2024. During the year ended December 31, 2024, as a result of a decision to continue operating certain facilities (i.e., a change to the original 2023 Restructuring Plan), the Company reduced its accrual for certain severance and termination benefit costs that had previously been recorded to cost of sales. This reduction to the Company's severance and termination benefits accrual was substantially offset by new accruals for incremental headcount reductions that were recorded to selling, general, and administrative expense and research and development expense. Refer to the tables that follow for additional details.

The following table provides details regarding the net severance, termination benefit and other employee costs that were incurred (or reversed) under our 2023 Restructuring Plan and amounts that were settled with cash during the years ended December 31, 2024 and 2023, as well as the related accrued liability balances included in our consolidated balance sheets as of December 31, 2024 and 2023:

(in thousands)	Decem	December 31, 2023		
Balance at beginning of period	\$	3,933	\$	-
Costs incurred and other adjustments to accrued liability during the period		(30)		8,242
Amounts settled with cash		(3,416)		(4,309)
Balance at the end of period	\$	487	\$	3,933

The financial statement impacts of (1) severance, termination benefits and other employee costs that were incurred under our 2023 Restructuring Plan during the years ended December 31, 2024 and 2023 and (2) adjustments recorded with respect to the liability recognized under the 2023 Restructuring Plan during the year ended December 31, 2024 are reflected in our consolidated statements of operations as follows:

	Year Ended				
(in thousands)	Decem	December 31, 2024		December 31, 2023	
Total cost of sales ^a	\$	(785)	\$	1,401	
Selling, general and administrative		370		5,598	
Research and development		385		1,243	
Total	\$	(30)	\$	8,242	

a. Only restructuring costs recorded to cost of sales have been included in our reported segment results, as gross profit is our measure of segment profitability. All severance and termination costs recorded to costs of sales are included in our Healthcare segment and, accordingly, are reflected in the Healthcare segment's reported gross profit. There were no facility termination costs or impairment costs included in the amounts reported for consolidated or segment cost of sales. See Note 21 for the reported gross profit for each of our reportable segments.

Facilities Rationalization

Since inception of the 2023 Restructuring Plan, we have incurred \$0.6 million in lease termination costs. During 2023, we recorded \$0.6 million in incremental impairment charges related to certain fixed assets that have been retired in connection with the Company's restructuring. However, since inception of our 2023 Restructuring Plan, with the exception of certain amounts paid to terminate certain leases early, our consolidated financial statements have not reflected material transactions or charges resulting from the decisions to cease the use of facilities for our own operations because the facilities for which we have a continuing leases (and any related assets, as applicable) generally have not yet qualified to be measured for impairment separate from the asset group to which they have historically belonged, which typically occurs when we have entered into a sublease.

Other Strategic Business Decisions and Cost Saving Initiatives

Geomagic

In December 2024, the Company entered into a definitive agreement for the sale of its Geomagic software business ("Geomagic"), which is included in our Industrial Solutions segment, to Hexagon AB for \$123 million, subject to customary adjustments. The divestiture is expected to be completed by the end of the second quarter of 2025, subject to the satisfaction of certain closing conditions. The Company determined that the associated assets and liabilities met the held for sale criteria during December 2024. Accordingly, the Company classified \$3.2 million of assets and \$10.3 million of liabilities as held for sale in the Company's consolidated balance sheet as of December 31, 2024. No loss was recognized to measure the disposal group at the lower of its carrying value or fair value less costs to sell. The disposal group has not been presented as a discontinued operation in the accompanying consolidated financial statements because the sale of Geomagic does not represent a strategic shift that will have a major effect on the Company's operations.

<u>Oqton</u>

The Company previously disclosed during the year ended December 31, 2023 that it is more likely than not that Oqton, Inc. ("Oqton") MOS would be sold or otherwise disposed of. In connection with the expectation to sell or otherwise dispose of Oqton MOS, management previously assessed whether the carrying value of this asset group's long-lived assets was recoverable, and determined that it was not recoverable. As a result, the Company recorded a \$13.6 million charge to recognize the full impairment of the asset group's intangible assets during the year ended December 31, 2023.

During May 2024, the Company completed the sale of the portion of the Oqton MOS business that was focused on the dental market ("Oqton Dental") in exchange for a de minimis amount of cash, resulting in the transfer of a limited portion of Oqton MOS's personnel and a de minimis amount of fixed assets. The sale of Oqton Dental did not qualify as a discontinued operation, as it did not represent a strategic shift that will have a major effect on the Company's overall business operations; however, the transfer of personnel is expected to provide cost savings from the date of the disposal of Oqton Dental. The Company continues to evaluate strategic alternatives related to the remaining portion of Oqton MOS that the Company continues to hold.

2025 Restructuring Plan

In March 2025, the Company authorized the next phase of its multi-faceted cost savings and restructuring initiative (the "2025 Restructuring Plan"). The 2025 Restructuring Plan includes initiatives to deliver sustainable growth and profitability, enabled by a streamlining of both infrastructure and business processes, while consistently investing in core research and development activities to support long-term growth opportunities. The expected annual savings from the 2025 Restructuring Plan are significant and will begin to be realized beginning in the first half of 2025.

Acquisitions/Investments

The Company made the following significant acquisitions and investments during our fiscal years ended December 31, 2024, December 31, 2023, and December 31, 2022.

Acquisition of Wematter

In July 2023, the Company completed the acquisition of Wematter AB ("Wematter"), a Swedish 3D printer manufacturer, for which post-acquisition results are included in our Industrial Solutions segment. The acquisition broadens 3D Systems' Selective Laser Sintering (SLS) portfolio. Consideration for this acquisition consisted of approximately \$10.2 million in cash, subject to customary post-closing adjustments. The Company also may be required to pay an additional €2.0 million in cash, contingent upon the achievement of certain post-closing performance conditions and the continued employment of certain key employees of Wematter for two years after the closing date of the acquisition. As of December 31, 2024, management does not believe that achievement of the post-closing performance conditions is probable.

Theradaptive, Inc.

In June 2023, we made an \$8.0 million investment in Theradaptive, Inc. ("Theradaptive") via the purchase of Series A Preferred Stock. Theradaptive is currently developing a protein that encourages bone growth. This biotechnology could be applied to 3D printed metal splints for patients who otherwise may require amputation of a limb because the lost bone is too vast to replace with a splint. The Company has accounted for its investment in Theradaptive on a cost basis, subject to assessment for impairment, as the fair value of Theradaptive's equity is not readily determinable, and the investment is not subject to the equity method of accounting due to the Company's lack of significant influence.

National Additive Manufacturing Innovation ("NAMI") Joint Venture

In March 2022, the Saudi Arabian Industrial Investments Company ("Dussur") and 3D Systems signed an agreement to form a joint venture intended to expand the use of additive manufacturing within the Kingdom of Saudi Arabia and surrounding geographies, including the Middle East and North Africa. The joint venture is to enable the development of Saudi Arabia's domestic additive manufacturing production capabilities, consistent with the Kingdom's 'Vision 2030,' which is focused on diversification of the economy and long-term sustainability. Upon entering into the agreement with Dussur, 3D Systems committed to an initial investment in the joint venture of approximately \$6.5 million. In February 2023, the Company became a shareholder in the joint venture and owns 49% of the joint venture's common stock. During April 2023, \$3.4 million held in escrow, as well as the additional amount of approximately \$3.1 million owed to the joint venture, was deposited into a bank account of the joint venture for use in its operations. In May 2024, the Company and Dussur each made an incremental investment of \$2.5 million in the joint venture. During December 2024, the Company entered into a short-term non-interest-bearing loan agreement with NAMI whereby NAMI borrowed \$2.0 million to finance its working capital and capital expenditure requirements. Additional future investments in the joint venture are contingent upon agreement by the parties to the joint venture to invest additional capital.

Enhatch Inc.

In March 2022, we made a \$10.0 million investment in Enhatch Inc. ("Enhatch"), the developer of the Intelligent Surgery Ecosystem, in exchange for shares of Enhatch convertible preferred stock, a warrant to purchase common shares of Enhatch, and the right to purchase in the future the remaining shares of Enhatch that 3D Systems does not own if certain revenue targets are achieved (the "call option"). We simultaneously entered into a collaboration and supply agreement with Enhatch. Enhatch's Intelligent Surgery Ecosystem provides technologies which streamline and scale the design and delivery of patient-specific medical devices by automating the process. Incorporating these capabilities into 3D Systems' workflow for patient-specific solutions, which includes advanced software, expert treatment planning services, custom implants, instrumentation design, and industry-leading production processes, will help more efficiently meet the growing demand for personalized medical devices.

In December 2024, the Company entered into an amended and restated warrant agreement with Enhatch which restated the terms of the warrant received in connection with the Company's March 2022 investment in their entirety by increasing the number of Enhatch common shares that may be purchased, decreasing the exercise price, modifying the exercise conditions, eliminating the net settlement feature, and accelerating the expiration date to June 1, 2025. In December 2024 and January 2025, the Company exercised the first tranche of the warrant for \$0.6 million in cash and the second tranche of the warrant for \$0.6 million in cash, respectively. The Company initially measured and recorded the Enhatch common shares purchased upon the exercise of the first and second tranche of the warrant at their estimated acquisition date fair values. Effective upon the exercise of the first tranche of the amended and restated warrant agreement in December 2024, due to the Company's ability to exert significant influence over the financial and operating policies of Enhatch, the Company began accounting for its investment in Enhatch common shares under the equity method of accounting. Under the equity method of accounting, the Company is required to recognize its proportionate share of Enhatch's reported net income or loss, which the Company recognizes on a one quarter lag. If the remaining underlying exercise conditions of the warrant are achieved, the Company may be required to pay up to an additional \$0.9 million of cash to purchase Enhatch common shares prior to the warrant expiration on June 1, 2025.

Investing in Regenerative Medicine

Within our Healthcare Solutions segment, a portion of our business focuses on opportunities for additive manufacturing to be applied to regenerative medicine. To date, our efforts in the area of regenerative medicine have consisted primarily of precommercial bio-technology research and development ("R&D") in the areas described below.

Our first area of focus is the use of additive manufacturing for human organ transplantation, with a long-term goal of helping patients with end-stage disease receive transplants that will enable them to enjoy long and active lives. This program combines our 3D printing expertise and capabilities in human tissue engineering with the regenerative medicine and biotechnology expertise of a key strategic partner. Through the start of 2024, our program focused on developing the capability to print organ scaffolds for human lungs, kidneys and livers. However, beginning in the first quarter of 2024, due to changes to our arrangement with and funding from our key strategic partner, the Company's continuing organ program shifted its focus to developing the capability to print human lung scaffolds, for which the related R&D efforts will continue to be primarily funded by our key strategic partner.

Our second area of focus seeks to utilize our bio-printing capabilities to design and manufacture 3D-printed vascularized "organs-on-chips" for use in drug development by pharmaceutical industry customers through our wholly-owned biotech company, Systemic Bio. We believe that "organs-on-chips" can accelerate the drug development process and reduce the cost of pre-clinical drug testing, as well as reduce the pharmaceutical industry's reliance on animal testing. Systemic Bio combines 3D Systems' legacy expertise in high-resolution 3D printing with advanced capabilities in bioprinting and biomaterials to design and market 3D-printed, vascularized "organs-on-chips". During the year ended December 31, 2023, Systemic Bio entered into its first commercial contracts with pharmaceutical industry customers.

Background

We earn revenue from the sale of products and services through our Healthcare Solutions and Industrial Solutions segments. The product categories include 3D printers and corresponding materials, digitizers, software licenses, 3D scanners and haptic devices. The majority of materials used in our 3D printers are proprietary. The services categories include maintenance contracts and services on 3D printers, software maintenance, software as a service subscriptions and healthcare solutions services.

Given the relatively high price of certain 3D printers and a corresponding lengthy selling cycle, as well as relatively low unit volume of the higher-priced printers in any particular period, a shift in the timing and concentration of orders and shipments from one period to another can materially affect reported revenue in any given period.

In addition to changes in sales volumes, there are two other primary drivers of changes in revenue from one period to another: (1) the combined effect of changes in product mix and average selling prices and (2) the impact of fluctuations in foreign currencies. As used in this MD&A, the price and mix effects relate to changes in revenue that are not able to be specifically attributed to changes in unit volume or changes in foreign exchange rates.

Consolidated Financial Results for the Years Ended December 31, 2024 and 2023

	Year Ended December 31,			
(in thousands)	2024	2023		
Revenue:				
Products	\$ 279	,178 \$ 328,731		
Services	160	,943 159,338		
Total revenue	440	,121 488,069		
Cost of sales:				
Products	175	,859 203,258		
Services	100	,084 88,390		
Total cost of sales	275	,943 291,648		
Gross profit	164	,178 196,421		
Operating expenses:				
Selling, general and administrative	210	,132 210,172		
Research and development	86	,479 89,466		
Asset impairment charges	144	,967 302,787		
Total operating expenses	441	,578 602,425		
Loss from operations	(277	(406,004)		
Non-operating income:				
Foreign exchange gain (loss), net	2	,452 (4,825)		
Interest income	7	,302 19,511		
Interest expense	(2	(3,301)		
Other income, net	20	,214 32,307		
Total non-operating income (loss)	27	,404 43,692		
Loss before income taxes	(249	,996) (362,312)		
(Provision) benefit for income taxes	(2	(,193) 641		
Loss on equity method investment, net of income taxes	(3	,404) (1,282)		
Net loss before redeemable non-controlling interest	(255	(362,953)		
Less: net loss attributable to redeemable non-controlling interest		— (265)		
Net loss attributable to 3D Systems Corporation	\$ (255	(,593) \$ (362,688)		

Operating Results for the Year Ended December 31, 2024 Compared to the Year Ended December 31, 2023

Consolidated revenue

The following table sets forth factors contributing to the changes in our products and services revenue for the year ended December 31, 2024, as compared to our products and services revenue reported for the year ended December 31, 2023.

(Dollars in thousands)	Products		Services		Total			
Revenue — year ended December 31, 2023	\$	328,731		\$ 159,338		\$	488,069	
Change in revenue:								
Volume		(31,678)	(9.6)%	2,083	1.3 %		(29,595)	(6.1)%
Price/mix		(17,008)	(5.2)%	1	— %		(17,007)	(3.5)%
Foreign currency translation	72	(867)	(0.3)%	 (479)	(0.3)%		(1,346)	(0.3)%
Net change		(49,553)	(15.1)%	1,605	1.0 %		(47,948)	(9.8)%
Revenue — year ended December 31, 2024	\$	279,178		\$ 160,943		\$	440,121	

Products revenue

For the year ended December 31, 2024, products revenue decreased by \$49.6 million, or 15.1%, as compared to the year ended December 31, 2023. Industrial Solutions products revenue decreased \$31.7 million primarily due to lower sales volume. The decrease in products sales volumes in our Industrial Solutions segment was reflective of lower materials sales to customers in the service bureaus and jewelry markets and lower printer sales to customers in the consumer auto and academic markets.

Healthcare Solutions products revenue decreased by \$17.9 million, or 14.4% as compared to the year ended December 31, 2023, primarily due to a decline in printer sales volume in the dental market, including lower printer sales to a key customer, and unfavorable price/mix due to a significant increase in the volume of material sales to our key customer in the dental industry at lower pricing. These declines were partially offset by an overall increase in materials sales volumes.

Services revenue

For the year ended December 31, 2024, services revenue increased by \$1.6 million, or 1.0%, as compared to the year ended December 31, 2023. Higher sales volume resulted in an increase of \$10.8 million, which was partially offset by an \$8.7 million reversal of revenue in the year ended December 31, 2024 due to a change in estimate under a collaboration arrangement in the Healthcare Solutions segment as discussed below. Services revenue increased \$7.2 million in our Industrial Solutions segment, which was partially offset by a decline of \$5.6 million in our Healthcare Solutions segment.

The volume increase in our Healthcare Solutions services revenue was due to higher personalized healthcare solutions revenue and printer service maintenance agreements of \$3.2 million. The volume increase in our Healthcare Solutions services revenue was more than offset by an \$8.7 million reversal of revenue in the year ended December 31, 2024 due to a cumulative catch-up adjustment under a collaboration arrangement as the Company determined that incremental revenue attributable to milestone payments that are contingent upon the achievement of contractual development criteria are no longer probable of being earned.

The volume increase in our Industrial Solutions services revenue was primarily related to increases in revenue generated from parts manufacturing and hardware maintenance services.

Total revenue

Total consolidated revenue for the year ended December 31, 2024 decreased by \$47.9 million, or 9.8%, to \$440.1 million, compared to \$488.1 million for the year ended December 31, 2023. This decrease was primarily driven by the \$31.7 million impact of lower products sales volumes and the \$17.0 million unfavorable impact of price/mix on products revenue, which was partially offset by the \$2.1 million impact of the increase in services revenue. Refer to the detailed discussions above.

	Year Ended December 31,											
.		2024		2023	3		Change in Gr	oss Profit	Change in G Marg			
(Dollars in thousands)	Gross Prof	Gross Profit t Margin	G	Gross Profit	Gross Profit Margin		s	%	Percentage Points	%		
Products	\$ 103,31	37.0 %	\$	125,473	38.2 %	\$	(22,154)	(17.7)%	(1.2)	(3.1)%		
Services	60,85	37.8 %		70,948	44.5 %		(10,089)	(14.2)%	(6.7)	(15.1)%		
Total	\$ 164,17	37.3 %	\$	196,421	40.2 %	\$	(32,243)	(16.4)%	(2.9)	(7.2)%		

Gross profit for the year ended December 31, 2024 decreased \$32.2 million, or 16.4%, to \$164.2 million, compared to \$196.4 million for the year ended December 31, 2023. Gross profit margin for the year ended December 31, 2024 decreased to 37.3%, as compared to 40.2%, for the year ended December 31, 2023, primarily driven by the decrease in both our products and services gross profit margin (as discussed in greater detail below).

Products gross profit and gross profit margin

For the year ended December 31, 2024, gross profit from products sales decreased by \$22.2 million, or 17.7%, as compared to the year ended December 31, 2023. The most significant contributors to the decrease in our products gross profit margin for the year ended December 31, 2024 were (1) a \$6.0 million increase in the provision recorded for inventory obsolescence during the year ended December 31, 2024, as compared to the year ended December 31, 2023, (2) lower sales volume and (3) unfavorable manufacturing variances.

Services gross profit and gross profit margin

For the year ended December 31, 2024, gross profit from services sales decreased \$10.1 million, or 14.2%, as compared to the year ended December 31, 2023. The decrease in services gross profit was primarily driven by a decrease in revenue recognized under a collaboration arrangement as the Company determined that incremental revenue attributable to milestone payments that are contingent upon the achievement of contractual development criteria are no longer probable of being earned. As there was no direct cost associated with the milestone revenue under the collaboration arrangement; therefore, the entire \$8.7 million reversal of revenue in the year ended December 31, 2024 contributed to a decrease in our reported gross profit.

Consolidated selling, general and administrative expense

Selling, general and administrative ("SG&A") expense for the year ended December 31, 2024 decreased \$0.1 million to \$210.1 million, compared to \$210.2 million for the year ended December 31, 2023.

The primary drivers of the \$0.1 million decrease in SG&A expense are as follows:

Primary drivers (in thousands)	Increase / (Decrease)
Volumetric earnout reversal	\$ 17,244
Compensation and benefits	(20,132)
Audit, legal and third-party consulting costs	5,868
Other	(3,020)
Total change	\$ (40)

Volumetric earnout

Prior to the year ended December 31, 2023, the Company had been accruing for a \$65 million potential earnout payment (compensation expense) because the Company had concluded that a non-financial, scientific milestone included in the acquisition agreement related to the Company's December 2021 acquisition of Volumetric was probable of achievement. However, during the year ended December 31, 2023, the Company concluded that this non-financial, scientific milestone was no longer probable of achievement given a reduction in the budgeted funding for the related R&D efforts. As a result, the Company reversed all of the previously recognized earnout expense related to the milestone during the year ended December 31, 2023. The Company did not recognize any earnout expense related to the milestone during the year ended December 31, 2024, and as a result of events that have occurred during the year, the Company notified the sellers of Volumetric that they are no longer eligible to earn any of the milestone-based earnout payments contemplated in the Volumetric acquisition agreement. Refer to the discussions in Note 17 and Note 22 to the consolidated financial statements for additional details regarding the Company's cancellations of the Volumetric sellers' rights to future earnout payments, as well as actions taken in response to these cancellations.

Compensation and benefits

Compensation and benefits costs decreased by \$20.1 million for the year ended December 31, 2024, as compared to the year ended December 31, 2023. This decrease was primarily driven by a \$13.7 million decrease in stock-based compensation expense (excluding the Volumetric earnout expense subject to settlement in shares of our common stock and discussed above), and a \$5.1 million decrease in severance expense. The decrease in stock-based compensation expense for the year ended December 31, 2024 is primarily due to (1) the delayed grant of fiscal year 2024 annual share-based payment awards under the Company's 2015 Incentive Plan until September and October of 2024, as compared to fiscal year 2023 annual share-based payment award grants occurring in April 2023, and (2) a decrease in the overall grant date fair value of 2024 annual share-based payment awards under the Company's 2015 Incentive Plan, as compared to previous years' awards that vested during or before the year ended December 31, 2024.

Severance expense decreased by \$5.1 million for the year ended December 31, 2024 due to higher severance and termination benefit costs that were recorded to SG&A expense during the year ended December 31, 2023 in connection with our 2023 Restructuring Plan. Under our 2023 Restructuring Plan, employee severance and termination benefit costs generally were recognized when probable and estimable because they are typically being determined consistent with the Company's past practices or statutory law. Furthermore, the classification of these severance and termination benefit costs in our consolidated statements of operations is based upon the classification of the ordinary compensation expense attributable to the impacted employees.

Audit, legal and third-party consulting costs

Audit, legal and third-party consulting costs increased \$5.9 million for the year ended December 31, 2024, as compared to the year ended December 31, 2023, due to the significant increases in the cost to complete our fiscal year 2023 audit, including costs paid to our former independent registered public accounting firm and third-party accounting and finance consulting support costs. The increases in audit and third-party consulting costs were partially offset by lower acquisition-related legal costs as compared to the year ended December 31, 2023.

Consolidated research and development expense

R&D expense for the year ended December 31, 2024 decreased \$3.0 million, or 3.3%, to \$86.5 million, as compared to \$89.5 million for the same period last year. The decrease was primarily driven by a \$3.9 million decrease in employee compensation and benefit costs, a \$1.9 million decrease in materials costs and a \$0.6 million decrease in external workforce cost. These decreases were partially offset by a \$3.8 million increase in R&D expense related to the Company's discontinued kidney and liver regenerative medicine program.

Asset impairment charges

During the year ended December 31, 2024, we recorded aggregate impairment charges of \$145.0 million related to intangible assets (inclusive of goodwill) and tangible assets as compared to \$302.8 million in impairment charges recorded during the year ended December 31, 2023. The following table summarizes the impairment charges recorded during the years ended December 31, 2024 and 2023:

	Year	Ended
Nature of Impairment Charge (in thousands)	December 31, 2024	December 31, 2023
Goodwill	\$ 101,445	\$ 279,808
Indefinite-life intangible asset (dp polar IPR&D)	<u> </u>	5,554
Finite-life intangible assets	32,432	17,425
Property and equipment	5,911	-
Right-of-use assets	5,179	
Total impairment charges	\$ 144,967	\$ 302,787

Impairment charges recorded during the year ended December 31, 2024

As a result of the significant decline in the trading price of our common stock and our market capitalization during the three months ended September 30, 2024, as well as reduced long-term cash flow forecasts prepared in connection with the Company's long-range planning process, the Company concluded that the performance of an interim period goodwill impairment test was required as of September 30, 2024. Upon completion of this interim period goodwill impairment test, the Company concluded that the carrying value of the Healthcare Solutions reporting unit exceeded its fair value by \$101.4 million and recognized this amount within asset impairment charges on our consolidated statement of operations.

In addition, during the three months ended September 30, 2024, the Company concluded that there were indicators that the primary asset group underlying the Company's core operations should be tested for recoverability based on reported losses and negative cash flows for both current and historical reporting periods, combined with the significant decline in the Company's stock price during the period. Upon assessing this asset group for recoverability, the Company concluded that the asset group's carrying value exceeded the undiscounted cash flows that the asset group was expected to generate over the estimated remaining useful life of the asset group's primary asset, which was deemed to be acquired technology. Accordingly, the Company further tested this asset group for impairment as of September 30, 2024. As a result of concluding that the carrying value of the primary asset group underlying the Company's core operations exceeded the fair value of the asset group as of September 30, 2024, the Company recorded an aggregate impairment loss of \$42.3 million within asset impairment charges on our consolidated statement of operations. After consideration of the relative carrying values of the long-lived assets comprising this asset group, as well as the long-lived asset fair values below which asset carrying amounts should not be impaired, the Company recorded impairment charges of \$31.2 million, \$5.9 million, and \$5.2 million (representing the allocation of the aggregate impairment charge of \$42.3 million) to intangible assets; property and equipment; and right-of-use assets, respectively. An additional intangible asset impairment charge of \$1.2 million was recognized in the three months ended December 31, 2024.

Impairment charges recorded during the year ended December 31, 2023

The \$279.8 million goodwill impairment charge recorded for the year ended December 31, 2023 reflected the impairment of goodwill that had been assigned to our Industrial Solutions reporting unit based upon the result of our annual goodwill impairment test. This outcome of our annual goodwill impairment test reflected the significant and sustained drop in the Company's stock price and market capitalization leading up to and as of the testing date, as well as the significantly higher carrying value (including the goodwill balance) of our Industrial Solutions reporting unit compared to our Healthcare Solutions reporting unit. Refer to Note 9 to the consolidated financial statements included in Item 8 of this Form 10-K for additional details on the 2024 and 2023 impairment charges.

For the year ended December 31, 2023, we recognized impairment charges related to (1) our indefinite-life intangible asset balance, consisting solely of dp polar's IPR&D, and (2) certain of our finite-life intangible assets, consisting of intangible assets included in our Oqton MOS and dp polar asset groups. These impairment charges were triggered by the Company's decision to cease the development of dp polar's IPR&D for the foreseeable future and the Company's conclusion that it would more likely than not sell or otherwise dispose of Oqton MOS. Based upon a determination that the dp polar and Oqton MOS intangible assets were no longer expected to produce or contribute to the production of positive cash flows for the Company, the Company recorded impairment charges to write their carrying values down to \$0. Refer to our discussion of "Other Strategic Business Decisions and Cost Saving Initiatives" and Note 8 to the consolidated financial statements included in Item 8 of this Form 10-K for additional details.

Consolidated operating loss

Our operating loss for the year ended December 31, 2024 was \$277.4 million, compared to a \$406.0 million operating loss for the year ended December 31, 2023. The decrease in our operating loss was primarily attributable to a decrease in non-cash impairment charges of \$157.8 million, which was partially offset by a \$32.2 million decrease in gross profit. Refer to the discussions of our financial statement line items above for additional details.

Non-Operating Income for the Year Ended December 31, 2024 compared to the Year Ended December 31, 2023

The following table sets forth the components of non-operating income for the year ended December 31, 2024 and 2023.

		Year Ended					
(in thousands)	Decen	nber 31, 2024	Decen	nber 31, 2023			
Non-operating income:							
Foreign exchange gain (loss), net	\$	2,452	\$	(4,825)			
Interest income		7,302		19,511			
Interest expense		(2,564)		(3,301)			
Other income, net		20,214		32,307			
Total non-operating income	\$	27,404	\$	43,692			

Foreign exchange gain (loss), net

Foreign exchange gain (loss), net increased \$7.2 million for the year ended December 31, 2024, primarily due to realized and unrealized gains related to our foreign operations.

Interest income

For the year ended December 31, 2024, interest income decreased as compared to the year ended December 31, 2023 due to the Company's lower cash and cash equivalent balances during the year ended December 31, 2024.

Interest expense

For the year ended December 31, 2024, interest expense decreased due to the Company's repurchases of debt in December 2023 and March 2024. In connection with each of these repurchases of debt, the Company wrote off a portion of the unamortized debt issuance costs, which resulted in lower amortization of debt issuance costs within interest expense for the year ended December 31, 2024.

Other income, net

For the year ended December 31, 2024, other income, net, decreased \$12.1 million primarily due to the recognition of a \$21.5 million gain on the extinguishment of debt during the year ended December 31, 2024, compared to the recognition of a \$32.2 million gain on the extinguishment of debt during the year ended December 31, 2023.

Net loss

The following table sets forth our net loss for the years ended December 31, 2024 and 2023.

		Year Ended December 31,					
(in thousands, except per share amounts)	1.0	2024	2023				
Loss before income taxes	\$	(249,996)	\$	(362,312)			
(Provision) benefit for income taxes		(2,193)		641			
Loss on equity method investment, net of income taxes	<u>,</u>	(3,404)		(1,282)			
Net loss before redeemable non-controlling interest	=	(255,593)		(362,953)			
Less: net loss attributable to redeemable non-controlling interest				(265)			
Net loss attributable to 3D Systems Corporation	\$	(255,593)	\$	(362,688)			
Net loss per common share:							
Basic	\$	(1.94)	\$	(2.79)			
Diluted	\$	(1.94)	\$	(2.79)			

For the year ended December 31, 2024, we reported income tax expense of \$2.2 million, as compared to an income tax benefit of \$0.6 million for the year ended December 31, 2023. The Company's effective tax rates for the years ended December 31, 2024 and 2023 were significantly below blended U.S. and foreign jurisdictions' statutory tax rates due to (1) the Company's reported losses and (2) the maintenance of a valuation allowance against the Company's deferred tax assets based upon the Company's conclusion that it is more likely than not that its deferred tax assets will not be realized in various tax jurisdictions.

The decrease in the net loss attributable to 3D Systems for the year ended December 31, 2024, as compared to the net loss attributable to 3D Systems for the year ended December 31, 2023, was primarily driven by the period-over period decrease in the Company's consolidated operating loss reported for the year ended December 31, 2024, partially offset by lower non-operating income reported for the year ended December 31, 2024, as compared to the year ended December 31, 2023. In addition, the Company reported a \$3.4 million loss on equity method investment, net of income taxes, for the year ended December 31, 2024, as compared to a \$1.3 million loss on equity method investment for the year ended December 31, 2023.

Segment Financial Results of Operations for the Years Ended December 31, 2024 and 2023

The following table presents the revenue and gross profit amounts reported by each of our segments for the years ended December 31, 2024 and 2023:

	,			Revenue			_		G	ross Profit					
	2		Y	ear Ended					Y	ear Ended					
(in thousands)	De	cember 31, 2024	Do	ecember 31, 2023		Change	D	ecember 31, 2024	Do	ecember 31, 2023		Change			
Healthcare Solutions	\$	189,736	\$	213,216	\$	(23,480)	\$	73,499	\$	85,150	\$	(11,651)			
Industrial Solutions	- 2	250,385	7	274,853	<i>8</i> 4	(24,468)		90,679		111,271		(20,592)			
Total Company	\$	440,121	\$	488,069	\$	(47,948)	\$	164,178	\$	196,421	\$	(32,243)			

Healthcare Solutions

Revenue

For the year ended December 31, 2024, Healthcare Solutions revenue decreased \$23.5 million, or 11.0%, as compared to the year ended December 31, 2023. This decrease in segment revenue was primarily due to a decrease in products revenue of \$17.9 million, primarily reflective of our lower sales to the dental market, but also inclusive of lower printer sales to customers in the medical devices and other non-dental markets. Service revenue was down \$5.6 million driven by a decrease in the estimated recognizable variable consideration related to a collaboration agreement which was partially offset by higher personalized healthcare solutions revenue and printer service maintenance agreements.

Gross Profit

For the year ended December 31, 2024, gross profit for our Healthcare Solutions segment decreased \$11.7 million, or 13.7%, as compared to the year ended December 31, 2023, primarily due to (1) a decrease in the estimated recognizable variable consideration related to a collaboration arrangement (2) our lower sales to the dental market, including the segment's lower printer sales to a key customer, (3) the decrease in products revenue from other markets, and (4) unfavorable price/mix on the segment's products revenue, which was partially offset by increases in materials revenue in the dental market and increases in services revenue.

Industrial Solutions

Revenue

For the year ended December 31, 2024, Industrial Solutions revenue decreased \$24.5 million, or 8.9%, as compared to the year ended December 31, 2023. The decrease was primarily due to a \$31.7 million decrease in products revenue reflective of lower materials sales to customers in the service bureaus and jewelry markets and lower printer sales to customers in the consumer auto and academic markets, which were partially offset by the favorable impact of price/mix primarily related to materials sales. The decrease in products revenue was partially offset by a \$7.2 million increase in services revenue related to parts manufacturing and hardware maintenance services.

Gross Profit

For the year ended December 31, 2024, gross profit for our Industrial Solutions segment decreased \$20.6 million, or 18.5%, as compared to the year ended December 31, 2023, which was primarily driven by the unfavorable impact of volume on products revenue, partially offset by the increase in services revenue.

Segment Financial Results of Operations for the Years Ended December 31, 2023 and 2022

The following table presents the revenue and gross profit amounts reported by each of our segments for the years ended December 31, 2023 and 2022:

				Revenue		Gross Profit					
			Y	ear Ended			Year Ended				
(in thousands)	De	cember 31, 2023	Do	ecember 31, 2022	 Change	D	ecember 31, 2023	Do	ecember 31, 2022		Change
Healthcare Solutions	\$	213,216	\$	260,988	\$ (47,772)	\$	85,150	\$	98,767	\$	(13,617)
Industrial Solutions		274,853		277,043	 (2,190)		111,271		115,466		(4,195)
Total Company	\$	488,069	\$	538,031	\$ (49,962)	\$	196,421	\$	214,233	\$	(17,812)

Healthcare Solutions

<u>Revenue</u>

For the year ended December 31, 2023, Healthcare Solutions revenue decreased \$47.8 million, or 18.3%, as compared to the year ended December 31, 2022. This decrease in segment revenue was primarily due to a \$48.2 million, or 31.9%, decrease in sales to the dental market, including lower printer sales to a key customer. Total product revenue for the segment decreased by \$55.6 million, primarily reflective of our lower sales to the dental market, but also inclusive of lower printer sales to customers in the medical devices and other non-dental markets.

The decrease in product sales for the segment was partially offset by a \$7.8 million increase in services revenue for the segment. The increase in services revenue was partially driven by the recognition of incremental variable consideration revenue, inclusive of a \$4.5 million cumulative catch-up adjustment, that related directly to the inclusion of \$6.5 million of additional milestone payments (representing variable consideration) in the total transaction price of a regenerative medicine collaboration and licensing revenue agreement during the year ended December 31, 2023. The additional milestone-based payments were deemed probable of being earned under revised contract terms that took effect upon the execution of an amendment to the collaboration and licensing revenue agreement during the year ended December 31, 2023. Our Healthcare Solutions' services revenue also increased due to higher personalized healthcare solutions revenue.

Gross Profit

For the year ended December 31, 2023, gross profit for our Healthcare Solutions segment decreased \$13.6 million, or 13.8%, as compared to the year ended December 31, 2022, primarily due to lower sales to the dental market, including lower printer sales to a key customer, and the decrease in products sales into other markets. This was partially offset by the increase in our services revenue which includes \$4.5 million of incremental variable consideration revenue recognized by our Healthcare Solutions segment on a cumulative catch-up basis, upon concluding that additional milestone-based payments related to a collaboration and licensing revenue agreement were probable of being earned. As there were no direct costs (e.g., costs of goods sold) associated with this incremental collaboration and licensing revenue, the entire \$4.5 million contributed to an increase in our reported gross profit

Industrial Solutions

Revenue

For the year ended December 31, 2023, Industrial Solutions revenue decreased \$2.2 million, or 0.8%, as compared to the year ended December 31, 2022. This decrease in segment revenue is primarily attributable to a \$11.1 million decrease in products revenue reflective of (1) lower printer sales to customers in the jewelry market, resulting from a delay in the Company's release of a new printer model, and (2) an unfavorable impact of price/mix, primarily due to discounted pricing on certain product classes in response to competition and to increase future revenue. The decrease in product revenue was partially offset by an \$8.9 million increase in services revenue related to parts manufacturing and hardware maintenance services.

Gross Profit

For the year ended December 31, 2023, gross profit for our Industrial Solutions segment decreased \$4.2 million, or 3.6%, as compared to the year ended December 31, 2022, which was primarily driven by lower printer sales volume and unfavorable price/mix on products revenue, partially offset by the increase in services revenue.

Liquidity and Capital Resources

The following table sets forth the Company's operating working capital at December 31, 2024, and 2023.

				70	Change	е	
(Dollars in thousands)	December 31, December 31, 2024 2023				\$	%	
Cash and cash equivalents	\$ 171,324	\$	331,525	\$	(160,201)	(48.3)%	
Accounts receivable, net	101,471		101,497		(26)	— %	
Inventories	118,530		152,188		(33,658)	(22.1)%	
	391,325		585,210		(193,885)	(33.1)%	
Less:							
Current operating lease liabilities	9,514		9,924		(410)	(4.1)%	
Accounts payable	41,833		49,757		(7,924)	(15.9)%	
Accrued and other liabilities	 45,488		49,460	76	(3,972)	(8.0)%	
	 96,835		109,141		(12,306)	(11.3)%	
Operating working capital	\$ 294,490	\$	476,069	\$	(181,579)	(38.1)%	

We assess our liquidity in terms of our ability to generate cash to fund our operating, investing and financing activities. In doing so, we review and analyze our current cash on hand, the number of days our sales are outstanding, inventory turns, capital expenditure commitments and accounts payable turns. Our cash requirements, excluding acquisitions, primarily consist of funding working capital and capital expenditures. Differences between the amounts of working capital item changes in the cash flow statement and the balance sheet changes for the corresponding items are primarily the result of foreign currency translation adjustments.

At December 31, 2024, cash and cash equivalents totaled \$171.3 million and decreased \$160.2 million since December 31, 2023. This decrease resulted primarily from the use of \$87.2 million for the early extinguishment of long-term debt, cash used in operations of \$44.9 million, acquisitions and other investments, net of cash acquired of \$3.0 million, and capital expenditures of \$16.1 million.

Cash held outside the U.S. at December 31, 2024 was \$63.8 million, or 37.3%, of total cash and cash equivalents, compared to \$65.8 million, or 19.8%, of total cash and cash equivalents at December 31, 2023. As our previously unremitted earnings have been subjected to U.S. federal income tax, we expect any repatriation of these earnings to the U.S. would not incur significant federal and state taxes. However, these dividends are subject to foreign withholding taxes that are estimated to result in the Company incurring tax costs in excess of the cost to obtain cash through other means. Cash equivalents are comprised of funds held in money market instruments and are reported at their current carrying value, which approximates fair value due to the short-term nature of these instruments. We strive to minimize our credit risk by investing primarily in investment grade, liquid instruments and limit exposure to any one issuer depending upon credit quality. See "Cash flow" discussion below.

Cash flow

The Company currently funds its operations, including working capital requirements, capital expenditures and investments by using cash on hand; cash equivalents; cash flow from operations, which can vary widely from quarter to quarter; and financing activities, as necessary. We expect that cash flow from operations, cash and cash equivalents, and other sources of liquidity, such as issuing equity or debt securities, subject to market conditions, will be available and sufficient to meet all foreseeable cash requirements. The following is a summary of the changes in the Company's cash flows, followed by a brief discussion of these changes:

	521	Year Ended					
(in thousands)	De	cember 31, 2024	D	ecember 31, 2023		Change	
Net cash used in operating activities	\$	(44,887)	\$	(80,695)	\$	35,808	
Cash flow (used in) provided by investing activities		(19,025)		124,784		(143,809)	
Cash flow used in financing activities		(91,265)		(106,469)		15,204	

Cash flow from operations

For the year ended December 31, 2024, cash used in operating activities was \$44.9 million compared to \$80.7 million for the year ended December 31, 2023. The \$35.8 million decrease in cash used in operating activities during the year ended December 31, 2024 is primarily due to \$15.8 million of cash generated during the year ended December 31, 2024 relating to the Company's efforts to reduce its inventory, as compared to \$20.6 million of cash used during the year ended December 31, 2023 as a result of an increase in the Company's inventory on-hand related to the Company's decision to in-source activities from contract manufacturers. Cash flow from operations was also positively impacted by general improvements in working capital management.

Cash flow from investing activities

For the year ended December 31, 2024, cash used in investing activities was \$19.0 million compared to \$124.8 million of cash provided by investing activities for the year ended December 31, 2023. The investing cash outflows in 2024 included cash used for long-term investments of \$3.0 million and capital expenditures of \$16.1 million.

The investing cash inflows in 2023 included sales and maturities of short-term investments of \$180.9 million, offset by cash used for acquisitions of \$29.2 million and capital expenditures of \$27.2 million.

Cash flow from financing activities

For the year ended December 31, 2024, the cash flow used in financing activities was \$91.3 million primarily due to the use of \$87.2 million for the early extinguishment of long-term debt and taxes paid related to the net-share settlement of equity awards of \$2.7 million.

For the year ended December 31, 2023, the cash flow used in financing activities was \$106.5 million primarily due to the use of \$100.6 million for the extinguishment of long-term debt and taxes paid related to the net-share settlement of equity awards of \$5.2 million.

Material Cash Requirements

The Company's material cash requirements consist of the following contractual commitments and other obligations:

Indebtedness

At December 31, 2024, we had \$214.4 million of outstanding 0% convertible notes which mature in November of 2026. Management may consider pursuing additional long-term financing when it is appropriate in light of cash requirements for operations or other strategic opportunities, which could result in higher financing costs. As of December 31, 2024, we were in compliance with all covenants of the outstanding 0% convertible notes due November 2026.

Purchase Commitments

We have purchase commitments under legally enforceable agreements for goods and services with defined terms as to quantity, price and timing of delivery. The Company has purchase commitments in excess of a year primarily related to printer assemblies, inventory, capital expenditures, and software licenses. As of December 31, 2024, such purchase commitments totaled \$15.4 million, with \$9.3 million expected to be purchased within the next twelve months.

Leases

The Company had operating and financing lease obligations (inclusive of interest) of \$97.6 million at December 31, 2024, primarily related to real estate and equipment leases, of which approximately \$15.9 million in payments are expected over the next twelve months. For more information on the Company's leases, refer to Note 11 to the consolidated financial statements in Item 8 of this Form 10-K.

National Additive Manufacturing Innovation ("NAMI") Joint Venture

In March 2022, Dussur and 3D Systems signed an agreement to form a joint venture intended to expand the use of additive manufacturing within the Kingdom of Saudi Arabia and surrounding geographies, including the Middle East and North Africa. The joint venture is to enable the development of Saudi Arabia's domestic additive manufacturing production capabilities, consistent with the Kingdom's 'Vision 2030,' which is focused on diversification of the economy and long-term sustainability. In February 2023, the Company became a shareholder in the joint venture and now owns 49% of its common stock. 3D Systems was committed to an initial investment of approximately \$6.5 million of cash into the joint venture, all of which was funded as of December 31, 2023. In May 2024, the Company and Dussur each made an incremental investment of \$2.5 million in the joint venture. In December 2024, the Company, along with the majority shareholder, signed a Shareholder Resolution agreeing to continue to support the ongoing business of NAMI for at least the next twelve months. The Company does not expect to make an additional capital contribution in 2025.

The Company accounts for the joint venture under the equity method of accounting, which requires the Company to recognize its proportionate share of the joint venture's reported net income or loss. For the years ended December 31, 2024 and December 31, 2023, the Company reported a loss on equity method investment in its consolidated statements of operations. The carrying values of the Company's equity method investment at December 31, 2024 and 2023 are \$4.3 million and \$5.2 million, respectively. During December 2024, the Company entered into a short-term, non-interest bearing loan agreement with NAMI whereby NAMI borrowed \$2.0 million to finance its working capital and capital expenditures requirements. The loan matures on June 30, 2025 and is being accounted for at cost, which approximates fair value as of December 31, 2024. During December 2024, NAMI used the loan proceeds to remit payment to the Company for trade receivables outstanding.

Enhatch Inc.

In December 2024, the Company entered into an amended and restated warrant agreement with Enhatch that restated the terms of the original warrant in their entirety by increasing the number of Enhatch common shares that may be purchased, decreasing the exercise price, modifying the exercise conditions, eliminating the net settlement feature, and changing the expiration date to June 1, 2025. In December 2024 and January 2025, the Company exercised the first tranche of the warrant for \$0.6 million in cash and the second tranche of the warrant for \$0.6 million in cash, respectively. If the underlying exercise conditions are achieved, the Company may be required to pay up to an additional \$0.9 million of cash to purchase Enhatch common shares prior to the warrant expiration on June 1, 2025.

Sources of Funding to Satisfy Material Cash Requirements

The Company believes that it has the financial resources needed to meet its cash requirements during the next twelve months. Cash requirements for periods beyond the next twelve months will depend on, among other things, the Company's profitability and its ability to manage working capital requirements.

Indemnification

In the normal course of business we periodically enter into agreements to indemnify customers or suppliers against claims of intellectual property infringement made by third parties arising from the use of our products. Historically, costs related to these indemnification provisions have not been significant. We are unable to estimate the maximum potential impact of these indemnification provisions on our future results of operations.

To the extent permitted under Delaware law, we indemnify our directors and officers for certain events or occurrences, when the director or officer is, or was, serving at our request in such capacity, subject to limited exceptions. The maximum potential amount of future payments we could be required to make under these indemnification obligations is unlimited; however, we have directors' and officers' insurance coverage that may enable us to recover future amounts paid, subject to a deductible and to the policy limits. There is no assurance that the policy limits will be sufficient to cover all damages, if any.

Critical Accounting Estimates

We prepare our consolidated financial statements in accordance with U.S. Generally Accepted Accounting Principles ("GAAP"). In doing so, we make estimates and assumptions that affect the amounts we reported as assets, liabilities, revenues, expenses, gains and losses, as well as related disclosures of contingent assets and liabilities. In some cases, we reasonably could have applied different estimates or assumptions and changes in our accounting estimates are reasonably likely to occur from period to period. Accordingly, actual results could differ materially from our estimates. To the extent that there are material differences between our estimates and actual results, our financial condition or results of operations will be affected. We base our estimates on past experience and other assumptions that we believe are reasonable under the circumstances, and we evaluate these estimates on an ongoing basis. We refer to accounting estimates of this type as critical accounting estimates, which we discuss further below. We have reviewed our critical accounting estimates with the Audit Committee of our Board of Directors.

See Note 2 to the consolidated financial statements in Item 8 of this Form 10-K for a summary of our significant accounting policies.

Revenue recognition

Revenue is recognized for the amount of consideration we expect to receive in exchange for products or services when control of those promised products or services is transferred to customers, which generally occurs when the goods have been shipped or delivered to the customer, risk of loss has transferred to the customer, and we have a present right to payment.

We enter into contracts that include various combinations of products and services that are generally capable of being distinct and are accounted for as separate performance obligations. For such arrangements, we allocate revenue to each performance obligation based on its relative standalone selling price ("SSP"). Judgment is required to determine the SSP for each distinct performance obligation in a contract. In some instances, we estimate SSP using historical transaction data. We use a range of amounts to estimate SSP when we sell each of the products and services separately and need to determine whether there is a discount to be allocated based on the relative SSP of the various products and services. In other instances where SSP is not directly observable, such as when the product or service is not sold separately, we determine the SSP using information that may include market conditions, expected cost plus margin and other observable inputs.

In some circumstances, we have more than one SSP for individual products and services due to the stratification of those products and services by customers, geographic region or other factors. In these instances, we may use information such as the size of the customer and geographic region in determining the SSP. The determination of SSP is an ongoing process, and information is reviewed regularly in order to ensure SSP reflects the most current information or trends.

The nature of our sales and marketing incentives may lead to consideration that is variable in the form of discounts based on volumes purchased, trade in allowances, rebates or other discounts. We estimate variable consideration based on the expected value approach, which required judgment in the identification of possible outcomes and in assessing the probability of those outcomes, or the most likely amount approach, which required judgment to identify the most likely amount in a range of amounts. Our estimates are based on historical experience, contract terms and other factors. Ongoing assessments are performed to determine if updates are needed to the original estimates.

We enter into collaboration arrangements that we may be required to account for in accordance with Accounting Standards Codification ("ASC") Topic 606, "Revenue from Contracts with Customers," because our collaboration partner meets the definition of a customer. When these arrangements provide an opportunity for the Company to earn milestone payments based upon the achievement of agreed-upon contract objectives, we must assess if and when it is appropriate to include those milestone payments, which represent variable consideration, in the contract's transaction price. This assessment, which impacts the timing and the amount of revenue recognized under a collaboration arrangement accounted for in accordance with ASC 606, requires management to conclude that it is probable that a significant reversal of the amount of cumulative revenue recognized with respect to a collaboration agreement will not occur as a result of including one or more milestone payments in the arrangement's transaction price, including when any uncertainty associated with the achievement of such milestones is ultimately resolved. The evaluation of when it is appropriate to include amounts earned upon the achievement of milestones in a contract's transaction price requires the application of significant assumptions and judgments, which management reassesses at the end of each reporting period.

See Note 2 and Note 5 to the consolidated financial statements in Item 8 of this Form 10-K for further discussion.

Allowance for credit losses

In evaluating the collectability of our accounts receivable, we assess a number of factors, including specific customers' abilities to meet their financial obligations to us, the length of time receivables are past due, historical collection experience, current economic conditions, and reasonable and supportable forecasts. Based on these assessments, we may record a reserve for specific customers, as well as establish an allowance for expected credit losses related to our accounts receivable as a whole. If circumstances related to specific customers change, or economic conditions deteriorate such that our past collection experience is no longer relevant, our estimate of the recoverability of our accounts receivable could be further reduced from the levels provided for in the consolidated financial statements.

We evaluate specific accounts for which we believe a customer may have an inability to meet their financial obligations (for example, aging over 90 days past due or bankruptcy). In these cases, we use our judgment, based on available facts and circumstances, and record a specific reserve for that customer to reduce the receivable to an amount we expect to collect. These specific reserves are re-evaluated and adjusted as additional information is received that impacts the amount reserved.

Income taxes

We are subject to income taxes in the U.S. and foreign jurisdictions. Significant judgment is required in evaluating our uncertain tax positions and determining our provision for income taxes.

Although we believe we have adequately reserved for our uncertain tax positions, no assurance can be given that the final tax outcome of these matters will not be different. We adjust these reserves in light of changing facts and circumstances, such as the closing of a tax audit or the refinement of an estimate. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will affect the provision for income taxes and the effective tax rate in the period in which such determination is made.

The provision for income taxes includes the effect of reserve provisions and changes to reserves that are considered appropriate, as well as the related net interest and penalties. In addition, we are subject to the continuous examination of our income tax returns by the Internal Revenue Service ("IRS") and other tax authorities which may assert assessments against us. We regularly assess the likelihood of adverse outcomes resulting from these examinations and assessments to determine the adequacy of our provision for income taxes.

See Note 2 and Note 18 to the consolidated financial statements in Item 8 of this Form 10-K for further discussion.

Inventories

Inventories are stated at the lower of cost or net realizable value, with cost being determined using standard costing, which approximates the first-in, first-out method.

The inventory reserve is a critical estimate as there is rapid technological change in our industry impacting the market for our products, and there is significant judgment in estimating the amount of spare parts to keep on hand to service previously sold printers for periods of up to 10 or more years.

See Note 6 to the consolidated financial statements in Item 8 of this Form 10-K for further discussion.

Business combinations and purchase accounting

We apply purchase accounting to transactions that meet the definition of business combinations. When applying purchase accounting, we are required to estimate the fair value of the assets acquired and liabilities assumed in a business combination as of the acquisition date, for which the Company engages a third-party valuation specialist to assist. The application of purchase price accounting oftentimes results in the identification and valuation of intangible assets that may not have been previously recognized on the balance sheet of the acquired company. The amount of purchase price paid in excess of the net assets acquired is recorded as goodwill.

The fair values of acquired assets and assumed liabilities are estimated in accordance with accounting standards which define fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. Management must apply judgment when identifying the intangible assets acquired as part of a business combination, as well as when determining the appropriate valuation technique to be applied to all acquired assets and assumed liabilities. Management also must make significant estimates and assumptions when determining the inputs for inclusion in the related valuation models. The fair values of the net assets acquired are determined primarily using Level 3 inputs (inputs that are unobservable to the marketplace participant).

The most significant estimates and assumptions relate to the determination of (1) the fair values of identified intangible assets (e.g., developed technology and trade names) and (2) the period and pattern of amortization for intangible assets that are assigned a definite life. The fair values of acquired intangible assets primarily have been determined based on projected cash flows attributable to the operations of the acquiree. The projected cash flows include various assumptions, including estimated revenue growth rates, operating margins, R&D expenditures, capital expenditures, royalty rates, and appropriate risk-adjusted discount rates used to discount the projected cash flows. The usage of different assumptions would result in the assignment of different fair values to the acquired identifiable intangible assets and, accordingly, also impact the amount of purchase consideration assigned to goodwill. Similarly, changes in the planned usage of the acquired identifiable intangible assets and/or their estimated economic lives, if any, could impact the recoverability of the assets and/or amortization period and expense attributable to the assets in the future.

Goodwill & other long-lived assets, including intangible assets

Long-lived assets, including intangible assets

We review long-lived assets (or asset groups), including intangible assets subject to amortization, for impairment whenever events or changes in circumstances indicate that the carrying value of an asset (or asset group) may not be recoverable. We assess the recoverability of the carrying value of assets (or asset groups) held for use based upon a review of undiscounted projected cash flows. Impairment losses, where identified, are measured as the excess of the carrying value of a long-lived asset (or asset group) over its estimated fair value, as determined using discounted projected cash flows. Our estimation of discounted projected cash flows requires us to make certain assumptions, including long-term revenue and expense forecasts, profit margins, discount rates and terminal growth rates.

See Note 2, Note 8 and Note 11 to the consolidated financial statements in Item 8 of this Form 10-K for discussion of the long-lived asset impairment charges recognized during the years ended December 31, 2024 and 2023.

Goodwill

Goodwill represents the amount by which the purchase price paid to consummate a business combination exceeds the fair value of the identifiable tangible and intangible assets acquired and liabilities assumed in the business combination. Goodwill is required to be assigned to a reporting unit for purposes of subsequent measurement and, as of December 31, 2024 and 2023, all of our reported goodwill was assigned to our Healthcare reporting unit.

We assess goodwill for impairment at least annually and, between annual impairment assessments, when circumstances indicate that there is a likelihood of greater than 50% that the carrying value of a reporting unit, inclusive of any assigned goodwill, exceeds the reporting unit's fair value. On a forward-looking basis, such circumstances may include (1) a significant and sustained decrease in the trading price or our common stock that may suggest that the fair value of the Company and, accordingly, the fair value of our Healthcare reporting unit has declined, (2) a significant adverse change in the business climate for our Healthcare reporting unit, (3) a significant adverse change in the performance of our Healthcare reporting unit and/or (4) a decision to dispose of a significant portion of our Healthcare reporting unit.

When required to be performed, a quantitative goodwill impairment test compares the carrying value of a reporting unit to its fair value, and a goodwill impairment charge results when the reporting unit's carrying value exceeds its fair value. The performance of a quantitative goodwill impairment test requires management to apply significant estimates and judgment – particularly to (1) estimate the fair value of the Company and each of our reporting units and (2) determine the carrying value of each of our reporting units, since we do not maintain separate balance sheets for our reporting units.

We estimate the fair value of our reporting units based primarily upon discounted cash flow projections for their underlying operations, which requires us to make significant assumptions regarding estimated cash flows, including long-term revenue and expense forecasts, profit margins, discount rates and terminal growth rates. We develop these assumptions based on the market risks unique to each reporting unit. In addition to the use of discounted cash flow projections, when appropriate, our estimates of the fair values of our reporting units include the results of applying the guideline company valuation method, which is a market approach. The application of the guideline company valuation method requires us to make judgments regarding (1) the appropriate set of comparable publicly traded guideline peer companies for which observable market multiples should be considered and (2) the appropriate multiple(s) to select from the range of multiples that may be observed for those guideline companies. We separately use reasonable and consistent allocation methodologies and approaches to allocate asset and liability balances to our reporting units when an account balance is not directly attributable to a specific reporting unit.

As a result of the goodwill impairment charge recognized in connection with our quantitative interim period goodwill impairment test performed as of September 30, 2024, the carrying value of our Healthcare reporting unit was reduced to equal the fair value of the reporting unit as of such date. Accordingly, the remaining goodwill assigned to our Healthcare reporting unit could become subject to additional impairment upon any decrease in the estimated fair value of the Healthcare reporting unit or any increase in the estimated carrying value of the Healthcare reporting unit. Factors that could result in a decrease in the estimated fair value of the Healthcare reporting unit include, but are not limited to, (1) failure to achieve the forecasted operating results and/or cash flows reflected in the projections utilized for purposes of the September 30, 2024 interim period goodwill impairment test, (2) a downward revision to the cash flows forecasted for future reporting periods, (3) an increase in the discount rate applied to forecasted cash flows due to changes in factors such as market interest rates or the selected company-specific risk premium, (4) a change in the estimated terminal growth rate for our Healthcare reporting unit, and/or (5) changes in observable market multiples for comparable publicly traded guideline peer companies. Due to (A) both the nature of and extensive period of time covered by the cash flow projections developed for purposes of our September 30, 2024 goodwill impairment test and (B) the use of market information as of a point in time to derive other key assumptions required for our September 30, 2024 goodwill impairment test, there is inherent uncertainty and risk in the underlying estimates, assumptions, and judgments that were utilized to estimate the fair value of our Healthcare reporting unit as of September 30, 2024. Accordingly, over time, the key estimates, assumptions, and judgments that were used to estimate the fair value of our Healthcare reporting unit may change due to factors such as changes in market conditions and/or the actual performance of our Healthcare reporting unit. Similarly, over time, the carrying value of our Healthcare reporting unit could increase due to factors such as capital expenditures and/or the composition of the assets and liabilities of the Company and the underlying process and estimates required to allocate assets and liabilities that are not directly attributable to a specific reporting unit between/amongst our reporting units. Any unfavorable changes to the key estimates, assumptions, judgments or inputs utilized in our most recent quantitative goodwill impairment - either on an individual basis or in the aggregate - could result in the recognition of additional impairment charges in the future.

See Note 2 and Note 9 to the consolidated financial statements in Item 8 of this Form 10-K for discussion of the goodwill impairment charges recognized during the years ended December 31, 2024 and 2023. Our annual goodwill impairment test performed for the year ended December 31, 2022 did not result in the recognition of a goodwill impairment charge.

Regenerative medicine earnout payments and performance-based stock units

Upon acquiring Volumetric on December 1, 2021, the Company became subject to potential aggregate acquisition-related earnout payments of up to \$355.0 million that would be due to Volumetric's former owners ("Sellers") if seven individually assessed non-financial milestones were achieved. Each of the seven non-financial milestones, which individually triggered a specific earnout payment if achieved prior to an agreed upon date of either December 31, 2030 or December 31, 2035, was based upon specific advances in regenerative medicine related to lungs or tissue organs. For each milestone, payment was only due to the extent that the Sellers continue to be employed by the Company at the time that a milestone was achieved. As the earnout payments require the continued employment of Volumetric's Sellers, the Company recognized each individual earnout payment as compensation expense over the period commencing on the date that the related milestone was deemed probable of achievement through the anticipated date of achievement.

In addition, the Company had granted performance-based stock units ("PSUs"), with vesting terms that were based upon four individually-assessed, non-financial milestones, to other employees who worked on advancements in regenerative medicine related to lungs and tissue organs. The PSUs associated with each individual milestone were recognized as compensation expense over the period commencing on the date that the respective milestone was deemed probable of being met through the anticipated date of achievement.

As the milestones that trigger the Volumetric earnout payments and the vesting of the PSUs were (1) based upon scientific and technological advancements that were expected to require multiple years of R&D to achieve and (2) subject to significant known and unknown risks and uncertainties, management was to apply significant assumptions and judgment at each balance sheet date to assess both the probability of achievement and expected timing of achievement. A change in management's assumptions or estimates regarding the probability and/or timing of achievement of a milestone in connection with management's quarterly reassessment could materially impact the amount of compensation expense recognized for the respective and future periods as follows:

- A change in assumptions that resulted in a milestone first being deemed probable of achievement would result in the
 recognition of incremental compensation expense in the Company's consolidated statement of operations in the
 respective period;
- A change in assumption regarding the timing of achievement of a milestone would result in the acceleration or deceleration of the recognition of future compensation expense; and/or
- A change in assumption that results in a milestone no longer being deemed probable of achievement would result in a
 full reversal of previously recognized expense in the respective period.

Prior to the year ended December 31, 2023, the Company had been recognizing compensation expense related to (1) one Volumetric milestone-based payment, for which the potential amount due to the Sellers would be \$65.0 million, and (2) one PSU milestone ("the RegMed Awards"), for which the aggregate grant date fair value of the outstanding and unvested awards was \$4.5 million as of December 31, 2022, as the related Volumetric earnout and RegMed Award milestone was deemed probable of achievement. During the year ended December 31, 2023, the Company decided to reduce its budgeted funding for the R&D related to the Volumetric earnout and RegMed Award milestone, which resulted in the Company concluding that it was no longer probable that the milestone would be achieved by the end of the term of the Volumetric earnout arrangement or prior to the expiration and cancellation of the RegMed Awards. In concluding that the Volumetric and RegMed Award milestone would no longer be achieved, the Company reversed all of the previously accrued compensation expense, one half of which was expected to be settled with common shares, which had an income statement impact of \$18.4 million for the year ended December 31, 2023.

As a result of the reversal of all previously recognized expense during the year ended December 31, 2023, the Company did not recognize any compensation expense during the year ended December 31, 2023 related to (1) the \$355.0 million of potential Volumetric earnout payments provided for in the Volumetric acquisition agreement or (2) the outstanding RegMed Awards with an aggregate grant date fair value of \$17.2 million. The Company did not recognize any of this expense because none of the related non-financial milestones were deemed probable of achievement as of December 31, 2023.

Additionally, in February 2024, the Volumetric Sellers were informed that four of the seven milestones included in the Volumetric acquisition agreement were terminated. The termination of these milestones, which related to kidney and liver research, was based upon a determination that their achievement was no longer financially viable due to the loss of the funding required from the Company's key strategic partner for the related R&D efforts. As a result of the termination of the four milestones in February 2024, for periods subsequent to December 31, 2023, the Company's maximum liability for the Volumetric earnout payments related to the remaining three milestones was \$175.0 million.

Furthermore, on April 29, 2024, the key employees from Volumetric, who were required to be employed at the time of achievement of each science-based milestone outlined in the Volumetric acquisition agreement in order for each related acquisition earnout payment to become payable, resigned from their positions with the Company. As a result of the resignation of the key employees for whom continued employment was required for any of the remaining earnout payments to become payable, the parties to which the remaining three earnout payments totaling \$175.0 million were potentially payable were notified that such amount was no longer eligible to be earned. For further information concerning the termination of the Volumetric milestones related to potential earnout payments, refer to Note 22 to the consolidated financial statements included in Item 8 of this Form 10-K.

Further changes to management's assumptions regarding the probability and/or timing of achievement of the RegMed Award milestones or, alternatively, changes to the arrangements or circumstances that provide for compensation to be paid upon the achievement of the RegMed Award milestones, could significantly impact the amount of compensation expense recognized by the Company in the future.

Systemic Bio Phantom Plan

During the year ended December 31, 2023, we began granting phantom unit awards ("Phantom Units") under a new compensation plan designed for employees and non-employees performing services for Systemic Bio, a wholly-owned subsidiary of 3D Systems. All awards granted under the plan are subsidiary-level awards. The Phantom Units granted under the plan include both a time-based vesting condition (generally 4 years, subject to acceleration in connection with specified liquidity events) and a market condition that is met if (1) the value of Systemic Bio exceeds a specified multiple of the capital invested in this subsidiary (the "hurdle") and (2) the business achieves a specified minimum internal rate of return. The market condition will be assessed upon (A) a trigger event (e.g., change-in-control, IPO, or plan expiration of December 31, 2030) and/ or (B) an interim liquidity event (defined as January 1, 2028) that occurs prior to a trigger event. All awards granted under the plan are liability-classified due to our intention to settle these awards with cash; although, we have discretion to partially or fully settle these awards in equity upon vesting. Liability classification of the awards requires them to be remeasured at their estimated fair value at the end of each reporting period. Due to the presence of the market-condition and the fact that Systemic Bio does not have a readily available share price, the awards are valued using a Monte Carlo simulation with the assistance of a third-party valuation firm. This valuation requires significant judgment regarding the input of various assumptions and estimates, which include the projected cash flows of (including projected capital invested in) Systemic Bio, the probability and/ or timing of a trigger event or a liquidity event, the expected stock price volatility for selected public companies with comparable characteristics to Systemic Bio, the discount for the lack of marketability of Systemic Bio as a privately-held company, and the risk-free interest rate. A change in management's judgment regarding these assumptions or estimates can materially impact the periodic measurement of the liability and the related amount of compensation expense recognized in the Company's consolidated financial statements.

Recent Accounting Pronouncements

See Note 2 to the consolidated financial statements in Item 8 of this Form 10-K for a discussion of recent accounting pronouncements.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

We are exposed to market risks related to fluctuations in foreign currency exchange rates and commodity prices, each of which may adversely affect our results of operations and financial condition. We seek to minimize these risks through regular operating and financing activities and, when we consider it to be appropriate, through the use of derivative financial instruments. We do not purchase, hold or sell derivative financial instruments for trading or speculative purposes.

Foreign exchange rates

Because we conduct our operations in many areas of the world and our transactions are denominated in a variety of currencies, our results of operations, as reported in U.S. dollars, may be significantly affected by fluctuations in rates of exchange between currencies. These fluctuations could be significant. In 2024, approximately 42.4% of our net sales and a significant portion of our costs are attributable to entities with functional currencies other than the U.S. dollar. We generally are unable to adjust our non-dollar local currency sales prices to reflect changes in exchange rates between the dollar and the relevant local currency. As a result, changes in exchange rates between the U.S. Dollar and the Euro, Japanese Yen, British Pound, South Korean Won or other currencies in which we receive sale proceeds have a direct impact on our reported operating results. These impacts are partially offset by expenses incurred in the same currency as the sales. There is normally a time lag between our sales and collection of the related sales proceeds, exposing us to additional currency exchange rate risk.

For the year ended December 31, 2024, a hypothetical change of 10% in foreign currency exchange rates would have caused changes in revenue of \$19.0 million, cost of goods sold of \$14.4 million, and total operating expenses of \$13.8 million, assuming all other variables remained constant.

Commodity prices

We are exposed to price volatility related to raw materials and energy products used in conjunction with our printer assembly and print materials blending processes. Generally, we acquire such components at market prices and do not use financial instruments to hedge commodity prices. For the year ended December 31, 2024, a hypothetical 10% change in commodity prices for raw materials would have caused a change to cost of sales of \$12.8 million.

Item 8. Financial Statements and Supplementary Data

Our consolidated financial statements and the related notes, together with the Reports of Independent Registered Public Accounting Firms thereon, are set forth below beginning on page F-1 and are incorporated herein by reference.

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

Not applicable.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we evaluated the effectiveness of our disclosure controls and procedures (as that term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of December 31, 2024, which is the end of the period covered by this Annual Report on Form 10-K. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures were not effective as of December 31, 2024 due to the material weaknesses described below.

Notwithstanding the existence of the material weaknesses described below, management believes that the consolidated financial statements included in this Annual Report on Form 10-K fairly present, in all material respects, our financial position, results of operations and cash flows as of and for the periods presented, in conformity with generally accepted accounting principles.

Management's Report on Internal Control over Financial Reporting

Management of 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)) and for performing an assessment of the effectiveness of internal control over financial reporting as of December 31, 2024.

Management of the Company assessed the effectiveness of our internal control over financial reporting as of December 31, 2024. Management based its assessment on criteria established in Internal Control–Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission ("2013 Framework"). Based on this assessment, management has concluded we did not maintain effective internal control over financial reporting due to the material weaknesses described below.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis.

We have identified the following material weaknesses, which exist or continue to exist as of December 31, 2024:

We did not maintain an effective control environment based on the criteria established in the 2013 Framework and identified deficiencies in the principles associated with the Control Environment component of the 2013 Framework that constitute material weaknesses, either individually or in the aggregate. We failed to maintain sufficient qualified resources with the appropriate level of knowledge, experience, and training necessary to support accounting and financial reporting processes and controls. This material weakness in the control environment contributed to the following control activities material weaknesses:

We did not design and maintain adequate controls within the revenue process that resulted in material weaknesses, either individually or in aggregate. Contract terms, pricing, standalone selling price models, and determination of timing of revenue recognition were not adequately reviewed prior to entry in the Company's information systems. In addition, we did not effectively implement an accounting system that appropriately captures the allocation of the transaction price to the performance obligations to support revenue accounting.

- We did not design and maintain adequate controls over certain assumptions used in the valuation of indefinite-lived intangible assets, goodwill and other long-lived assets related to an impairment charge, that resulted in material weaknesses, either individually or in aggregate.
- We did not design and maintain adequate controls within the financial close and reporting process that resulted in
 material weaknesses, either individually or in aggregate. We did not maintain comprehensive formal accounting
 policies. We also did not maintain controls over manual journal entries, balance sheet account reconciliations, and
 financial statement disclosures. In part due to an inadequate level of review, such reviews were not always performed
 on a consistent and timely basis.
- We did not design and maintain adequate controls over the accounting treatment for certain technical matters, including controls related to complex and/or non-routine transactions and arrangements, that resulted in material weaknesses, either individually or in aggregate.

Our independent registered public accounting firm, Deloitte & Touche LLP, who audited the Consolidated Financial Statements included in this Annual Report on Form 10-K issued an adverse opinion on the effectiveness of our internal control over financial reporting. Deloitte & Touche LLP's report is included herein.

Changes in Internal Control Over Financial Reporting

Other than described above, there were no changes in our internal control over financial reporting during the quarter ended December 31, 2024, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Plan for Remediation

We are committed to maintaining strong internal control over financial reporting. Management, with the oversight of the Audit Committee of the Board of Directors, is taking comprehensive actions to remediate the material weaknesses described above. Our remediation plan includes the following:

- We are enhancing the design of existing controls and implementing new controls related to revenue, the financial close and reporting process, complex or non-routine transactions, and valuation of indefinite-lived intangible assets, goodwill and other long-lived assets.
- We are updating documentation, expanding education and training, and ensuring that controls are prepared and reviewed at the appropriate level of precision.
- We designed and implemented manual controls to appropriately capture the allocation of transaction price to the performance obligations.
- We have hired and will continue to hire, accounting and finance personnel with the requisite skills and expertise to strengthen our technical accounting related to complex and/or non-routine transactions, revenue accounting, and financial close and reporting capabilities.
- We will continue to augment our internal resources by engaging external consultants with technical experience in accounting and financial reporting until we add sufficient in-house skills to our staff as mentioned above.
- We have enhanced senior leadership's oversight and monitoring of the internal control environment and effectiveness
 of the Company's ongoing remediation activities.

The material weaknesses will not be considered remediated until the new and redesigned controls operate for a sufficient period of time and management has concluded, through testing, that these controls are operating effectively. We believe the above measures will remediate the control deficiencies identified and strengthen our internal control over financial reporting. As we continue to evaluate and work to remediate the control deficiencies that gave rise to the material weaknesses, we may determine

that additional measures or time are required to address the control deficiencies or that we need to modify or otherwise adjust the remediation measures described above. We will continue to assess the effectiveness of our remediation efforts in connection with our evaluation of our internal control over financial reporting.

Item 9B. Other Information

During the three months ended December 31, 2024, none of our directors or officers (as defined in Rule 16a-1(f) of the Securities Exchange Act of 1934, as amended) adopted or terminated a Rule 10b5-1 trading arrangement or a non-Rule 10b5-1 trading arrangement (in each case, as defined in Item 408(a) of Regulation S-K) for the purchase or sale of the Company's securities.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

None.

PART III

All numbers presented in Part III are presented in dollars, except per share amounts, or as otherwise indicated.

Item 10. Directors, Executive Officers and Corporate Governance

The information required in response to this Item will be set forth in our Proxy Statement for our 2025 Annual Meeting of Stockholders ("Proxy Statement") under the captions "Proposal One: Election of Directors," "Corporate Governance at 3D Systems," "Delinquent Section 16(a) Reports," "Corporate Governance at 3D Systems—Code of Conduct and Code of Ethics," "Corporate Governance at 3D Systems—Corporate Governance at 3D Systems—Audit Committee," and "Corporate Governance at 3D Systems—Audit Committee."

We have adopted an insider trading policy governing the purchase, sale and other dispositions of our securities by our directors, officers and employees that we believe is reasonably designed to promote compliance with insider trading laws, rules and regulations, and any applicable listing standards. A copy of our insider trading policy is filed as Exhibit 19 to this Annual Report. In addition, with regard to the Company's trading in its own securities, it is our policy to comply with the federal securities laws and the applicable listing standards.

Item 11. Executive Compensation

The information in response to this Item will be set forth in our Proxy Statement under the captions "Director Compensation," "Executive Compensation," "Corporate Governance at 3D Systems—Compensation Committee," and "Executive Compensation—Compensation Committee Report."

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

Except as set forth below, the information required in response to this Item will be set forth in our Proxy Statement under the caption "Security Ownership of Certain Beneficial Owners and Management."

Equity Compensation Plans

The following table summarizes information about the equity securities authorized for issuance under our compensation plans as of December 31, 2024. For a description of these plans, see Note 17 to the consolidated financial statements in Item 8 of this Form 10-K.

(in thousands, except exercise price)	Number of securities to be issued upon exercise of outstanding stock options, warrants and rights	Weighted average exercise price of outstanding options, warrants and rights ^a	Number of securities remaining available for future issuance under equity compensation plans ^b		
Equity compensation plans approved by stockholders:					
Stock options	160	\$ 13.26			
Restricted stock units	2,127				
Total	2,287		5,196		

- The weighted-average exercise price is only applicable to stock options.
- The number of securities remaining available for future issuance for stock options, restricted stock units, and stock awards for non-employee directors is approved in total and not individually with respect to these items.

Item 13. Certain Relationships and Related Transactions and Director Independence

The information required in response to this Item will be set forth in our Proxy Statement under the captions "Corporate Governance at 3D Systems—Director Independence" and "Corporate Governance at 3D Systems—Related Party Transaction Policy and Procedures."

Item 14. Principal Accounting Fees and Services

The information in response to this Item will be set forth in our Proxy Statement under the caption "Proposal Three: Ratification of the Appointment of Independent Registered Public Accounting Firm —Fees of Independent Registered Public Accounting Firm."

PART IV

Item 15. Ex	Item 15. Exhibits, Financial Statement Schedules							
(a)(3)	Exhibits							
	The following exhibits are included as part of this filing and incorporated herein by this reference:							
2.1	Share Purchase Agreement, dated November 2, 2020, by and among 3D Systems, Inc., 3D Systems Corporation and ST Acquisition Co. (Incorporated by reference to Exhibit 2.1 of the Registrant's Current Report on Form 8-K, filed November 4, 2020.)							
2.2	First Amendment to Share Purchase Agreement, dated December 31, 2020, by and among ST Acquisition Co., 3D Systems, Inc. and 3D Systems Corporation. (Incorporated by reference to Exhibit 2.1 of the Registrant's Current Report on Form 8-K, filed January 4, 2021.)							
2.3	Asset Purchase Agreement, dated June 1, 2021, by and among 3D Systems, Inc., Quickparts.com, Inc., 3D Systems Italia Srl, 3D Systems France Sarl, 3D Systems Europe Limited, 3D Systems GmbH, QP 3D Acquisition, Inc., and 3D Systems Corporation. (Incorporated by reference to Exhibit 2.1 of the Registrant's Current Report on Form 8-K, filed on June 2, 2021.)							
2.4	First Amendment to the Asset Purchase Agreement, dated June 1, 2021, by and among 3D Systems, Inc., Quickparts.com Inc., 3D Systems Italia Srl, 3D Systems France Sarl, 3D Systems Europe Limited, 3D Systems GmbH, QP 3D Acquisition, Inc., and 3D Systems Corporation. (Incorporated by reference Exhibit 2.5 of the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2021, filed November 8, 2021.)							
2.5	Second Amendment to the Asset Purchase Agreement, dated June 1, 2021, by and among 3D Systems, Inc., Quickparts.com Inc., 3D Systems Italia Srl, 3D Systems France Sarl, 3D Systems Europe Limited, 3D Systems GmbH, QP 3D Acquisition, Inc., and 3D Systems Corporation. (Incorporated by reference to Exhibit 2.5 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2021, filed on March 1, 2022.)							
2.6	Stock Purchase Agreement, dated July 28, 2021, by and between 3D Systems, Inc. and Surgical Science Sweden AB. (Incorporated by reference to Exhibit 2.1 of the Registrant's Current Report on Form 8-K, filed on July 30, 2021.)							

- 2.7 Agreement and Plan of Merger, dated September 8, 2021, by and among 3D Systems Corporation, Oqton, Inc., 3DS Merger Sub 1, Inc., 3DS Merger Sub 2 Inc., and Shareholder Representative Services LLC, solely in its capacity as the representative, agent and attorney-in-fact of the Sellers. (Incorporated by reference to the Exhibit 2.1 of the Registrant's Current Report on Form 8-K filed, on September 9, 2021.)
- 2.8 First Amendment to the Agreement and Plan of Merger, dated October 29, 2021, by and among 3D Systems Corporation, Oqton, Inc., 3DS Merger Sub 1, Inc., 3DS Merger Sub 2 Inc., and Shareholder Representative Services LLC, solely in its capacity as the representative, agent and attorney-in-fact of the Sellers. (Incorporated by reference to Exhibit 2.3 of the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2021, filed on November 8, 2021.)
- 2.9 Agreement and Plan of Merger, dated October 27, 2021, by and among 3D Systems Corporation, Volumetric Biotechnologies, Inc., Texans Merger Sub I, Inc., Texans Merger Sub II, Inc., and Fortis Advisors LLC, solely in its capacity as the Stockholders' Representative. (Incorporated by reference to Exhibit 2.1 of the Registrant's Current Report on Form 8-K, filed on October 28, 2021.)
- 2.10 Asset Purchase Agreement, dated December 12, 2024, by and among 3D Systems Corporation, 3D Systems, Inc. and Hexagon Manufacturing Intelligence, Inc. (Incorporated by reference to Exhibit 2.1 of the Registrant's Current Report on Form 8-K, filed on December 12, 2024.)
- 2.11 Business Transfer Agreement, dated December 12, 2024, by and between 3D Systems Korea, Inc. and Hexagon Metrology Korea LLC. (Incorporated by reference to Exhibit 2.2 of the Registrant's Current Report on Form 8-K, filed on December 12, 2024.)
- 3.1 Certificate of Incorporation of Registrant. (Incorporated by reference to Exhibit 3.1 of the Registrant's Form 8-B filed on August 16, 1993, and the amendment thereto, filed on Form 8-B/A on February 4, 1994.)
- 3.2 Amendment to Certificate of Incorporation filed on May 23, 1995. (Incorporated by reference to Exhibit 3.2 of the Registrant's Registration Statement on Form S-2/A, filed on May 25, 1995.)
- 3.3 Certificate of Amendment of Certificate of Incorporation filed with Secretary of State of Delaware on May 19, 2004. (Incorporated by reference to Exhibit 3.1 of the Registrant's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2004, filed on August 5, 2004.)
- 3.4 Certificate of Amendment of Certificate of Incorporation filed with Secretary of State of Delaware on May 17, 2005. (Incorporated by reference to Exhibit 3.1 of the Registrant's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2005, filed on August 1, 2005.)
- 3.5 Certificate of Amendment of Certificate of Incorporation filed with the Secretary of State of Delaware on October 7, 2011. (Incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K, filed on October 7, 2011.)
- 3.6 Certificate of Amendment of Certificate of Incorporation filed with the Secretary of State of Delaware on May 21, 2013. (Incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K, filed on May 22, 2013.)
- 3.7 Amended and Restated By-Laws. (Incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K, filed on March 15, 2018.)
- 4.1 Specimen Common Stock Certificate. (Incorporated by reference to Exhibit 4.1 of the Registrant's Registration Statement on Form S-3 (Registration No. 333-182065), filed on June 12, 2012.)
- 4.2 Description of Common Stock. (Incorporated by reference to Exhibit 4.2 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2019, filed on February 26, 2020.)
- 4.3 Indenture, dated as of November 16, 2021, between 3D Systems Corporation and The Bank of New York Mellon Trust Company, N.A., as trustee. (Incorporated by reference to the Exhibit 4.1 of the Registrant's Current Report on Form 8-K filed on November 17, 2021.)
- 4.4 Form of 0% Convertible Notes due 2026 (included in Exhibit 4.3). (Incorporated by reference to the Exhibit 4.2 of the Registrant's Current Report on Form 8-K filed on November 17, 2021.)
- Lease Agreement dated February 8, 2006 between the Registrant and KDC-Carolina Investments 3, LP. (Incorporated by reference to Exhibit 99.1 of the Registrant's Current Report on Form 8-K, filed on February 10, 2006.)
- 10.2 First Amendment to Lease Agreement dated August 7, 2006 between the Registrant and KDC-Carolina Investments 3, LP. (Incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K, filed on August 14, 2006.)

- 10.3 Second Amendment to Lease Agreement effective as of October 6, 2006 to Lease Agreement dated February 8, 2006 between 3D Systems Corporation and KDC-Carolina Investments 3, LP. (Incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K, filed on October 10, 2006.)
- Third Amendment to Lease Agreement effective as of December 18, 2006 to Lease Agreement dated February 8, 2006 between 3D Systems Corporation and KDC-Carolina Investments 3, LP. (Incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K, filed on December 20, 2006.)
- Fourth Amendment to Lease Agreement effective as of February 26, 2007 to Lease Agreement dated February 8, 2006 between 3D Systems Corporation and KDC-Carolina Investments 3, LP. (Incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K, filed on March 1, 2007.)
- Fifth Amendment to Lease Agreement effective as of March 17, 2011 to Lease Agreement dated February 8, 2006 between 3D Systems Corporation and KDC-Carolina Investments 3, LP. (Incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K, filed on March 21, 2011.)
- Amended and Restated Lease Agreement dated February 25, 2021 between 3D Systems Corporation and 3D Fields, LLC. (Incorporated by reference to Exhibit 10.7 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2020, filed on March 5, 2021.)
- Amendment No. 1, dated July 9, 2021, to the Amended and Restated Lease Agreement, dated February 25, 2021, between 3D Systems Corporation and 3D Fields, LLC. (Incorporated by reference to Exhibit 10.8 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2022, filed on March 16, 2023.)
- Amendment No. 2, dated July 13, 2022, to the Amended and Restated Lease Agreement dated February 25, 2021 between 3D Systems Corporation and 3D Fields, LLC. (Incorporated by reference to Exhibit 10.9 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2022, filed on March 16, 2023.)
- 10.10 Credit Agreement, dated February 27, 2019, among 3D Systems Corporation, HSBC Bank USA, National Association, as Administrative Agent, Sole Lead Arranger and Sole Bookrunner, the guarantors party thereto, and the other lenders party thereto. (Incorporated by reference to Exhibit 10.10 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2018, filed on February 28, 2019.)
- Security Agreement, dated February 27, 2019, among 3D Systems Corporation, 3D Holdings, LLC, 3D Systems, Inc., and HSBC Bank USA, National Association, as Administrative Agent. (Incorporated by reference to Exhibit 10.11 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2018, filed on February 28, 2019.)
- First Amendment, dated September 30, 2019, to the Credit Agreement, dated February 27, 2019, among 3D Systems Corporation, HSBC Bank USA, National Association, as Administrative Agent, Sole Lead Arranger and Sole Bookrunner, the guarantors party thereto, and the other lenders party thereto. (Incorporated by reference to Exhibit 10.2 of the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2019, filed on October 30, 2019.)
- Second Amendment, dated October 9, 2020, to the Credit Agreement, dated February 27, 2019, among 3D Systems Corporation, HSBC Bank USA, National Association, as Administrative Agent, Swing Loan Lender and Issuing Lender, the guarantors party thereto, and the other lenders party thereto. (Incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K, filed October 14, 2020.)
- 10.14* 2015 Incentive Plan of 3D Systems Corporation, as amended and restated effective August 30, 2024. (Incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K, filed on September 3, 2024.)
- Appendix A to the 2015 Incentive Plan of 3D Systems Corporation effective May 19, 2015. (Incorporated by reference to Exhibit 10.3 of the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2015, filed on August 6, 2015.)
- 10.16* Form of Restricted Stock Award Agreement under the Amended and Restated 2015 Incentive Plan. (Incorporated by reference to Exhibit 4.5 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2020, filed on March 5, 2021.)
- 10.17* Form of Restricted Stock Unit Award Agreement under the Amended and Restated 2015 Incentive Plan.

 (Incorporated by reference to Exhibit 4.6 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2020, filed on March 5, 2021.)

Form of Stock Option Award Agreement under the Amended and Restated 2015 Incentive Plan. (Incorporated 10.18* by reference to Exhibit 4.10 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2019, filed on February 26, 2020.) 10.19* Form of Restricted Stock Award Agreement with Share Price Vesting Conditions. (Incorporated by reference to Exhibit 4.17 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016, filed on February 28, 2017.) 10.20* Revised Form of Performance-Based Restricted Stock Unit Award Agreement under the Amended and Restated 2015 Incentive Plan. (Incorporated by reference to Exhibit 4.10 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2020, filed on March 5, 2021.) 10.21* Charles W. Hull Consulting Arrangement. (Incorporated by reference to Exhibit 10.1 of the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2010, filed on July 29, 2010.) Employment Agreement, dated August 4, 2016, between 3D Systems Corporation and Charles W. Hull. 10.22* (Incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K, filed August 8, 2016.) 10.23* Employment Agreement, dated June 15, 2016, between 3D Systems Corporation and Andrew M. Johnson. (Incorporated by reference to Exhibit 10.2 of the Registrant's Current Report on Form 8-K, filed on June 16, 10.24* 3D Systems Corporation Change of Control Severance Policy. (Incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K, filed February 23, 2018.) Employment Agreement, dated May 11, 2020, between 3D Systems Corporation and Dr. Jeffrey A. Graves. 10.25* (Incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K, filed May 14, 2020.) 10.26* Employment Agreement, dated November 21, 2016, between 3D Systems Corporation and Menno Ellis. (Incorporated by reference to Exhibit 10.3 of the Registrant's Quarterly Report on Form 10-O for the quarter ended September 30, 2020, filed November 5, 2020.) 10.27* Employment Agreement, dated October 1, 2020, between 3D Systems Corporation and Reji Puthenveetil. (Incorporated by reference to Exhibit 10.4 of the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2020, filed November 5, 2020.) 10.28* Amendment No. 1 to the Employment Agreement, dated February 22, 2021, between 3D Systems Corporation and Reji Puthenveetil. (Incorporated by reference to Exhibit 10.30 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2020, filed on March 5, 2021.) 10.29* Consulting Agreement, dated October 1, 2020, between 3D Systems Corporation and Reji Puthenveetil. (Incorporated by reference to Exhibit 10.5 of the Registrant's Quarterly Report on Form 10-O for the quarter ended September 30, 2020, filed November 5, 2020.) 10.30* Employment Agreement, dated August 30, 2021, by and between 3D Systems Corporation and Phyllis Nordstrom. (Incorporated by reference to Exhibit 10.1 of the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2021, filed November 8, 2021.) Executive Employment Agreement dated December 7, 2022, by and between 3D Systems Corporation and 10.31* Joseph Zuiker. (Incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K, filed on December 9, 2022.) 3D Systems Corporation Non-Employee Director Deferred Compensation Plan, dated December 14, 2022. 10.32* (Incorporated by reference to Exhibit 10.37 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2022, filed on March 16, 2023). Executive Employment Agreement dated December 12, 2023, by and between 3D Systems Corporation and 10.33* Jeffrey Creech. (Incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K, filed on December 14, 2023.) Separation Agreement, dated January 11, 2024, by and between 3D Systems Corporation and Andrew M. 10.34* Johnson. (Incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K, filed on January 11, 2024.)

10.35*	Consulting Agreement, dated May 1, 2024, by and between 3D Systems Corporation and Andrew M. Johnson. (Incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K, filed on May 1, 2024.)
10.36*	Consulting Agreement, dated May 1, 2024, by and between 3D Systems Corporation and The Kaminda Group. (Incorporated by reference to Exhibit 10.2 of the Registrant's Current Report on Form 8-K, filed on May 1, 2024.)
10.39*	Non-employee Director Compensation Policy, dated October 1, 2024. (Incorporated by reference to Exhibit 10.2 of the Registrants Quarterly Report on Form 10 Q, filed on November 26, 2024.)
<u>16.1</u>	Letter from BDO USA, P.C. to the Securities and Exchange Commission dated December 5, 2023 (Incorporated by reference to Exhibit 16.1 of the Registrant's Current Report on Form 8-K, filed on December 6, 2023.)
16.2	Letter from BDO USA, P.C. to the Securities and Exchange Commission dated August 13, 2024 (Incorporated by reference to Exhibit 16.1 of the Registrant's Current Report on Form 8-K/A, filed on August 13, 2024.)
<u>19.1</u>	3D Systems Policy Statement Governing Insider Trading
21.1†	Subsidiaries of Registrant.
23.1†	Consent of Independent Registered Public Accounting Firm. (BDO USA, P.C.)
<u>23.2</u> †	Consent of Independent Registered Public Accounting Firm. (Deloitte & Touche LLP)
31.1†	Certification of Principal Executive Officer filed pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, dated March 26, 2025.
31.2†	Certification of Principal Financial Officer filed pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, dated March 26, 2025.
32.1†	Certification of Principal Executive Officer filed pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, dated March 26, 2025.
<u>32.2</u> †	Certification of Principal Financial Officer filed pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, dated March 26, 2025.
<u>97.1</u> *	3D Systems Corporation Clawback Policy.
101.INS†	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data file because the its XBRL tags are embedded within the Inline XBRL document.
101.SCH†	Inline XBRL Taxonomy Extension Scheme Document
101.CAL†	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF†	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB†	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE†	XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File - this data file does not appear in the Interactive Data file because its XBRL tags are embedded within the Inline XBRL document.

Item 16. Form 10-K Summary

None.

^{*} Management contract or compensatory plan or arrangement † Exhibits filed herein. All exhibits not so designated are incorporated by reference to a prior filing, as indicated.

SIGNATURES

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

3D Systems Corporation

By: /s/ DR. JEFFREY A. GRAVES

Dr. Jeffrey A. Graves

President, Chief Executive Officer and

Director

Date: March 26, 2025

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

Signature	Title	Date			
/s/ DR. JEFFREY A. GRAVES	Chief Executive Officer, President and Director	March 26, 2025			
Dr. Jeffrey A. Graves	(principal executive officer)				
/s/ JEFFREY D. CREECH	Executive Vice President, Chief Financial Officer	March 26, 2025			
Jeffrey D. Creech	(principal financial and accounting officer)				
/s/ CHARLES G. MCCLURE, JR	Chairman of the Board of Directors	March 26, 2025			
Charles G. McClure, Jr.					
/s/ MALISSIA R. CLINTON	Director	March 26, 2025			
Malissia R. Clinton					
/s/ CLAUDIA N. DRAYTON	Director	March 26, 2025			
Claudia N. Drayton					
/s/ THOMAS W. ERICKSON	Director	March 26, 2025			
Thomas W. Erickson					
/s/ JIM D. KEVER	Director	March 26, 2025			
Jim D. Kever					
/s/ KEVIN S. MOORE	Director	March 26, 2025			
Kevin S. Moore					
/s/ DR. VASANT PADMANABHAN	Director	March 26, 2025			
Dr. Vasant Padmanabhan	_				
/s/ JOHN J. TRACY	Director	March 26, 2025			
Dr. John J. Tracy					

3D Systems Corporation Index to Consolidated Financial Statements

Consolidated Financial Statements

Report of Independent Registered Public Accounting Firm (PCAOB ID No. 34)	<u>F-2</u>
Report of Independent Registered Public Accounting Firm (BDO USA, P.C.; Charlotte, NC; PCAOB ID#243)	<u>F-7</u>
Consolidated Balance Sheets as of December 31, 2024 and 2023	<u>F-8</u>
Consolidated Statements of Operations for the Years Ended December 31, 2024, 2023, and 2022	F-9
Consolidated Statements of Comprehensive (Loss) Income for the Years Ended December 31, 2024, 2023, and 2022	F-10
Consolidated Statements of Cash Flows for the Years Ended December 31, 2024, 2023, and 2022	F-11
Consolidated Statements of Stockholders' Equity for the Years Ended December 31, 2024, 2023, and 2022	F-13
Notes to Consolidated Financial Statements	F-14

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of 3D Systems Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheet of 3D Systems Corporation and subsidiaries (the "Company") as of December 31, 2024, the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows, for the year ended December 31, 2024, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2024, and the results of its operations and its cash flows for the year ended December 31, 2024, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2024, based on criteria established in *Internal Control* — *Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 26, 2025, expressed an adverse opinion on the Company's internal control over financial reporting because of material weaknesses.

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 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 the financial statements are free of material misstatement, whether due to error or fraud. Our audit 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 audit 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 audit provides a reasonable basis for our opinion.

Critical Audit Matters

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

Revenue - Unobservable Stand-Alone Selling Price Determination — Refer to Note 5 to the financial statements

Critical Audit Matter Description

The Company enters into contracts that include various combinations of products and services that are accounted for as separate performance obligations. For such arrangements, the Company allocates revenue to each performance obligation based on its relative stand-alone selling price ("SSP"). Judgment is required to determine the SSP for each distinct performance obligation in a contract. In instances where the SSP is not directly observable, such as when the product or service is not sold separately, the SSP is determined using information that may include market conditions, expected cost plus margin, and other observable inputs.

We identified the Company's judgments to determine the unobservable SSP for each distinct performance obligation in a contract as a critical audit matter. The determination of unobservable SSPs is complex. Additionally, performing audit procedures to evaluate SSPs required a high degree of auditor judgment and an increased extent of effort.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to unobservable stand-alone selling prices included the following, among others:

- We evaluated the reasonableness of management's methodology for determining SSP.
- We tested the completeness and accuracy of data used in the SSP calculations and the mathematical accuracy of the SSP calculations.
- We tested a sample of the Company's standalone selling prices and evaluated the reasonableness of the Company's estimates based on the Company's available pricing and discounting information.

Revenue from Collaboration Agreements - Refer to Note 5 to the financial statements

Critical Audit Matter Description

The Company enters into collaboration agreements which provide opportunities to earn milestone payments based upon the achievement of agreed-upon contract objectives. In accordance with ASC 606, to recognize revenue associated with a collaboration agreement, management is required to perform an assessment to conclude that it is probable that a significant reversal of the amount of cumulative revenue recognized will not occur as a result of including one or more milestone payments in the arrangement's transaction price, including when any uncertainty associated with the achievement of such milestones is ultimately resolved.

We identified the Company's accounting for collaboration agreements as a critical audit matter. Auditing collaboration agreements required an increased extent of effort and a high degree of auditor judgment due to the complexity of the arrangements and the judgments required to assess the probability of achievement of the milestones.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the revenue from collaboration agreements included the following, among others:

- We inspected the collaboration agreements, inclusive of the milestone billing requirements.
- We evaluated the accounting treatment for the collaboration agreements.
- We evaluated the probability of achievement of the contractual milestone payments, inclusive of making inquiries of
 engineering specialists and the Company's collaboration partner.
- We tested the inputs to and mathematical accuracy of the revenue recognition calculations.

Goodwill, Intangible Assets and Long-Lived Assets Impairment Charges — Refer to Notes 2, 7, 8 and 9 to the financial statements

Critical Audit Matter Description

The Company has goodwill associated with its Healthcare Solutions reporting unit. The Company tests goodwill for impairment annually as of November 1, or between annual tests if an event occurs or circumstances change that would indicate that the carrying amount may be impaired. Additionally, the Company reviews intangible assets and long-lived assets that are held and used for impairment whenever events or changes in circumstances indicate that the carrying value of an asset group may not be recoverable.

As of September 30, 2024, the Company concluded that, based on reported losses and negative cash flows for both current and historical reporting periods, combined with the significant decline in the Company's stock price, there was an indication that goodwill, intangible assets and long-lived assets were impaired. As a result, an interim impairment test was performed, and the Company recorded impairments of \$101.4 million to goodwill, and \$31.2 million, \$5.9 million, and \$5.2 million (representing the allocation of the aggregate impairment charge of \$42.3 million) to intangible assets, property and equipment, and right-of-use assets, respectively. In performing its goodwill test for impairment, the Company applied a weighting to a discounted cash flow method and a market approach to estimate fair value. In performing their impairment test for intangible assets and long-lived assets, the Company utilized projections of future cash flows, and then applied discount rates as well as the use of comparable market information to estimate fair value. In applying the valuation approaches, management is required to make certain assumptions, including long-term revenue and expense forecasts, profit margins, discount rates, and terminal growth rates, certain of which involve unobservable inputs.

We identified the impairment evaluation for goodwill, intangible assets, and long-lived assets as a critical audit matter due to the judgments required of management in estimating projections of future cash flows, the selection of appropriate discount rates, and the determination of the comparable market information. Further, auditing the impairment evaluation required auditor judgment and significant effort, including the involvement of our fair value specialists.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to goodwill, intangible assets, and long-lived assets impairments included the following, among others:

- We assessed the reasonableness of management's forecasted cash flows by comparing the projections to historical results, external communications, and certain industry and market trends.
- With the assistance of our fair value specialists, we evaluated the reasonableness of the valuation assumptions
 including the discount rates, terminal growth rates, and earnings multiples and developed a range of independent
 estimates and compared those to the valuation assumptions selected by management.
- We tested the determination of the carrying value for the asset group and the Healthcare reporting unit, including the allocation of the asset group's impairment to individual long-lived assets.
- We tested the source information underlying the determination of the valuation assumptions as well as the mathematical accuracy of the calculation.

/s/ Deloitte & Touche LLP

Charlotte, North Carolina March 26, 2025

We have served as the Company's auditor since 2024.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of 3D Systems Corporation

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of 3D Systems Corporation and subsidiaries (the "Company") as of December 31, 2024, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, because of the effect of the material weaknesses identified below on the achievement of the objectives of the control criteria, the Company has not maintained effective internal control over financial reporting as of December 31, 2024, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2024, of the Company and our report dated March 26, 2025, expressed an unqualified opinion on those financial statements.

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.

Material Weaknesses

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis. The following material weaknesses have been identified and included in management's assessment:

Management did not maintain an effective control environment based on the criteria established in Internal Control — Integrated Framework (2013) issued by COSO and identified deficiencies in the principles associated with the Control Environment component that constitute material weaknesses, either individually or in the aggregate. Management failed to maintain sufficient qualified resources with the appropriate level of knowledge, experience, and training necessary to support accounting and financial reporting processes and controls. This material weakness in the Control Environment component contributed to the following control activity material weaknesses:

- Management did not design and maintain adequate controls within the revenue process that resulted in material
 weaknesses, either individually or in aggregate. Contract terms, pricing, standalone selling price models, and
 determination of timing of revenue recognition were not adequately reviewed prior to entry in the Company's
 information systems. In addition, management did not effectively implement an accounting system that appropriately
 captures the allocation of their transaction price to the performance obligations to support revenue accounting.
- Management did not design and maintain adequate controls over certain assumptions used in the valuation of
 indefinite-lived intangible assets, goodwill and other long-lived assets related to an impairment charge, that resulted in
 material weaknesses, either individually or in aggregate.
- Management did not design and maintain adequate controls within the financial close and reporting process that
 resulted in material weaknesses, either individually or in aggregate. Management did not maintain comprehensive
 formal accounting policies. Management also did not maintain controls over manual journal entries, balance sheet
 account reconciliations, and financial statement disclosures.
- Management did not design and maintain adequate controls over the accounting treatment for certain technical matters, including controls related to complex and/or non-routine transactions and arrangements, that resulted in material weaknesses, either individually or in aggregate.

These material weaknesses were considered in determining the nature, timing, and extent of audit tests applied in our audit of the consolidated financial statements as of and for the year ended December 31, 2024, of the Company, and this report does not affect our report on such financial statements.

/s/ Deloitte & Touche LLP

Charlotte, North Carolina March 26, 2025

Report of Independent Registered Public Accounting Firm

Shareholders and Board of Directors 3D Systems Corporation Rock Hill, South Carolina

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheet of 3D Systems Corporation (the "Company") as of December 31, 2023, the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows for the years ended December 31, 2023 and 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, 2023, and the results of its operations and its cash flows for the years ended December 31, 2023 and 2022, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ BDO USA, P.C.

We served as the Company's auditor from 2003 to 2024.

Charlotte, North Carolina

August 13, 2024, except for Note 21, as to which the date is March 26, 2025.

3D SYSTEMS CORPORATION CONSOLIDATED BALANCE SHEETS

(in thousands, except par value)		December 31, 2024		December 31, 2023	
ASSETS		**			
Current assets:					
Cash and cash equivalents	\$	171,324	\$	331,525	
Accounts receivable, net of reserves — \$2,433 and \$3,389		101,471		101,497	
Inventories		118,530		152,188	
Prepaid expenses and other current assets		34,329		42,612	
Assets held for sale		3,176		_	
Total current assets		428,830	85:	627,822	
Property and equipment, net		51,044		64,461	
Intangible assets, net		18,020		62,724	
Goodwill		14,879		116,082	
Operating lease right-of-use assets		50,715		58,406	
Finance lease right-of-use assets		8,726		12,174	
Long-term deferred income tax assets		2,063		4,230	
Other assets		34,569		44,761	
Total assets	\$	608,846	\$	990,660	
LIABILITIES, REDEEMABLE NON-CONTROLLING INTEREST AND EQUITY	-		0.		
Current liabilities:					
Current operating lease liabilities	\$	9,514	\$	9,924	
Accounts payable		41,833		49,757	
Accrued and other liabilities		45,488		49,460	
Customer deposits		4,712		7,599	
Deferred revenue		27,298		30,448	
Liabilities held for sale		10,251		_	
Total current liabilities	18	139,096		147,188	
Long-term debt, net of deferred financing costs		211,995		319,356	
Long-term operating lease liabilities		52,527		56,795	
Long-term deferred income tax liabilities		2,076		5,162	
Other liabilities		25,001		33,400	
Total liabilities		430,695		561,901	
Commitments and contingencies (Note 22)					
Redeemable non-controlling interest		1,958		2,006	
Stockholders' equity:					
Common stock, \$0.001 par value, authorized 220,000 shares; shares issued 135,510 and 133,619 as of December 31, 2024 and 2023, respectively		136		134	
Additional paid-in capital		1,593,366		1,577,519	
Accumulated deficit		(1,362,243)		(1,106,650)	
Accumulated other comprehensive loss		(55,066)		(44,250)	
Total stockholders' equity		176,193	_	426,753	
Total liabilities, redeemable non-controlling interest and stockholders' equity	\$	608,846	\$	990,660	

See accompanying notes to consolidated financial statements.

3D SYSTEMS CORPORATION CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended December 31,						
(in thousands, except per share amounts)		2024		2023		2022	
Revenue:							
Products	\$	279,178	\$	328,731	\$	395,396	
Services		160,943	50/	159,338		142,635	
Total revenue		440,121		488,069		538,031	
Cost of sales:							
Products		175,859		203,258		237,386	
Services		100,084		88,390		86,412	
Total cost of sales		275,943		291,648		323,798	
Gross profit	Ž.	164,178	à	196,421		214,233	
Operating expenses:							
Selling, general and administrative		210,132		210,172		244,181	
Research and development		86,479		89,466		87,071	
Asset impairment charges		144,967		302,787			
Total operating expenses	4.5	441,578		602,425		331,252	
Loss from operations		(277,400)	-	(406,004)		(117,019)	
Non-operating income (loss):							
Foreign exchange gain (loss), net		2,452		(4,825)		(4,424)	
Interest income		7,302		19,511		9,352	
Interest expense		(2,564)		(3,301)		(2,811)	
Other income (loss), net		20,214		32,307		(5,907)	
Total non-operating income (loss)	7.5	27,404		43,692		(3,790)	
Loss before income taxes		(249,996)		(362,312)		(120,809)	
(Provision) benefit for income taxes		(2,193)		641		(2,140)	
Loss on equity method investment, net of income taxes		(3,404)		(1,282)		_	
Net loss before redeemable non-controlling interest	.,	(255,593)	5.	(362,953)	9.5	(122,949)	
Less: net loss attributable to redeemable non-controlling interest		—		(265)		(238)	
Net loss attributable to 3D Systems Corporation	\$	(255,593)	\$	(362,688)	\$	(122,711)	
Net loss per common share:							
Basic	\$	(1.94)	\$	(2.79)	\$	(0.96)	
Diluted	\$	(1.94)	\$	(2.79)	\$	(0.96)	
Weighted average shares outstanding:							
Basic		131,861		129,944		127,818	
Diluted		131,861		129,944		127,818	

See accompanying notes to consolidated financial statements.

3D SYSTEMS CORPORATION CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

		Year Ended December 31,							
(in thousands)		2024		2023		2022			
Net loss before redeemable non-controlling interest	\$	(255,593)	\$	(362,953)	\$	(122,949)			
Other comprehensive loss, net of taxes:									
Pension plan adjustment		(163)		(386)		2,942			
Foreign currency translation		(10,653)		9,630		(18,730)			
Unrealized gain (loss) on short-term investments				108		(3,557)			
Amounts reclassified from accumulated other comprehensive income (loss)	92	_	V-33	220		3,229			
Total other comprehensive (loss) income, net of taxes:		(10,816)		9,572		(16,116)			
Total comprehensive loss, net of taxes		(266,409)		(353,381)		(139,065)			
Less: comprehensive loss attributable to redeemable non-controlling interest		_		(265)		(238)			
Comprehensive loss attributable to 3D Systems Corporation	\$	(266,409)	\$	(353,116)	\$	(138,827)			

See accompanying notes to consolidated financial statements.

3D SYSTEMS CORPORATION CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,						
(in thousands)	-	2024 2023				2022	
Cash flows from operating activities:			Ser.	-			
Net loss before redeemable non-controlling interest	\$	(255,593)	\$	(362,953)	\$	(122,949	
Adjustments to reconcile loss income to net cash used in operating activities:							
Depreciation and amortization		33,310		33,413		36,034	
Accretion of debt discount		1,378		2,640		2,652	
Stock-based compensation		18,457		23,504		42,415	
Loss on short-term investments		-		6		3,146	
Non-cash operating lease expense		9,871		9,267		6,366	
Provision for inventory obsolescence and revaluation		12,360		6,350		2,586	
Provision for bad debts		506		595		562	
Loss on the disposition of businesses, property, equipment and other assets		2,795		6		104	
Gain on debt extinguishment		(21,518)		(32,181)		-	
Benefit for deferred income taxes and reserve adjustments		(952)		(2,412)		(2,518)	
Loss on equity method investment		3,404		1,282		1	
Impairments of assets		144,967		304,698		4,095	
Changes in operating accounts:							
Accounts receivable		(6,376)		(6,186)		8,144	
Inventories		15,766		(20,555)		(51,082	
Prepaid expenses and other current assets		7,049		(7,961)		8,229	
Accounts payable		(5,812)		(5,526)		(3,787	
Deferred revenue and customer deposits		3,602		1,245		(6,947	
Accrued and other liabilities		(6,187)		(12,933)		10,702	
All other operating activities		(1,914)		(12,994)		(7,773	
Net cash used in operating activities		(44,887)		(80,695)		(70,021	
Cash flows from investing activities:	_						
Purchases of property and equipment		(16,121)		(27,183)		(20,907	
Purchases of short-term investments		_		_		(384,388	
Sales and maturities of short-term investments				180,925		200,314	
Proceeds from sale of assets and businesses, net of cash sold		96		194		325	
Acquisitions and other investments, net of cash acquired		(3,000)		(29,152)		(103,699	
Net cash (used in) provided by investing activities		(19,025)		124,784	_	(308,355	
Cash flows from financing activities:	-		_				
Repayment of borrowings/long-term debt		(87,218)		(100,614)		_	
Purchase of non-controlling interests				_		(2,300	
Taxes paid related to net-share settlement of equity awards		(2,662)		(5,211)		(10,864	
Other financing activities		(1,385)		(644)		(651	
Net cash used in financing activities		(91,265)	_	(106,469)		(13,815	
Effect of exchange rate changes on cash, cash equivalents and restricted cash		(5,053)		3,516		(5,804	
Net decrease in cash, cash equivalents and restricted cash		(160,230)	-	(58,864)		(397,995	
Cash, cash equivalents and restricted cash at the beginning of the year a	_	333,111	_	391,975	_	789,970	
Cash, cash equivalents and restricted cash at the end of the year ^a	s	172,881	\$	333,111	\$	391,975	

Supplemental cash flow information

Lease assets obtained in exchange for new lease liabilities	S	6,678	38,037	\$ 6,037
Cash interest payments		1,017	478	196
Cash income tax payments, net		5,540	3,898	5,330
Transfer of equipment from inventory to property and equipment, net ^b		1,992	2,098	(2,004)
Stock issued for acquisition		_	-	7,091
Exchange of NAMI trade receivables for loan receivable c		1,960	1-	

(a) The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the consolidated balance sheets to the total of such amounts reported in the consolidated statements of cash flows.

	De	cember 31, 2024	Dec	cember 31, 2023	De	cember 31, 2022
Cash and cash equivalents	\$	171,324	\$	331,525	\$	388,134
Restricted cash included in prepaid expenses and other current assets		123		119		114
Restricted cash included in other assets		1,434		1,467		3,727
Total cash, cash equivalents and restricted cash shown in the consolidated statements of cash flows	\$	172,881	\$	333,111	\$	391,975

Amounts included in restricted cash as of December 31, 2024 and December 31, 2023 primarily relate to guarantees in the form of a standby letter of credit as security for a long-term real estate lease. Refer to Note 22 for further information. Amounts included in restricted cash as of December 31, 2022 primarily relate to \$3,435 deposited into and held in an escrow account prior to its use as part of our initial investment in the National Additive Manufacturing Innovation ("NAMI") joint venture. Refer to Note 10 for further information. The remaining amounts in restricted cash as of all periods presented relate to collateral for letters of credit and bank guarantees.

- (b) Inventory is transferred to property and equipment at cost when we require additional machines for training or demonstration or for placement into on demand manufacturing services locations.
- (c) The Company provided \$2.0 million to the NAMI joint venture as a short-term loan to finance its working capital and capital expenditures requirements, which was used by the joint venture to pay outstanding trade receivables due to the Company. Refer to Note 10 for further information.

See accompanying notes to consolidated financial statements.

3D SYSTEMS CORPORATION CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

Years Ended December 31, 2024, 2023 and 2022

	Common Stock						
(in thousands, except par value)	Shares	Par Value \$0.001		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
December 31, 2021	128,375	\$ 12	3 \$	1,501,210	\$ (621,251)	\$ (37,706)	\$ 842,381
Shares issued, vested & expired under equity incentive plans	2,783		3		: ,:	:	3
Shares withheld related to net-share settlement of equity awards	(746)	(1)	(10,863)	-	-	(10,864)
Shares issued to acquire assets and businesses	795		1	7,090	10-0	17	7,091
Stock-based compensation expense	_	-	-	50,756	::	-	50,756
Net (loss) attributable to 3D Systems Corp.	<u>@</u>	<u>11.00</u>	196		(122,711)	8 <u>—</u> 8	(122,711)
Pension plan adjustment	-	-	-0	_		2,942	2,942
Unrealized loss on short-term investments			7.00	 8	()	(328)	(328)
Redeemable non-controlling interest redemption value in excess of carrying value	<u>—</u>		25	(596)	V	_	(596)
Foreign currency translation adjustment			-	_		(18,730)	(18,730)
December 31, 2022	131,207	13	l	1,547,597	(743,962)	(53,822)	749,944
Shares issued, vested & expired under equity incentive plans	3,033		3	_	i —	-	3
Shares withheld related to net-share settlement of equity awards	(621)	-	-:	(5,211)	-	:	(5,211)
Stock-based compensation expense	=	7.	-	35,612	_	-	35,612
Net (loss) attributable to 3D Systems Corp.		-	-	<u>—</u> ;	(362,688)	·—	(362,688)
Pension plan adjustment	===	71	-		:;;	(386)	(386)
Unrealized loss on short-term investments	=	-	-	-	-	328	328
Redeemable non-controlling interest redemption value in excess of carrying value	_	1.0	43	(479)	: —: i	9-1	(479)
Foreign currency translation adjustment			-	_		9,630	9,630
December 31, 2023	133,619	13-	4	1,577,519	(1,106,650)	(44,250)	426,753
Shares issued, vested & expired under equity incentive plans	2,511		2	_		-	2
Shares withheld related to net-share settlement of equity awards	(620)	-	-	(2,662)	==2	c—	(2,662)
Stock-based compensation expense	_	=		18,448	· —	_	18,448
Net (loss) attributable to 3D Systems Corp.	_	-		—	(255,593)	: :	(255,593)
Pension plan adjustment	-	-	-	_	_	(163)	(163)
Redeemable non-controlling interest redemption value below carrying value	_	-	- 1	61	1 <u>—</u> 1	_	61
Foreign currency translation adjustment	_		-	_		(10,653)	(10,653)
December 31, 2024	135,510	\$ 130	5 \$	1,593,366	\$ (1,362,243)	\$ (55,066)	\$ 176,193

See accompanying notes to consolidated financial statements.

(1) Overview and Basis of Presentation

Nature of Business

3D Systems Corporation ("3D Systems" or the "Company" or "we" or "our" or "us") provides comprehensive 3D printing and digital manufacturing solutions, including 3D printers for plastics and metals, materials, software, and services, including maintenance, advanced manufacturing and applications engineering. We market our products and services through subsidiaries in North America and South America (collectively referred to as "Americas"), Europe and the Middle East (collectively referred to as "EMEA"), and Asia Pacific and Oceania (collectively referred to as "APAC"). Our solutions support advanced applications in two key verticals: Healthcare Solutions (which includes, dental, medical devices, personalized health services and regenerative medicine) and Industrial Solutions (which includes aerospace, defense, transportation and general manufacturing).

Basis of Presentation

The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP"). The consolidated financial statements include the accounts of the Company, including all majority and wholly-owned subsidiaries and entities in which a controlling interest is maintained. Intercompany accounts and transactions have been eliminated in consolidation. Certain prior period amounts have been reclassified to conform to the current year presentation.

A non-controlling interest in a subsidiary reflects an ownership interest in a majority-owned subsidiary that is not attributable to the Company. For the periods presented, the Company's financial statements include a redeemable non-controlling interest ("RNCI"), which has been reported in temporary equity in the consolidated balance sheets. The net loss attributable to the RNCI is presented as an adjustment to the Company's consolidated net loss to arrive at net loss attributable to 3D Systems Corporation in the consolidated statements of operations and consolidated statements of comprehensive loss. Furthermore, adjustments to record the RNCI at its redemption value are recorded to additional paid-in capital, and the excess redemption value is recognized as an increase to net loss attributable to 3D Systems' shareholders for purposes of reporting loss per share. See Note 15 for a summary of the activity related to the reported RNCI balance during the periods presented.

Our annual reporting period is the calendar year.

(2) Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with GAAP requires us to make estimates and assumptions that affect (1) the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities as of the balance sheet dates and (2) the reported amounts of revenues and expenses during the reporting periods. We base our estimates on historical experience, currently available information and various other assumptions that we believe are reasonable under the circumstances. Actual results could differ from these estimates.

Revenue Recognition

We account for revenue in accordance with Accounting Standards Codification ("ASC") Topic 606, "Revenue from Contracts with Customers." Collaboration arrangement contracts, for which the collaboration partner meets the definition of a customer, are recorded in accordance with ASC Topic 606; otherwise, the collaboration arrangements are recorded in accordance with ASC Topic 808, "Collaborative Arrangements." See Note 5 for further discussion.

Held for Sale

The Company classifies assets and liabilities to be sold ("disposal group") as held for sale in the period when all of the applicable criteria are met, including: (i) management, having the authority to approve the action, commits to a plan to sell, (ii) the disposal group is available to sell in its present condition, (iii) there is an active program to locate a buyer, (iv) the disposal group is being actively marketed at a reasonable price in relation to its fair value, (v) significant changes to the plan to sell are unlikely, and (vi) the sale of the disposal group is generally probable of being completed within one year. Management performs an assessment at least quarterly, or when events or changes in business circumstances indicate that a change in classification may be necessary. Assets and liabilities identified as held for sale are presented separately within the consolidated

balance sheets, with adjustments made, if necessary, to measure the disposal group at the lower of its carrying value or fair value less costs to sell. Any loss resulting from this measurement is recognized in the period in which the held for sale criteria are met. Gains on the sale of a disposal group are not recognized until the date of sale. Depreciation of property, plant and equipment and amortization of intangible and right-of-use assets are not recorded while these assets are classified as held for sale. For each period that a disposal group remains classified as held for sale, its recoverability is reassessed and any necessary adjustments are made to its carrying value. Gains or losses recognized upon the sale of a disposal group that does not qualify as a discontinued operation are included in loss from operations in the consolidated statements of operations. Refer to Note 4 for further discussion.

Cash and Cash Equivalents

Cash and cash equivalents consist of cash and highly liquid investments with maturities of three months or less when acquired. At times, cash and cash equivalents balances may be in excess of FDIC insurance limits.

Short-Term Investments

At times, the Company has invested a portion of its excess cash in short-term investments. The Company's short-term investment accounting policy is that securities with maturities greater than 90 days at the time of purchase that are available for operations in the next 12 months are classified as short-term investments. The Company's short-term investments typically have consisted of investment grade bonds, certificates of deposit, commercial paper, and short maturity bond funds, all with a remaining maturity of generally less than twelve months at the date of purchase and classified as available-for-sale. Interest and dividends on these investments are recorded as income when earned.

Available-for-sale securities, which consist of debt securities, are carried at fair value with unrealized gains and losses, net of related tax, reported in accumulated other comprehensive loss. Adjustments to the fair value of investments classified as available-for-sale are recorded as an increase or decrease in accumulated other comprehensive income (loss) in shareholders' equity. Impairment of available-for-sale securities that is attributable to credit losses is recognized as an allowance for credit losses in the consolidated statement of operations in the period in which a credit loss is identified. The Company periodically evaluates its investments for credit losses.

Variable Interest Entities

Upon making an investment in an entity, we assess whether the entity is a variable interest entity ("VIE"). The determination of whether an entity in which we hold a direct or indirect variable interest is a VIE is based on several factors, including whether the entity's total equity investment at risk at the time of our investment is sufficient to finance the entity's activities without additional subordinated financial support. We make judgments regarding the sufficiency of the equity at risk based first on a qualitative analysis, and then a quantitative analysis, if necessary. We may be required to reassess our conclusion as to whether an entity in which we have made an investment is a VIE upon the occurrence of a reconsideration event – for example, the occurrence of an event that may impact and, accordingly, requires a reassessment of whether an entity's total equity investment at risk is sufficient to finance the entity's activities without additional subordinated financial support.

We analyze any investments in VIEs to determine whether we are the primary beneficiary. We perform this assessment at the time that we become involved with a VIE and continuously reassess whether circumstances indicate that there might be a change in our conclusion regarding whether we are the primary beneficiary. In evaluating whether we are the primary beneficiary, we consider both our direct and indirect economic interests in the entity. Determining which reporting entity, if any, is the primary beneficiary of a VIE is primarily a qualitative approach focused on identifying which reporting entity has both (1) the power to direct the activities of a VIE that most significantly impact such entity's economic performance and (2) the obligation to absorb losses or the right to receive benefits from such entity that could potentially be significant to such entity. This analysis requires the exercise of judgment. We consider a variety of factors in identifying the entity that holds the power to direct matters that most significantly impact a VIE's economic performance including, but not limited to, the ability to direct a VIE's operating decisions and activities. In addition, we consider the rights of other investors to participate in those decisions.

We have concluded that our investments in Theradaptive, Enhatch and the National Additive Manufacturing Innovation ("NAMI") joint venture are each an investment in a VIE. These entities are not consolidated because we have further concluded that the Company is not the primary beneficiary. As of December 31, 2024, our maximum exposure to losses associated with these VIEs is expected to be the \$21.9 million carrying value of our investments in the VIEs, \$2.0 million of which is included in prepaid expenses and other current assets, with the remaining in other assets on our consolidated balance sheets, plus an additional \$1.5 million of cash that the Company may be required to expend to purchase Enhatch common shares prior to the warrant expiration on June 1, 2025, \$0.6 million of which was expended in January 2025. Refer to Note 10 for additional details regarding our investments in Theradaptive, Enhatch and NAMI. We have no other investments in unconsolidated entities that have been determined to be VIEs.

Investments and Notes Receivable

The aggregate carrying values of our investments totaled \$27.7 million and \$26.8 million at December 31, 2024 and 2023, respectively. At each balance sheet date, these investments consist of equity securities without a readily determinable fair value, equity securities accounted for in accordance with the equity method of accounting, and a note receivable balance. Our accounting policies for each classification of investments are as follows.

Investments in Equity Securities with a Readily Determinable Fair Value

Upon making an initial investment in an equity security, we assess whether the equity security has a readily determinable fair value. For investments that meet the definition of and, therefore, qualify to be accounted for as an equity security without a readily determinable fair value, we subsequently reassess whether they continue to meet the definition of an equity security without a readily determinable fair value on a quarterly basis.

We recognize investments in equity securities without a readily determinable fair value at cost, minus impairment. In addition, we are required to remeasure the carrying value of an investment in equity securities without a readily determinable fair value if we identify observable price changes that relate to orderly transactions for an identical or similar investment in the same issuer. The remeasurement of the carrying value of an investment due to an identified observable price change shall be based upon the investment's fair value as of the date that the observable transaction occurred. Remeasurements, whether the result of impairment or observable price changes attributable to orderly transactions, are recorded as an adjustment to our reported net income or net loss.

We assess our investments in equity securities without a readily determinable fair value for potential impairment upon the occurrence of an event or a change in circumstances that would indicate the carrying amount of an investment may be impaired. On a quarterly basis, we first perform a qualitative assessment for potential impairment to determine whether measurement of the fair value of an investment to further assess for impairment is required. Impairments of equity securities without a readily determinable fair value are recorded to other income (loss), net in our consolidated statements of operations in the period in which they become impaired.

For the years ended December 31, 2024, 2023 and 2022, we recorded impairment charges of \$0.2 million, \$0 and \$2.9 million, respectively, related to investments in equity securities without a readily determinable fair value. Refer to Note 10 for additional details regarding the carrying value of the Company's investments in equity securities without a readily determinable fair value as of each balance sheet date.

Equity Method of Accounting

The Company accounts for its investments in the common stock of NAMI and Enhatch using the equity method of accounting because it does not have a controlling interest and is not the primary beneficiary of these VIEs; however, the Company has the ability to exert significant influence. The Company's investments in NAMI's common stock were initially recorded at cost; whereas, the Company's investment in Enhatch's common stock, which reflects the partial exercise of a warrant, was recorded at the fair value of the common stock that was received upon exercise of the warrant. Each of these investments is subsequently adjusted for the Company's proportionate share of the net earnings or losses and the other comprehensive income or loss of the investee. Intra-entity profits or losses associated with each equity method investment are eliminated until realized by the investee or the Company in transactions with third parties. Income or loss from these equity method investments is recorded as a separate line item in the consolidated statements of operations on a three-month lag. We evaluate material events occurring during the three-month lag period to determine whether the effects of such events should be disclosed in our financial statements. The Company evaluates each investment for impairment whenever events or changes in circumstances indicate that the carrying amount of the investment may not be recoverable. Refer to Note 10 for additional details regarding the Company's investments accounted for in accordance with the equity method of accounting.

Notes Receivable

During December 2024, the Company entered into a short-term, non-interest bearing loan agreement with NAMI, whereby NAMI borrowed \$2.0 million to finance its working capital and capital expenditure requirements. The related party loan is accounted for at amortized cost and included in prepaid expenses and other current assets on our consolidated balance sheet.

During the year ended December 31, 2024, the Company recorded a \$0.5 million charge to other income (loss), net in our consolidated statements of operations as a result of concluding that the note receivable outstanding as of December 31, 2023 was not collectible.

Refer to Note 10 for additional details regarding the carrying value of the Company's outstanding note receivable balance as of each balance sheet date.

Accounts Receivable and Allowance for Credit Losses

Trade accounts receivable are recorded at the invoiced amount and do not bear interest. In evaluating the collectability of accounts receivable, we assess a number of factors, including specific customers' ability to meet their financial obligations to us, the length of time receivables are past due, historical collection experience, current economic conditions, and reasonable and supportable forecasts. Based on these assessments, we record and adjust reserves for accounts receivable balances due from specific customers, as well as establish an allowance for expected credit losses related to our accounts receivable as a whole. If circumstances related to specific customers change, or economic conditions deteriorate such that our past collection experience is no longer relevant, our estimate of the recoverability of accounts receivable could be further reduced from the levels provided for in the consolidated financial statements. As of December 31, 2024 and 2023, no single customer represented more than 10% of our consolidated accounts receivable balance.

The following presents the changes in the balance of our allowance for credit losses:

Year	Item	llance at inning of year	cha	ditions orged to opense	 Other ^(a)	Balance at end of year
2024	Allowance for credit losses	\$ 3,389	\$	506	\$ (1,462)	2,433
2023	Allowance for credit losses	3,114		595	(320)	3,389
2022	Allowance for credit losses	2,445		562	107	3,114

⁽a)Other includes the impact of write-offs, recoveries and foreign currency translation adjustments.

Inventories

Inventories are stated at the lower of cost or net realizable value, with cost reflecting standard cost, which approximates the first-in, first-out method. Capitalized inventory costs include materials, labor, and manufacturing overhead that relate to the acquisition of raw materials and production into finished goods. The Company regularly reviews inventory for excess and obsolescence and records a provision to write down inventory to its net realizable value when carrying value is in excess of such value.

Property and Equipment

Property and equipment are recorded at cost and are depreciated over their estimated useful lives using the straight-line method. Upon retirement or sale, the cost of assets disposed of and the related accumulated depreciation are removed from the accounts and any resulting gain or loss is included in the determination of net income or loss. Repairs and maintenance costs are expensed as incurred.

Intangible Assets (Excluding Goodwill)

Intangible assets include patents, trade names, customer relationships, acquired technology, and in process research and development ("IPR&D"). Intangible assets with a finite life are (1) amortized on a straight-line basis, with estimated useful lives typically ranging from 2 to 20 years, and (2) assessed for impairment whenever events or changes in circumstances indicate that their carrying value may not be recoverable, consistent with the Company's accounting policy for other long-lived assets with a finite life. Amortization expense is generally recognized within selling, general and administrative expense on the consolidated statements of operations.

Acquired IPR&D represents the fair value assigned to those research and development ("R&D") projects that were acquired in a business combination for which the related products have not received regulatory approval or commercial viability and have no alternative future use. If the project is not completed or is terminated or abandoned, the Company may have to recognize an impairment related to the IPR&D, which is charged to expense. During the year ended December 31, 2023, the Company recognized a \$5.6 million charge to fully impair its only IPR&D intangible asset. Refer to Note 8.

Goodwill

Goodwill is the excess of the cost of an acquired entity over the amounts assigned to the assets acquired and liabilities assumed in a business combination. Goodwill is not amortized. Goodwill is tested for impairment annually, and is tested for impairment between annual tests if an event occurs or circumstances change that would indicate the carrying amount may be impaired. Impairment testing for goodwill is performed at the reporting unit level, with all goodwill assigned to a reporting unit.

During the fourth quarter of 2023, we elected to change the annual goodwill impairment testing date for each of our reporting units from November 30th to November 1st. The Company does not believe that this change to the annual impairment testing date represents a material change in the method of applying an accounting principle. This voluntary change is preferable because it provides management with sufficient time to complete goodwill impairment tests in advance of the Company's year-end financial reporting and provides additional time for the execution of key controls and management review over the significant estimates and judgements inherent in the performance of the test. This change to the goodwill impairment testing date was not applied retrospectively as it was impracticable to do so without applying hindsight when developing key assumptions and estimates required to perform the test.

The testing of goodwill for impairment requires the Company to make several estimates related to projected future cash flows to determine the fair value of the reporting units to which goodwill has been assigned. The Company determines whether each reporting unit's fair value exceeds its carrying amount, including goodwill, based upon projections of future revenues, expenses, and cash flows discounted to their present value, as well as the application of a market approach. Internal operational budgets and long-range strategic plans are used as a basis for the cash flow analysis. The Company also utilizes assumptions related to working capital, capital expenditures, and terminal growth rates. The discount rate applied to the cash flow analysis is based on the weighted average cost of capital ("WACC") for each reporting unit. These valuation approaches require the application of Level 3 valuation inputs (as defined in Note 23). An impairment is recognized when the carrying amount of the reporting unit's net assets exceeds the estimated fair value of the reporting unit.

As a result of the significant decline in the trading price of our common stock and our market capitalization during the three months ended September 30, 2024, as well as reduced long-term cash flow forecasts prepared in connection with the Company's long-range planning process, the Company concluded that the performance of an interim period goodwill impairment test was required as of September 30, 2024. Upon completion of this interim period goodwill impairment test, the Company concluded that the carrying value of the Healthcare Solutions reporting unit exceeded its fair value by \$101.4 million and recognized this amount within asset impairment charges on our consolidated statement of operations. Refer to Note 9 for further discussion regarding this goodwill impairment charge, as well as the \$279.8 million goodwill impairment charge recognized during the year ended December 31, 2023, to write off the entire goodwill balance assigned to the Industrial Solutions reporting unit. No impairment charges were recorded related to goodwill for the year ended December 31, 2022.

Long Lived Assets Impairment

We review long-lived assets ("asset groups") that are held and used for impairment whenever events or changes in circumstances indicate that the carrying value of an asset group may not be recoverable. The carrying value of an asset group that is held and used is not recoverable if it exceeds the sum of the undiscounted cash flows that are expected to result from the asset group's use and eventual disposition. If we determine that an asset group's carrying value is not recoverable, we must then compare the asset group's carrying value to its estimated fair value and record any excess carrying value over fair value as an impairment loss. Any impairment loss that is recognized is required to be allocated to the long-lived assets of an asset group on a pro rata basis, using the relative carrying amounts of the long-lived assets comprising the asset group, except that the loss allocated to an individual long-lived asset shall not reduce its carrying amount below its fair value whenever that fair value is determinable without undue cost and effort.

During the three months ended September 30, 2024, the Company concluded that there were indicators that the primary asset group underlying the Company's core operations should be tested for recoverability based upon the reporting of losses and negative cash flows for both current and historical reporting periods, combined with the significant decline in the Company's stock price during the period. Upon assessing this asset group for recoverability, the Company concluded that the asset group's carrying value exceeded the undiscounted cash flows that the asset group was expected to generate over the estimated remaining useful life of the asset group's primary asset, which was deemed to be acquired technology. Accordingly, the Company further tested this asset group for impairment as of September 30, 2024, using projected discounted cash flows, as well as a market approach based upon revenue multiples, to estimate the asset group's fair value.

As a result of concluding that the carrying value of the primary asset group underlying the Company's core operations exceeded the fair value of the asset group as of September 30, 2024, the Company recorded an aggregate impairment loss of \$42.3 million, within asset impairment charges on our consolidated statement of operations. After consideration of the relative carrying values of the long-lived assets comprising this asset group, as well as the long-lived asset fair values below which asset carrying amounts should not be impaired, the Company recorded impairment charges of \$31.2 million, \$5.9 million, and \$5.2 million (representing the allocation of the aggregate impairment charge of \$42.3 million) to intangible assets; property and equipment; and right-of-use assets, respectively. The Company estimated the fair values of the intangible assets and right-of-use assets included in the asset group using the income approach and estimated the fair value of the property and equipment included in the asset group using the cost approach. The estimation of the fair values of all classes of long-lived assets to which the impairment charge has been allocated required the application of Level 3 valuation inputs, as defined in Note 23.

Contingencies

We follow the provisions of ASC 450, "Contingencies," which requires that an estimated loss from a loss contingency be accrued by a charge to income if (1) it is probable that an asset has been impaired or that a liability has been incurred and (2) the amount of the loss can be reasonably estimated. Legal costs related to the defense or settlement of a loss contingency are expensed when such costs are incurred and, accordingly, future legal costs expected to be incurred are not accrued as part of the liability recorded when a loss contingency has been deemed probable and estimable.

Foreign Currency Translation and Transactions

The local currency in which a subsidiary operates is generally considered its functional currency for those subsidiaries domiciled outside the United States ("foreign subsidiaries"). The functional currency financial statements of foreign subsidiaries are translated to U.S. dollars ("USD") in connection with the preparation of the Company's consolidated financial statements. Assets and liabilities of foreign subsidiaries are translated to USD at month-end exchange rates applicable to the reporting period. Income and expense items are translated to USD monthly using monthly average exchange rates. The effects of translating a foreign subsidiary's financial statements are recorded as currency translation adjustments and reported as a component of accumulated other comprehensive income (loss) in shareholders' equity.

Foreign currency transactions are those transactions whose terms are denominated in a currency other than an entity's functional currency. Foreign currency transactions that remain unsettled as of the end of a reporting period must be remeasured into the entity's functional currency, resulting in the recognition of a gain or loss when a change in exchange rate has occurred subsequent to the date on which the transaction was originally recognized or was most recently remeasured. The Company recognizes foreign currency transaction gains and losses within foreign exchange gain (loss), net on its consolidated statements of operations.

Research and Development Costs

R&D costs, consisting primarily of employee compensation, operating supplies, facility costs and depreciation, are expensed as incurred. When the Company is reimbursed by a collaboration partner for work the Company performs, it records the costs incurred as R&D expense and the related reimbursement as a reduction to R&D expense in its consolidated statements of operations.

Earnings Per Share and Net Loss Per Share

Basic earnings per share and basic net loss per share are calculated using the weighted-average number of common shares outstanding during each period. When applicable, diluted earnings per share is calculated based upon the inclusion of additional dilutive and potentially dilutive shares, which include shares issuable upon the exercise of outstanding stock options, upon the vesting of employee restricted stock-based awards, for settlement of accrued incentive compensation to be paid in shares (if and when related performance-based conditions have been satisfied as of the end of the reporting period), and to settle the portion of the convertible notes that may be settled in shares (where the conversion of such instruments would be dilutive). Refer to Note 19.

Advertising Costs

Advertising costs are expensed as incurred and recorded in selling, general and administrative expense. Advertising costs, including trade shows, were \$5.1 million, \$7.1 million and \$7.3 million for the years ended December 31, 2024, 2023 and 2022, respectively.

Pension Costs

We sponsor a retirement benefit for one of our non-U.S. subsidiaries in the form of a defined benefit pension plan. Accounting standards require the cost of providing this pension benefit to be measured on an actuarial basis. The application of these accounting standards require us to make assumptions and judgements that can significantly affect the measurement of our pension expense and our pension liability. Actuarial gains and losses resulting from both normal year-to-year changes in valuation assumptions and differences between assumptions and actual experience are deferred and amortized. Our critical assumptions in performing these actuarial valuations include the selections of the rate of compensation increase and the discount rate used to determine the present value of the pension obligations, each of which affects the amount of pension expense and pension liability recorded in any given period. Changes in the rate of compensation increase or discount rate could have a material effect on our reported pension obligations and related pension expense. Refer to Note 14.

Equity Compensation Plans

We recognize compensation expense for our stock-based compensation programs, which provide for the issuance of stock options, restricted stock, restricted stock units ("RSU"), performance-based awards and market-based awards. The fair value of service-based awards is estimated at the grant date and recognized as expense ratably over the requisite service period of the award.

The fair value of performance-based awards is estimated on the grant date and expensed over an implicit or explicit service period when the performance condition is deemed probable of achievement. Performance-based awards that cliff vest are expensed ratably using the straight-line method; whereas, performance-based awards with graded vesting features are expensed using the graded vesting method. Stock compensation expense recorded for performance-based awards is reversed if the performance condition is no longer deemed probable of achievement or ultimately is not met. Some RSUs are granted with a performance measure derived from non-GAAP-based management targets or non-financial targets. Depending on our performance with respect to these metrics, the number of RSUs earned may be less than, equal to or greater than the original number of RSUs awarded, subject to a payout range.

The fair value of awards with market conditions ("market-based awards") is determined using a Monte Carlo valuation model and is expensed over an implicit or explicit service period regardless of whether the market condition is probable of achievement or not. Market-based awards that cliff vest are expensed ratably using the straight-line method; whereas, market-based awards with graded vesting features are expensed using the graded vesting method. Stock compensation expense is not reversed if the market condition is not met.

For all share-based payment awards, we recognize forfeitures when they occur.

Income Taxes

We and the majority of our domestic subsidiaries file a consolidated U.S. federal income tax return, while four of our domestic entities file separate U.S. federal income tax returns. Our non-U.S. subsidiaries file income tax returns in their respective jurisdictions.

Income taxes are accounted for under the asset and liability method. Deferred income tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and for tax benefit carryforwards. Our deferred income tax assets and liabilities at the end of each period are determined using enacted tax rates.

We establish a valuation allowance for those jurisdictions in which the expiration date of tax benefit carryforwards or projected taxable earnings leads us to conclude that it is "more likely than not" that a deferred tax asset will not be realized. This evaluation process includes the consideration of all available evidence regarding historical results and future projections, including the estimated timing of reversals of existing taxable temporary differences and potential tax planning strategies. Once a valuation allowance is established, it is maintained until a change in factual circumstances gives rise to sufficient income of the appropriate character and timing that will allow a partial or full utilization of the deferred tax asset.

In accordance with ASC 740, "Income Taxes," the impact of an uncertain tax position on our income tax returns is recognized at the largest amount that is more likely than not to be required to be recognized upon audit by the relevant taxing authority.

We include interest and penalties accrued in the consolidated financial statements as a component of income tax expense. For the year ended December 31, 2024 interest and penalties reported in income tax expense totaled \$1.0 million. These amounts were immaterial for the years ended December 31, 2023 and 2022.

Refer to Note 18 for further discussion.

Operating and Finance Leases

We determine if an arrangement contains a lease at inception. We record both operating leases and finance leases on our balance sheet and do not separate non-lease components from our real estate leases. We exclude leases with a term of one year or less at the commencement date from our consolidated balance sheets.

Some leases include the option to purchase the leased asset, terminate the lease or extend the lease for one or more years. These options are considered in the determination of the estimated lease term when it is reasonably certain that an option will be exercised. Our leases do not contain any material residual value guarantees or material restrictive covenants.

Most of our leases do not provide an implicit rate; therefore, we use our incremental borrowing rate based on information available at the lease commencement date to determine the present value of the future lease payments.

Certain of our leases include variable costs. Variable costs include non-lease components that are incurred based upon actual terms, rather than contractually fixed amounts. In addition, variable costs are incurred for lease payments that are indexed to a change in rate or index. Because the right-of-use ("ROU") assets recorded on the balance sheet are determined based upon factors considered at the lease commencement date, subsequent changes in the rate or index that were not contemplated in the ROU asset balances at lease commencement result in variable expenses being recorded when these expenses are incurred during the lease term. Refer to Note 11.

Recent Accounting Pronouncements

Recently Issued Accounting Pronouncements Not Yet Adopted

In November 2024, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2024-04, "Debt—Debt with Conversion and Other Options (Subtopic 470-20): Induced Conversions of Convertible Debt Instruments," related to induced conversions of convertible debt instruments. The amendments in this ASU clarify the requirements for determining whether certain settlements of convertible debt instruments should be accounted for as induced conversions rather than as debt extinguishments. This update is effective for annual periods beginning after December 15, 2025, including interim periods within those fiscal years, with early adoption permitted. The amendments in this ASU permit an entity to apply the new guidance on either a prospective or retrospective basis. The Company is currently in the process of evaluating the effects of this ASU on our consolidated financial statements.

In November 2024, the FASB issued ASU No. 2024-03, "Income Statement—Reporting Comprehensive Income—Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses." The amendments in this ASU require public entities to provide disaggregated disclosure of expenses included within relevant income statement expense captions, as well as additional disclosures about selling expenses. This update is effective for annual periods beginning after December 15, 2026, and interim periods within fiscal years beginning after December 15, 2027, with early adoption permitted. The amendments in this ASU should be applied either (1) prospectively to financial statements issued for reporting periods after the effective date of the ASU or (2) retrospectively to any or all prior periods presented in the financial statements. The Company is currently in the process of evaluating the effects of this ASU on our consolidated financial statements.

In March 2024, the FASB issued ASU 2024-02, "Codification Improvements - Amendments to Remove References to the Concepts Statements" ("ASU 2024-02"). This guidance is intended to remove references to various FASB Concepts Statements. The Board has a standing project on its agenda to address suggestions received from stakeholders on the Accounting Standards Codification and other incremental improvements to U.S. GAAP. This effort facilitates Codification updates for technical corrections such as conforming amendments, clarifications to guidance, simplifications to wording or the structure of guidance, and other minor improvements. The resulting amendments are referred to as Codification improvements. The amendments in ASU 2024-02 are not intended to result in significant accounting change for most entities. The Company is currently in the process of evaluating the effects of this ASU on our consolidated financial statements.

In March 2024, the FASB issued ASU 2024-01, "Compensation - Stock Compensation (Topic 718): Scope Application of Profits Interest and Similar Awards" ("ASU 2024-01"). This guidance is intended to improve U.S. GAAP. by adding an illustrative example to demonstrate how an entity should apply the scope guidance in paragraph 718-10-15-3 to determine whether profits interest and similar awards ("profits interest awards") should be accounted for in accordance with Topic 718, Compensation - Stock Compensation. The amendments in ASU 2024-01 are effective for annual periods beginning after December 15, 2024, and interim periods within those annual periods. The amendments in ASU 2024-01 should be applied either (1) retrospectively to all prior periods presented in the financial statements or (2) prospectively to profits interest and similar awards granted or modified on or after the date at which the entity first applies the amendments. The Company is currently in the process of evaluating the effects of this ASU on our consolidated financial statements.

In December 2023, the FASB issued ASU No. 2023-09, "Income Taxes (Topic 740) - Improvements to Income Tax Disclosures." The ASU requires disaggregated information about a reporting entity's effective tax rate reconciliation, as well as additional information on income taxes paid. The ASU is effective on a prospective basis for annual periods beginning after December 15, 2024, while permitted to be adopted on a retrospective basis. Early adoption is also permitted for annual financial statements that have not yet been issued or made available for issuance. Upon adoption, this ASU is expected to result in the inclusion of additional tax-related disclosures in the footnotes to our consolidated financial statements.

Recently Adopted Accounting Standards

In November 2023, the FASB issued ASU No. 2023-07, "Segment Reporting (Topic 280) - Improvements to Reportable Segment Disclosures." This ASU expands upon existing reportable segment disclosure requirements by requiring the disclosure of significant reportable segment expenses that are regularly provided to the Chief Operating Decision Maker ("CODM") and included within each reported measure of a segment's profit or loss, as well as conforming interim period disclosures with annual period disclosures. This ASU also requires disclosure of the title and position of the individual identified as the CODM and an explanation of how the CODM uses the reported measures of a segment's profit or loss in assessing segment performance and deciding how to allocate resources. The ASU is effective for annual periods beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. The Company adopted this standard in the fourth quarter of our fiscal year ending December 31, 2024. Refer to Note 21 for our updated presentation and disclosures. The Company retrospectively applied the updated presentation and disclosures to all prior periods presented. Adoption of this ASU did not have an impact on the Company's results of operations, cash flows or financial position.

No other new accounting pronouncements issued or effective during the periods reflected in our consolidated statements of operations have had or are expected to have a significant impact on our consolidated financial statements.

(3) Acquisitions

Wematter

On July 1, 2023, the Company completed the acquisition of Wematter AB ("Wematter"), a Swedish 3D printer manufacturer that will broaden 3D Systems' Selective Laser Sintering (SLS) portfolio. The acquisition resulted in the Company acquiring 100% of the outstanding voting interest of Wematter. Consideration for this acquisition consisted of approximately \$10.2 million in cash, subject to customary post-closing adjustments. The Company also may be required to pay an additional €2.0 million in cash, contingent upon the achievement of certain post-closing performance conditions and the continued employment of certain key Wematter employees for two years after the closing date of the acquisition. This €2.0 million is required to be recognized as compensation expense over the key employees required service period if deemed probable of being earned. As of December 31, 2024, management does not believe that achievement of the post-closing performance conditions is probable. Finally, the Company incurred \$0.9 million of acquisition-related expenses during the year ended December 31, 2023, which are reported in selling, general and administrative expenses in our consolidated statement of operations. Wematter's reported results are included in our Industrial Solutions segment and reporting unit.

In a separate transaction, the Company had extended a loan to Wematter during the three months ended June 30, 2023. We determined that this loan, representing a preexisting contractual relationship, was effectively settled upon the close of the acquisition of Wematter. No gain or loss was recognized in connection with the effective settlement, as the carrying value of the loan was not materially different from the pricing of similar current market transactions. The effective settlement of this loan receivable resulted in an increase of \$0.9 million to the consideration transferred in connection with this transaction (i.e., above the cash consideration paid) and a corresponding increase to goodwill.

We accounted for the acquisition of Wematter using the acquisition method, as prescribed by ASC 805, "Business Combinations" ("ASC 805"). In accordance with valuation methodologies described in ASC 820, "Fair Value Measurement" ("ASC 820"), the acquired assets and assumed liabilities were recorded at their estimated fair values as of the date of the Wematter acquisition.

Shown below is the final purchase price allocation, which summarizes the fair values of the assets acquired and liabilities assumed at the date of acquisition:

(in thousands)

(in inousumus)			
Current assets, including cash acquired of \$148			\$ 835
Intangible assets:			
Trade names	\$	1,487	
Product technology		2,580	
Customer relationships		348	
Total intangible assets			4,415
Goodwill			6,528
Other assets			475
Liabilities:			
Accounts payable and accrued liabilities	\$	794	
Long-term liabilities	<u>-</u>	293	
Total liabilities		4	1,087
Net assets acquired			\$ 11,166

The goodwill recognized is attributable to synergies that are expected to enhance and expand the Company's overall product portfolio and opportunities in new and existing markets, future products that have yet to be determined and Wematter's assembled workforce. This goodwill will not be deductible for tax purposes.

The following table presents the finite-lived intangible assets acquired and their respective estimated useful lives:

	Useful Life
Trade names	5
Product technology	15
Customer relationships	10

Unaudited Pro Forma Financial Information

The following unaudited pro forma financial information summarizes the combined results of the Company and Wematter as if the acquisition had occurred on January 1, 2022. The pro forma results have been prepared for comparative purposes only, and do not necessarily represent what the results of operations would have been had the acquisition been completed on January 1, 2022. In addition, these pro forma results are not intended to be a projection of future operating results and do not reflect synergies that might be achieved.

The unaudited pro forma financial information includes adjustments for the pro forma impact of the allocation of the purchase price recognized in connection with the acquisition of Wematter (as summarized above). These adjustments primarily relate to the impact of incremental amortization expense attributable to newly acquired and recognized intangible assets. Pro forma revenue information has not been presented, as pre-acquisition revenue reported by Wematter was not material and, accordingly, the impact on our reported consolidated revenue also would not have been material for the period presented.

	December 31,
(in thousands)	2023
Pro forma net loss attributable to 3D Systems Corporation	\$ (362,890)

dp polar

On October 4, 2022, we completed the acquisition of 100% of dp polar GmbH ("dp polar"), a German-based designer and manufacturer of a manufacturing system designed for high-speed mass production of customized components, for \$25.9 million (including customary post-closing adjustments), which includes \$19.6 million paid in cash at closing, \$7.1 million paid at closing via the issuance of the Company's common stock, and an \$0.8 million estimated post-closing purchase price adjustment due to the Company from the sellers. In addition, the Company incurred \$0.2 million of acquisition-related expenses during the year ended December 31, 2022, which are reported in selling, general and administrative expenses in our consolidated statements of operations. Refer to Note 17 for the discussion of an earnout arrangement with a key individual from dp polar.

The Company acquired dp polar for access to dp polar's patented continuous printing process. Central to dp polar's patented continuous printing process is a large-scale, segmented, rotating print platform that eliminates the start/stop operations of virtually all additive manufacturing platforms. With dp polar's technology and patented polar coordinate control, the print heads remain stationary above the rotating platform, providing a continuous print process. We accounted for the acquisition of dp polar using the acquisition method, as prescribed by ASC 805. In accordance with valuation methodologies described in ASC 820, the acquired assets and assumed liabilities were recorded at their estimated fair values as of the date of the dp polar acquisition.

Shown below is the final purchase price allocation, which summarizes the fair values of the assets acquired and liabilities assumed at the date of acquisition:

12	thousands	۱

Current assets, including cash acquired of \$243			\$ 301
Intangible assets:			
In-process research and development	\$	4,989	
Trade name		3,930	
Total intangible assets			8,919
Goodwill			17,090
Other assets			765
Liabilities:			
Accounts payable and accrued liabilities	\$	364	
Deferred tax liability	9	845	
Total liabilities			1,209
Net assets acquired			\$ 25,866

The goodwill recognized was attributable to synergies which were expected to enhance and expand the Company's overall product portfolio and opportunities in new and existing markets, future products that have yet to be determined and dp polar's assembled workforce. This goodwill will not be deductible for tax purposes.

Kumovis

On April 1, 2022, we completed the acquisition of 93.75% of Kumovis GmbH ("Kumovis") for an all-cash purchase price of \$37.9 million, plus an estimated fair value of RNCI of \$1.6 million. \$3.6 million of the cash payment was deferred for up to fifteen months from the closing date and was paid in July 2023. Kumovis, which is part of the Healthcare Solutions segment and reporting unit, utilizes polyether ether keton or "PEEK" materials, which has properties that lend it to many medical applications that fit into our personalized healthcare solutions operations, including many implant applications. The Company incurred \$0.1 million of acquisition-related expenses during the year ended December 31, 2022, which are reported in selling, general and administrative expenses in our consolidated statements of operations.

In conjunction with the Kumovis acquisition, the Company and the non-controlling shareholders entered into a put/call option agreement, whereby, at a later date, the Company has the option to purchase from the non-controlling shareholders, and the non-controlling shareholders have the option to sell to the Company, the remaining 6.25% ownership interest in Kumovis for an exercise price calculated based on the achievement of pre-determined revenue and gross profit targets. Fifty percent of the Kumovis common shares related to the put/call can be exercised upon the achievement of an initial revenue and gross profit target, while the remaining 50% can be exercised upon the achievement of a second revenue and gross profit target. If one or both sets of targets have not been met within 5.75 years from the acquisition date, there is a floor strike price that must be exercised. Up to 50% of the exercise price can be paid in Company common stock at the election of 3D Systems. This arrangement results in the recognition of RNCI, for which an estimated fair value of \$1.6 million was recorded as of the acquisition date.

We accounted for the acquisition of Kumovis using the acquisition method, as prescribed by ASC 805. In accordance with valuation methodologies described in ASC 820, the acquired assets and assumed liabilities were recorded at their estimated fair values as of the date of the Kumovis acquisition. The table below reflects the fair value of both the consideration transferred and the RNCI attributable to this acquisition.

(in thousands)

Cash paid at acquisition	\$ 34,098
Deferred cash consideration	3,628
Estimated fair value of RNCI	1,559
Post-closing net working capital adjustment	149
Total fair value of consideration transferred	\$ 39,434

Shown below is the final purchase price allocation, which summarizes the fair values of the assets acquired and liabilities assumed at the date of acquisition:

(in	thousand	S
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Current assets, including cash acquired of \$125			\$ 1,407
Intangible assets:			
Product technology	\$	20,770	
Trade name	<u> </u>	5,802	
Total intangible assets			26,572
Goodwill			17,618
Other assets			705
Liabilities:			
Accounts payable and accrued liabilities	\$	332	
Deferred revenue		70	
Deferred tax liability		6,466	
Total liabilities			6,868
Net assets acquired			\$ 39,434

The goodwill recognized is attributable to synergies which are expected to enhance and expand the Company's overall product portfolio and opportunities in new and existing markets, future products that have yet to be determined and Kumovis' assembled workforce. This goodwill will not be deductible for tax purposes.

Titan

On April 1, 2022, we completed the acquisition of 100% of Titan Additive LLC ("Titan") for an all-cash purchase price of \$39.0 million. Titan, which is part of the Industrial Solutions segment and reporting unit, is a pellet-based extrusion platform that addresses customer applications requiring large build volumes, superior performance, and improved productivity at significantly lower cost. The Company incurred \$0.6 million of acquisition-related expenses during the year ended December 31, 2022, which are reported in selling, general and administrative expenses in the consolidated statements of operations.

We accounted for the acquisition of Titan using the acquisition method, as prescribed by ASC 805. In accordance with valuation methodologies described in ASC 820, the acquired assets and assumed liabilities were recorded at their estimated fair values as of the date of the Titan acquisition.

Shown below is the final purchase price allocation, which summarizes the fair values of the assets acquired and liabilities assumed at the date of acquisition:

(in thousands)				
Current assets			\$	661
Intangible assets:				
Product technology	\$	15,940		
Trade name		5,580		
Total intangible assets				21,520
Goodwill				17,430
Other assets				68
Liabilities:				
Accounts payable and accrued liabilities	\$	229		
Deferred revenue	<u> </u>	410		
Total liabilities			-	639
Net assets acquired			\$	39,040

The goodwill recognized is attributable to synergies which are expected to enhance and expand the Company's overall product portfolio and opportunities in new and existing markets, future products that have yet to be determined and Titan's assembled workforce. This goodwill is deductible for tax purposes.

(4) Assets Held for Sale

In December 2024, the Company entered into a definitive agreement for the sale of its Geomagic software business ("Geomagic"), which is included in our Industrial Solutions segment, to Hexagon AB for \$123 million, subject to customary adjustments. The divestiture is expected to be completed by the end of the second quarter of 2025, subject to the satisfaction of certain closing conditions. The Company determined that the associated assets and liabilities met the held for sale criteria during December 2024, with approval by the Company's Board of Directors and the signing of the purchase agreement. Accordingly, the Company classified \$3.2 million of assets and \$10.3 million of liabilities as held for sale in the Company's consolidated balance sheet as of December 31, 2024. No loss was recognized to measure the disposal group at the lower of its carrying value or fair value less costs to sell. The disposal group has not been presented as a discontinued operation in the accompanying consolidated financial statements because the sale of Geomagic does not represent a strategic shift that will have a major effect on the Company's operations.

The following table summarizes the assets and liabilities of Geomagic that have been classified as held for sale at December 31, 2024:

	1
	December 31, 2024
Assets	
Accounts receivable, net	\$ 765
Prepaid expenses and other current assets	47
Total current assets held for sale	812
Intangible assets, net	917
Other assets	1,447
Total assets held for sale	\$ 3,176
Liabilities	
Accounts payable	491
Accrued and other liabilities	303
Deferred revenue	7,197
Total current liabilities held for sale	7,991
Other liabilities	2,260
Total liabilities held for sale	\$ 10,251

(5) Revenue

Performance Obligations

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account as defined in ASC 606. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied.

Remaining performance obligations represent the transaction price allocated to performance obligations which are unsatisfied as of the end of the period. The Company has excluded performance obligations with an original expected duration of one year or less. Remaining performance obligations as of December 31, 2024 were \$5.6 million, of which we expect to recognize approximately 93% as revenue within the next two years, and the remaining balance thereafter.

Revenue Recognition

Revenue is recognized when control of the promised products or services is transferred to customers. Revenue is recognized in an amount that reflects the consideration we expect to receive in exchange for those products or services. We enter into contracts that can include various combinations of products and services, which are generally capable of being distinct and, accordingly, are accounted for as separate performance obligations. For such arrangements, we allocate revenue to each performance obligation based upon its relative stand-alone selling price ("SSP"). Revenue is recognized net of allowances for returns and any taxes collected from customers that are subsequently remitted to governmental authorities. The amount of consideration received and revenue recognized may vary based on changes in marketing incentive programs offered to our customers. Our marketing incentive programs take many forms, including volume discounts, trade-in allowances, rebates and other discounts. Refer to "Variable Consideration" section below for further discussion around the significant judgments in these areas.

A majority of our revenue is recognized at the point in time when products are shipped to or services are performed for customers. However, we also enter into service contracts and collaboration agreements with customers, for which we typically are required to recognize revenue over time.

Hardware and Materials

Revenue from hardware and material sales is recognized when control has transferred to the customer, which generally occurs when the goods have been shipped or delivered to the customer, risk of loss has transferred to the customer, and we have a present right to payment. In limited circumstances, when printer or other hardware sales include substantive customer acceptance provisions, revenue is recognized either when customer acceptance has been obtained, customer acceptance provisions have lapsed, or we have objective evidence that the criteria specified in the customer acceptance provisions have been satisfied.

Printers and certain other products include an assurance warranty for periods up to one year to ensure the product works as expected. These assurance warranties are not a separate performance obligation. For these initial product warranties, estimated costs are accrued at the time of the sale of the product. These cost estimates are established using historical information regarding the nature, frequency and average cost of claims for each type of printer or other product, as well as assumptions about future activity and events. Revisions to expense accruals are made as necessary based on changes in these historical and future factors.

Software

We also market and sell software tools that enable our customers to capture and customize content using our printers, design optimization and simulation software, and reverse engineering and inspection software. Our software does not require significant modification or customization, and the license provides the customer with a right to use the software as it exists when made available. Revenue from these software licenses is recognized either upon delivery of the product or of a key code which allows the customer to download the software. Customers may purchase post-sale support. Generally, the first year of support is included, but subsequent years are optional. Post-sale support, including the first year of support and the optional, subsequent years, are considered a separate obligation from the software and revenue is deferred at the time of sale and subsequently recognized ratably over future periods.

<u>Services</u>

We offer training, installation and non-contract maintenance services for our products. Additionally, we offer maintenance contracts customers can purchase at their option. For maintenance contracts, revenue is deferred at the time of sale based on the stand-alone selling prices of these services. Deferred revenue is recognized ratably over the term of the maintenance period on a straight-line basis and costs are expensed as incurred. Revenue from training, installation and non-contract maintenance services is recognized at the time of performance of the service.

We also sell software as a service, whereby the customer has the right to access the software. Revenue is recognized ratably over the related subscription period, as our performance obligation to provide access to the software is progressively fulfilled over the stated term of the contract.

Healthcare Solutions service sales are included within services revenue, and revenue is recognized upon shipment or delivery of the parts or performance of the service, based on the terms of the arrangement.

Collaboration and Licensing Agreements

We enter into collaboration and licensing arrangements with third parties. The nature of the activities to be performed and the consideration exchanged under these arrangements varies on a contract-by-contract basis. We evaluate these arrangements to determine whether they meet the definition of a customer relationship for which revenue should be recorded and recognized. These contracts may contain multiple performance obligations and may contain fees for licensing, research and development services, contingent milestone payments upon the achievement of contractual developmental criteria and/or royalty fees based on the licensees' product revenue. We determine the revenue to be recognized under these arrangements based upon an evaluation of the distinct performance obligations; the identification and evaluation of material rights; the estimation of the amount of variable consideration to be included in transaction price, as well as the timing for inclusion of such variable consideration; and the amount of transaction price assigned to and the pattern of transfer of control for each distinct performance obligation. This typically results in the recognition of revenue over time using a cost-to-cost percentage of completion model to measure the progress of the transfer of control.

We review and update our estimate of variable consideration on a regular basis. Any adjustments to estimated revenue is recognized under the cumulative catch-up method. During the year ended December 31, 2024, the Company recorded a cumulative catch-up adjustment which reduced revenue by \$8.7 million. The decrease in estimated recognizable variable consideration was due to the Company's determination that incremental revenue attributable to milestone payments that are contingent upon the achievement of contractual developmental criteria are no longer probable of being earned. As a result, the Company recognized an adjustment to reverse services revenue in the amount of \$8.7 million for the year ended December 31, 2024 from collaboration arrangements.

The Company recognized \$17.0 million in collaboration arrangement revenue during the year ended December 31, 2023. Our revenue recognized under collaboration and licensing agreements for the year ended December 31, 2023 includes the effect of the Company increasing its estimate of the variable consideration included in the transaction price related to one of its licensing agreements. The increase in estimated recognizable variable consideration was due to (1) the execution of a modification to the related customer contract and (2) the Company's determination that incremental revenue attributable to milestone payments that are contingent upon the achievement of contractual developmental criteria would be earned under the modified contract. As a result, during the year ended December 31, 2023, the Company recognized a cumulative catch-up adjustment to record incremental services revenue of \$4.5 million, which reduced our reported basic and diluted loss per share by \$0.03 for the year ended December 31, 2023.

The Company recognized \$13.5 million in collaboration arrangement revenue during the year ended December 31, 2022.

The Company recognized \$7.1 million, \$14.1 million, and \$11.1 million in products cost of sales related to the collaboration arrangements with customers for the years ended December 31, 2024, 2023, and 2022, respectively. All of our collaboration arrangement revenue and related costs of sales relates to R&D being performed under a single regenerative medicine contract.

All of our collaboration arrangement revenue and related costs of sales relates to R&D being performed under a single regenerative medicine contract.

Terms of Sale

Shipping and handling activities are treated as fulfillment costs rather than as an additional promised service. We accrue the costs of shipping and handling when the related revenue is recognized. Our incurred costs associated with shipping and handling are included in product cost of sales.

Creditworthiness is determined, and credit is extended, based upon an evaluation of each customer's financial condition. New customers are generally required to complete a credit application and provide references and bank information to facilitate an analysis of creditworthiness.

Our terms of sale generally provide payment terms that are customary in the countries where we transact business. To reduce credit risk in connection with certain sales, we may, depending upon the circumstances, require significant deposits or payment in full prior to shipment. For maintenance services, we either bill customers on a time-and-materials basis or sell maintenance contracts that provide for payment in advance on either an annual or other periodic basis.

Significant Judgments

Allocation of Transaction Price

Our contracts with customers often include promises to transfer multiple products and services to a customer. For such arrangements, we allocate revenue to each performance obligation based on its relative SSP.

Judgment is required to determine the SSP for each distinct performance obligation in a contract. We estimate SSP using historical transaction data of observable prices. We use a range of amounts to estimate SSP when we sell each of the products and services separately and need to determine whether there is a discount to be allocated based on the relative SSP of the various products and services. In other instances where SSP is not directly observable, such as when the product or service is not sold separately, we determine the SSP using information that may include market conditions, expected cost plus margin, and other observable inputs.

In some circumstances, we have more than one SSP for individual products and services due to the stratification of those products and services by customers, geographic region or other factors. In these instances, we may use information such as the size of the customer and geographic region in determining the SSP.

The determination of SSP is an ongoing process, and information is reviewed regularly in order to ensure SSP reflects the most current information or trends.

Variable Consideration

We must assess if and when it is appropriate to include variable consideration when determining transaction price. This assessment, which impacts the timing and the amount of revenue recognized under contracts accounted for in accordance with ASC 606, requires management to conclude that it is probable that a significant reversal of the amount of cumulative revenue recognized with respect to a contract will not occur when the uncertainty associated with the variable consideration is subsequently resolved.

As discussed above, our collaboration and licensing agreements include our most significant variable consideration and require judgement in the estimation of the amount of variable consideration to be included in the transaction price, as well as the timing for inclusion of such variable consideration. In addition, the nature of our sales and marketing incentives may lead to consideration that is variable in the form of discounts based on volumes purchased, trade in allowances, rebates or other discounts. We estimate variable consideration based on the expected value approach, which requires judgement in the identification of possible outcomes and in assessing the probability of those outcomes, or the most likely amount approach, which requires judgement to identify the most likely amount in a range of amounts. After estimating the amount of variable consideration, the Company includes the estimated variable consideration in transaction price only to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur. The Company assesses both the likelihood of a future reversal of revenue and how significant the reversal is relative to the total consideration. Our estimates are based on historical experience, contract terms and other factors. Ongoing assessments are performed to determine if updates are needed to the original estimates.

Contracts Recognized Over Time

The Company recognizes the revenue attributable to certain contracts over time using a cost-to-cost percentage of completion model to measure progress of the transfer of control to the customer as services are performed, for which management believes the use of costs incurred reliably depicts the measurement of progress achieved by the Company in satisfying the performance obligation because it best depicts the transfer of control to the customer as we incur costs on our contracts. The application of this accounting requires the Company to estimate total costs that will be required to satisfy the related performance obligations. These estimates could change over the term of a contract.

Contract Balances

The timing of revenue recognition, billings and cash collections results in the recognition of billed accounts receivable and contract assets (including unbilled receivables) and customer deposits and deferred revenue (contract liabilities) on our consolidated balance sheets. Timing of revenue recognition may differ from the timing of invoicing to customers. We record accounts receivable when we have an unconditional right to recognize revenue at the time of invoicing, and unbilled receivables when revenue is recognized prior to invoicing. For most of our contracts, customers are invoiced when products are shipped or when services are performed resulting in billed accounts receivables for the remainder of the owed contract price. Unbilled receivables generally result from circumstances in which items have been shipped, revenue has been recognized, but the customer has not been charged. We also recognize a contract asset upon the recognition of revenue related to certain performance milestones that are deemed probable of achievement, but for which billing has not occurred and receipt of payment is conditioned upon factors other than the passage of time. Some contracts require the customer to remit a large payment at or near contract inception as a deposit prior to production, which is recorded as a customer deposit liability, however, revenue is not recorded until the performance obligation is satisfied. We also typically bill in advance for installation, training and maintenance contracts, as well as for extended warranties, resulting in deferred revenue.

The decrease in the contract assets balance as of December 31, 2024 (see table below) primarily relates to the decrease in the estimated variable consideration included in the transaction price related to one of the Company's collaboration and licensing agreements which has resulted in the reversal of incremental revenue for the year ending December 31, 2024 (refer to the discussion above of Collaboration and Licensing Agreements for further details) Changes in contract asset and liability balances were not materially impacted by any other factors for the years ended December 31, 2024 and 2023, respectively.

Accounts receivable, contract asset and contract liability balances as of December 31, 2024 and 2023 were as follows:

	 Decem	iber 31,	
(in thousands)	 2024		2023
Accounts receivable, net of reserves	\$ 101,471	\$	101,497
Contract assets ⁽¹⁾	333		12,147
Contract liabilities ⁽²⁾	34,269		40,075

⁽¹⁾ Includes \$5.4 million reported in other assets as of December 31, 2023, respectively, that is related to a long-term contract and is billable upon attainment of milestones.

During the year ended December 31, 2024, we recognized revenue of \$32.0 million related to our contract liabilities at December 31, 2023. During the year ended December 31, 2023, we recognized revenue of \$26.0 million related to our contract liabilities at December 31, 2022.

Practical Expedients and Exemptions

We generally expense sales commissions when incurred because the amortization period would be one year or less. These costs are recorded within selling, general and administrative expenses. Additionally, the Company has excluded performance obligations with an original expected duration of one year or less from our disclosure of remaining performance obligations.

Revenue Concentrations

For the years ended December 31, 2024, 2023, and 2022, one customer accounted for approximately 16%, 15%, and 23% of our consolidated revenue, respectively, which revenue relates to our Healthcare Solutions segment. We expect to maintain our relationship with this customer.

Revenue by geographic region for the years ended December 31, 2024, 2023, and 2022, which is determined based upon the geographic region in which a sale originates, was as follows:

	<u> </u>	Y	ear En	ded December 3	31,	
(in thousands)	<u> </u>	2024		2023	0.0	2022
Americas	\$	253,468	\$	282,742	\$	308,516
EMEA		149,734		164,673		167,114
APAC		36,919		40,654	311	62,401
Total	\$	440,121	\$	488,069	\$	538,031
United States (included in Americas above)	\$	248,346	\$	278,268	\$	304,503
Germany (included in EMEA above)	\$	69,101	\$	76,995	\$	80,108

(6) Inventories

Components of inventories at December 31, 2024 and 2023 are summarized as follows:

(in thousands)	 2024		
Raw materials	\$ 43,138	\$	59,658
Work in process	3,481		4,708
Finished goods and parts	71,911		87,822
Total inventories	\$ 118,530	\$	152,188

The inventory reserve was \$21.9 million and \$16.2 million as of December 31, 2024 and 2023, respectively.

⁽²⁾ Includes both current and long-term portions of deferred revenue. The long-term portion of deferred revenue is reported in other liabilities on the consolidated balance sheets.

During the year ended December 31, 2023, we notified one of our contract manufacturers of our intent to terminate the existing manufacturing services arrangement and in-source the assembly and production process. The final exit agreement included a \$0.5 million exit fee that was expensed during the year ended December 31, 2023. There was an associated commitment to purchase \$1.7 million of inventory from the assembly manufacturer as of December 31, 2023. Such inventory was purchased during the year ended December 31, 2024.

During the year ended December 31, 2022, we notified one of our contract manufacturers of our intent to terminate our existing manufacturing services arrangement and in-source the assembly and production process. The final exit agreement included a \$1.7 million exit fee that was expensed during the year ended December 31, 2022. Exiting this agreement resulted in the purchase of \$23.9 million of inventory and \$0.4 million of fixed assets from the assembly manufacturer.

(7) Property and Equipment

Property and equipment at December 31, 2024 and 2023 are summarized as follows:

(in thousands)		2024	2023	Useful Life (in years)
Building	\$	17	\$ 94	25-30
Machinery and equipment		134,111	146,978	2-5
Capitalized software		25,888	27,793	3-5
Office furniture and equipment		5,454	6,342	1-5
Leasehold improvements		37,777	37,242	Life of lease a
Construction in progress		4,831	14,630	N/A
Total property and equipment ^b		208,078	 233,079	
Less: Accumulated depreciation and amortization ^b	<u> </u>	(157,034)	(168,618)	
Total property and equipment, net	\$	51,044	\$ 64,461	

a. Leasehold improvements are amortized on a straight-line basis over the shorter of (i) their estimated useful life or (ii) the estimated or contractual life of the related lease.

We include all depreciation related to assets attributable to the generation of revenue in cost of sales on the consolidated statements of operations. Depreciation related to assets that are not attributable to the generation of revenue is included in research and development and selling, general and administrative expenses on the consolidated statements of operations. Depreciation expense on property and equipment for the years ended December 31, 2024, 2023 and 2022 was \$19.0 million, \$21.3 million and \$21.1 million, respectively.

As discussed in Note 2, the Company recognized a \$5.9 million impairment charge related to property and equipment, net within asset impairment charges on our consolidated statement of operations for the year ended December 31, 2024. For the year ended December 31, 2023, we recognized impairment charges of \$1.4 million related to property and equipment, net in selling, general and administrative expense on the consolidated statement of operations. For the year ended December 31, 2022, impairment charges related to property and equipment, net were not material.

b. The impairment charges subsequently discussed resulted in the establishment of a new cost basis for certain assets reflected in the table. Gross asset carrying values and accumulated depreciation and amortization have been adjusted to reflect the new cost basis of assets for which the carrying value was reduced due to impairment.

(8) Intangible Assets

Intangible Assets with Finite Lives

At December 31, 2024 and 2023, the Company's intangible assets with finite lives were as follows:

			2024			2023		
(in thousands)	Gross ⁽¹⁾	1000	ccumulated mortization	Net	Gross	Accumulate d Amortizatio n	Net	Weighted Average Useful Life Remaining (in years)
Intangible assets with finite lives:								
Customer relationships	\$ 47,051	\$	(47,023)	\$ 28	\$ 54,565	\$ (52,796)	\$ 1,769	n/m
Acquired technology	13,768		(6,149)	7,619	47,515	(13,268)	34,247	7.8
Trade names	11,973		(9,998)	1,975	26,938	(14,059)	12,879	6.8
Patent costs	14,915		(6,950)	7,965	19,579	(11,350)	8,229	11.1
Acquired patents	14,596		(14,485)	111	16,503	(14,822)	1,681	n/m
Other	7,666		(7,344)	322	13,711	(9,792)	3,919	n/m
Total intangible assets with finite lives	\$109,969	\$	(91,949)	\$ 18,020	\$ 178,811	\$(116,087)	\$ 62,724	8.7

⁽¹⁾ The impairment charges subsequently discussed resulted in the establishment of a new cost basis for certain intangible assets reflected in the table. Gross asset carrying values and accumulated amortization have been adjusted to reflect the new cost basis of intangible assets for which the carrying value was reduced due to impairment.

n/m - Disclosure deemed not meaningful as the remaining net carrying value of this intangible asset class is immaterial.

Impairment of Intangible Assets During the Year Ended December 31, 2024

As previously discussed in Note 2, during the three months ended September 30, 2024, the Company concluded that the carrying value of the primary asset group underlying the Company's core operations was impaired, resulting in the allocation of \$31.2 million of the \$42.3 million impairment charge to intangible assets. During the three months ended December 31, 2024, the Company concluded that the carrying value of the software asset group was not recoverable, resulting in an additional \$1.2 million impairment charge to intangible assets. The impairment charges allocated to intangible assets reduced the carrying values of customer relationships, acquired technology, and trade names by \$0.9 million, \$23.2 million, and \$8.3 million, respectively. All intangible asset impairment charges have been recorded within asset impairment charges on our consolidated statements of operations.

Impairment of Intangible Assets During the Year Ended December 31, 2023

Indefinite-Life Intangible Assets (Excluding Goodwill)

As of December 31, 2022, the Company's intangible assets reported on the consolidated balance sheet included an indefinite-life intangible asset balance of \$5.4 million related to IPR&D recorded in connection with the October 4, 2022 acquisition of dp polar. During the three months ended December 31, 2023, in connection with both the inability to reach economically favorable contract terms with dp polar's first potential customer and the Company's broader efforts to reduce operating costs (including the restructuring initiatives described in Note 24), the Company decided to cease the development of this IPR&D for the foreseeable future. As the IPR&D was not capable of generating revenue or positive cash flows without further development, the Company recorded a charge of \$5.6 million within asset impairment charges on our consolidated statement of operations for the year ended December 31, 2023 to write off the carrying value of this foreign currency denominated asset as of the date of impairment.

Impairment of Intangible Assets with Finite Lives

dp polar

The Company's decision to cease the development of the dp polar IPR&D (as discussed above) represented a triggering event that required an assessment of whether the carrying value of the broader dp polar asset group was recoverable. dp polar represented an asset group because its identifiable cash flows were largely independent of the cash flows of other groups of assets and liabilities within the Company.

As dp polar was not capable of generating revenue or positive cash flows without the continued development of its IPR&D, the Company concluded that dp polar's long-lived assets, including the remaining carrying value of the trade name intangible asset recorded when dp polar was acquired, were fully impaired. Accordingly, the Company recorded a charge of \$3.8 million within asset impairment charges on our consolidated statement of operations for the year ended December 31, 2023 to write off dp polar's trade name.

Ogton MOS

During the three months ended September 30, 2023, the Company concluded that it was more likely than not that it would sell or otherwise dispose of a portion of its software business unit, Oqton MOS, that it had previously acquired. This software business unit represented a discrete asset group for accounting purposes, as its identifiable cash flows were deemed to be largely independent of the cash flows of other groups of assets and liabilities within the Company and its software business unit. Based upon the expectation to either sell or otherwise dispose of this asset group, the Company revised the related long-term cash flow forecast. The revised long-term cash flow forecast indicated that the carrying amounts of this asset group's long-lived assets, consisting primarily of product technology and trade name intangible assets recorded when the asset group was initially acquired, may not be recoverable. Accordingly, the carrying value of this asset group's long-lived assets was tested for impairment based upon an estimate of the associated discounted future cash flows. This fair value measurement approach required the use of Level 3 fair value measurement inputs, as defined in Note 23. As the present value of the estimated future cash flows expected to result from the use and eventual disposition of the asset group was less than the asset group's carrying value, the Company recognized a \$13.6 million impairment charge during the year ended December 31, 2023, which reduced the carrying values of the asset group's acquired technology and trade name intangible assets to \$0.

Amortization of Intangible Assets with Finite Lives

Amortization expense related to our intangible assets with finite lives was \$12.7 million, \$12.1 million and \$15.5 million for the years ended December 31, 2024, 2023 and 2022, respectively. Amortization expense is estimated to be \$1.8 million in 2025, \$1.7 million in 2026, \$1.7 million in 2027, \$1.6 million in 2028, and \$1.5 million in 2029.

(9) Goodwill

The following table reflects the changes in the carrying amount of goodwill by reporting unit for the years ended December 31, 2024 and 2023:

		Healthcare			Industrial		Consolidated			
(in thousands)	Gross Goodwill	Cumulative Impairments	Net Goodwill	Gross Goodwill	Cumulative Impairments	Net Goodwill	Gross Goodwill	Cumulative Impairments	Net Goodwill	
Balance at December 31, 2022	\$143,431	\$ (32,055)	\$111,376	\$316,265	\$ (42,329)	\$273,936	\$459,696	\$ (74,384)	\$ 385,312	
Acquisitions	1,005	_	1,005	7,386	_	7,386	8,391	_	8,391	
Impairments		=	, ;	()	(279,808)	(279,808)	i	(279,808)	(279,808)	
Foreign currency translation adjustments	3,701	_	3,701	(1,514)	_	(1,514)	2,187	_	2,187	
Balance at December 31, 2023	\$148,137	\$ (32,055)	\$116,082	\$322,137	\$ (322,137)	<u> </u>	\$470,274	\$ (354,192)	\$ 116,082	
Impairments	_	(101,445)	(101,445)	-	-	-	_	(101,445)	(101,445)	
Foreign currency translation adjustments	242	-	242	-	-	-	242	=	242	
Balance at December 31, 2024	\$148,379	\$ (133,500)	\$ 14,879	\$322,137	\$ (322,137)	s —	\$470,516	\$ (455,637)	\$ 14,879	

The effect of foreign currency exchange in the table above reflects the impact on goodwill of amounts recorded in currencies other than the U.S. dollar on the financial statements of foreign subsidiaries and the resulting effect of foreign currency translation between the applicable functional currency and the U.S. dollar.

Impairment of Goodwill During the Year Ended December 31, 2024

All goodwill reported as of December 31, 2024 and December 31, 2023 is included in our Healthcare Solutions reportable segment, which is also the reporting unit to which all goodwill is assigned for purposes of goodwill impairment testing. We performed a qualitative impairment assessment related to the goodwill assigned to this reporting unit as of November 1, 2024, our annual goodwill impairment testing date, and this assessment did not result in a goodwill impairment charge. However, as previously discussed in Note 2, we previously performed an interim period quantitative goodwill impairment test as of September 30, 2024 and, upon completion of this interim period test, the Company concluded that the carrying value of the Healthcare Solutions reporting unit exceeded its fair value by \$101.4 million, after adjustment for long-lived asset impairment charges described in Note 7, Note 8 and Note 11. The results of our interim period impairment test primarily reflected lower forecasted cash flows prepared for the reporting unit in connection with the Company's most recently commenced annual long-range planning process, as compared to the cash flow forecasts prepared for purposes of the prior annual goodwill impairment test performed as of November 1, 2023. Consistent with the results of our interim period goodwill impairment test, our results for the year ended December 31, 2024 include a \$101.4 million goodwill impairment charge that is reported within asset impairment charges on our consolidated statements of operations.

Impairment of Goodwill During the Year Ended December 31, 2023

For the year ended December 31, 2023, we completed the required annual goodwill impairment test for each of our reporting units (Healthcare Solutions and Industrial Solutions) as of November 1, 2023, as further discussed in Note 2. The goodwill impairment tests that we performed compared the fair value of each of our reporting units to its carrying value. We estimated the fair value of each reporting unit based upon projections of future revenues, expenses, and cash flows discounted to their present value.

As a result of this goodwill impairment test, we determined that the carrying value of our Industrial Solutions reporting unit exceeded its fair value by an amount that was in excess of the goodwill assigned to the Industrial Solutions reporting unit. This result of our impairment test is primarily attributable to (1) the significant and sustained decline in the trading price of our common stock and our market capitalization leading up to and as of November 1, 2023 and (2) the significantly higher carrying value (including the goodwill balance) of the Industrial Solutions reporting unit, as compared to the Healthcare Solutions reporting unit. We recognized a goodwill impairment charge of \$279.8 million to write off the entire goodwill balance assigned to the Industrial Solutions reporting unit for the year ended December 31, 2023. This goodwill charge is reported within asset impairment charges on our consolidated statement of operations. The estimated fair value of our Healthcare Solutions reporting unit was in excess of its carrying value as of November 1, 2023.

(10) Investments and Note Receivable

The Company holds various investments in equity and debt instruments. The equity instruments and debt instruments are included in other assets on our consolidated balance sheets, except for the \$2.0 million note receivable balance as of December 31, 2024 that is included in prepaid expenses and other current assets. The following table summarizes our investment balances as of December 31, 2024 and December 31, 2023:

(in thousands)	December 31, 2024		Decen	nber 31, 2023
Equity investments under the equity method of accounting	\$	5,051	\$	5,247
Equity investments without readily determinable fair values		20,696		20,847
Other ⁽¹⁾		=		200
Total equity investments	\$	25,747	\$	26,294
Note receivable ⁽²⁾⁽³⁾	\$	1,960	\$	535
Total notes receivable	\$	1,960	\$	535

⁽¹⁾ Reflects Enhatch warrant investment (described below), which was carried at fair value prior to modification. The fair value of the warrant was measured using Level 3 fair value measurement inputs. Refer to Note 23 for a description of these inputs.

National Additive Manufacturing Innovation ("NAMI") Joint Venture

In February 2023, we became a shareholder in a joint venture formed with the Saudi Arabian Industrial Investments Company ("Dussur") for purposes of expanding the use of additive manufacturing within the Kingdom of Saudi Arabia and surrounding geographies, including the Middle East and North Africa. During April 2023, we deposited our initial investment commitment of approximately \$6.5 million into a bank account of the joint venture for use in its operations. In May 2024, we made an incremental investment of \$2.5 million. Additional future investments in the joint venture are contingent upon agreement by the parties to the joint venture to invest additional capital. As of both December 31, 2024 and December 31, 2023, the Company owned 49% of the joint venture's common stock.

The Company accounts for its investment in the joint venture under the equity method of accounting, requiring the Company to recognize its proportionate share of the joint venture's reported net income or loss, which the Company recognizes on a one quarter lag. For the years ended December 31, 2024 and December 31, 2023, the Company has reported a loss on equity method investment in its consolidated statements of operations. The carrying values of the Company's equity method investment at December 31, 2024 and 2023 are \$4.3 million and \$5.2 million, respectively.

The Company's reported revenue and cost of sales for the year ended December 31, 2024 includes related party revenue and associated related party cost of sales of \$3.8 million and \$2.6 million, respectively, attributable to sales to NAMI. The Company's reported revenue and cost of sales for the year ended December 31, 2023 includes related party revenue and associated related party cost of sales of \$1.7 million and \$1.0 million, respectively, attributable to sales to NAMI. As of December 31, 2024 and December 31, 2023, the outstanding related party receivable balances attributable to our sales to NAMI were \$0.1 million and \$1.1 million, respectively. During December 2024, the Company entered into a short-term, non-interest bearing loan agreement with NAMI whereby NAMI borrowed \$2.0 million to finance its working capital and capital expenditures requirements. The loan matures on June 30, 2025 and is being accounted for at cost, which approximates fair value as of December 31, 2024. During December 2024, NAMI used the loan proceeds to remit payment to the Company for trade receivables outstanding.

⁽²⁾ The December 31, 2024 balance relates to the related party loan to NAMI (described below). See discussion below for further details regarding this related party transaction.

⁽³⁾ The December 31, 2023 balance includes interest amounts that had been accrued on, recorded to and reported as part of the long-term notes receivable balances.

Theradaptive, Inc.

In June 2023, we made an \$8.0 million investment in Theradaptive, Inc. ("Theradaptive"), via the purchase of Series A Preferred Stock. Theradaptive is an unconsolidated VIE as disclosed in Note 2. Theradaptive is currently developing a protein that encourages bone growth. This biotechnology could be applied to 3D printed metal splints for patients who otherwise may require amputation of a limb because the lost bone is too vast to replace with a splint. The Company has accounted for its investment in Theradaptive on a cost basis, subject to assessment for impairment, as (1) the fair value of Theradaptive's equity is not readily determinable and (2) the investment is not subject to the equity method of accounting due to the Company's lack of significant influence. The investment in Theradaptive is not expected to materially impact our future financial position, results of operations, or cash flows. No impairment charges were recognized with respect to this investment during the years ended December 31, 2024 or 2023.

Enhatch Inc.

In March 2022, the Company made a \$10.0 million investment in Enhatch Inc. ("Enhatch"), the developer of the Intelligent Surgery Ecosystem, and received convertible preferred shares, a warrant to purchase additional shares of Enhatch, and the right to purchase in the future the remaining shares of Enhatch that 3D Systems does not own if certain revenue targets are achieved (the "call option"). The Company's investment in Enhatch's convertible preferred shares and the call option, which have been accounted for together as a single unit of account and represent an equity investment without a readily determinable fair value, was recorded at \$9.7 million as of the original investment date, with the remaining value assigned to the Enhatch warrant.

As of December 31, 2024 and 2023, the reported carrying value of the Company's convertible preferred stock investment in Enhatch (i.e., inclusive of the call option) is \$6.9 million, which is recorded in other assets on our consolidated balance sheets. This adjusted carrying value, which continues to be included within the amounts reported for equity investments without readily determinable fair values as of December 31, 2024 and 2023, reflects the impact of a \$2.8 million impairment charge that was recorded during the year ended December 31, 2022.

In December 2024, the Company entered into an amended and restated warrant agreement with Enhatch that restated the terms of the warrant in their entirety by increasing the number of Enhatch common shares that may be purchased, decreasing the exercise price, modifying the exercise conditions, eliminating the net settlement feature, and changing the expiration date to June 1, 2025. In December 2024 and January 2025, the Company exercised the first tranche of the warrant for \$0.6 million in cash and the second tranche of the warrant for \$0.6 million in cash, respectively. The Company initially measured and recognized the Enhatch common shares purchased upon exercise of the warrant at their estimated acquisition date fair values. Effective upon the exercise of the first tranche of the amended and restated warrant agreement in December 2024, due to the Company's ability to exert significant influence over the financial and operating policies of Enhatch, the Company began accounting for its investments in Enhatch common shares under the equity method of accounting. Under the equity method of accounting, the Company is required to recognize its proportionate share of Enhatch's reported net income or loss, which the Company recognizes on a one quarter lag. The carrying value of this investment is \$0.8 million as of December 31, 2024 and increased to \$1.1 million as a result of the exercise in January 2025. The estimated fair values of the original warrant prior to modification and the amended warrant were immaterial as of each balance sheet date, as well as on the date of modification, and the exercises of the first tranche and the second tranche of the amended warrant had an immaterial impact on the Company's consolidated statements of operations in each of December 2024 and January 2025. If the underlying exercise conditions are achieved, the Company may be required to pay up to an additional \$0.9 million of cash to purchase Enhatch common shares prior to the warrant expiration on June 1, 2025. As of December 31, 2024, the Company owns approximately 60% of Enhatch's outstanding common stock and approximately 37% of Enhatch's outstanding voting stock.

During the years ended December 31, 2024 and December 31, 2023, the Company made purchases from Enhatch of \$0.7 million and \$0.2 million, respectively. As of December 31, 2024 and 2023, the outstanding related party payable balances attributable to our purchases from Enhatch were not material.

(11) Leases

We have various lease agreements for our facilities, equipment and vehicles with remaining lease terms ranging from one to thirteen years.

As previously discussed in Note 2, during the year ended December 31, 2024, the Company concluded that the carrying value of the primary asset group underlying the Company's core operations was impaired, resulting in the allocation of \$5.2 million of the \$42.3 million asset group impairment charge to ROU assets. This impairment charge reduced the carrying values of our operating lease ROU assets and finance lease ROU assets by \$2.7 million and \$2.5 million, respectively. This impairment charge has been recorded within asset impairment charges on our consolidated statements of operations.

As of December 31, 2024 and 2023, short-term finance lease obligations of \$1.5 million and \$1.8 million are included in accrued and other liabilities on our consolidated balance sheets, and long-term finance lease obligations of \$10.5 million and \$11.5 million are included in other long-term liabilities on our consolidated balance sheets.

Incremental Lease Commitments

During the year ended December 31, 2024, we entered into a lease for a new building in Frankfurt, Germany, which will contain approximately 57,000 rentable square feet, and will be constructed and funded by the lessor up to a certain amount. The lease term is for 5 years upon commencement, which will be when construction is substantially complete. Estimated base rent lease payments related to this new lease total \$3.4 million at December 31, 2024.

Components of lease cost (income) for the years ended December 31, 2024, 2023, and 2022 were as follows:

(in thousands)	-	2024	2023	1	2022
Operating lease cost	\$	14,331	\$ 13,667	\$	9,135
Finance lease cost - amortization expense		1,706	991		621
Finance lease cost - interest expense		1,017	478		196
Short-term lease cost		347	494		705
Variable lease cost		4,142	3,953		764
Sublease income	-	(132)	(186)		(158)
Total	\$	21,411	\$ 19,397	\$	11,263

As of December 31, 2024, our future minimum lease payments under operating leases and finance leases with initial or remaining lease terms in excess of one year were as follows:

(in thousands)	Fina	Finance Leases		rating Leases
Years ending December 31:	-			
2025	\$	2,406	\$	13,506
2026		2,323		13,481
2027		2,309		11,102
2028		2,285		10,024
2029		1,954		8,535
Thereafter		4,876		24,840
Total lease payments (undiscounted)	=:	16,153		81,488
Less: imputed interest	/c	(4,128)		(19,447)
Present value of lease liabilities	\$	12,025	\$	62,041

Supplemental cash flow information related to our leases for the years ended December 31, 2024, 2023 and 2022 was as follows:

(in thousands)	2024	2023		2022
Cash paid for amounts included in the measurement of lease liabilities:			×.	
Operating cash outflow for operating leases	\$ 13,986	\$ 13,177	\$	10,268
Operating cash outflow for finance leases	\$ 1,017	\$ 478	\$	196
Financing cash outflow for finance leases	\$ 1.385	\$ 644	\$	652

The weighted-average remaining lease term and discount rate for our finance and operating leases as of December 31, 2024 and 2023 were as follows:

	20	024	2	023
	Finance	Operating	Finance	Operating
Weighted-average remaining lease term (in years)	7.0	7.3	8.0	7.7
Weighted-average discount rate	8.44%	7.17%	8.96%	7.23%

(12) Accrued and Other Liabilities

Accrued and other liabilities at December 31, 2024 and 2023 are summarized as follows:

\$			2023	
Ψ	12,646	\$	13,196	
	8,034		10,373	
	4,739		3,487	
	2,650		2,106	
	1,482		1,770	
	15,937	-	18,528	
\$	45,488	\$	49,460	
	\$	4,739 2,650 1,482 15,937	4,739 2,650 1,482 15,937	

Changes in our accrued product warranty liability balance for the years ended December 31, 2024, 2023 and 2022 are summarized below:

(in thousands)	Decen	December 31, 2024		December 31, 2023		nber 31, 2022
Balance at beginning of period	\$	2,106	\$	3,677	\$	3,585
Settlements made		(3,264)		(4,397)		(5,961)
Accruals for warranties issued		3,808		2,826		6,053
Balance at the end of period	\$	2,650	\$	2,106	\$	3,677

Other liabilities at December 31, 2024 and 2023 are summarized as follows:

2023	
11,458	
5,852	
5,577	
4,790	
2,028	
832	
2,863	
33,400	

(13) Borrowings

Convertible Notes

The Company previously issued 0% Convertible Senior Notes due November 15, 2026 (the "Notes"), pursuant to an Indenture dated November 16, 2021 (the "Indenture") between the Company and The Bank of New York Mellon, N.A., as trustee (the "Trustee"). The related principal, unamortized deferred issuance costs and carrying values as of December 31, 2024 and 2023 were as follows:

(in thousands)	Dece	mber 31, 2024	December 31, 2023		
Principal ⁽¹⁾	\$	214,378	\$	324,870	
Unamortized deferred issuance costs		(2,383)		(5,514)	
Carrying value	\$	211,995	\$	319,356	

⁽¹⁾ The Notes have an initial conversion rate of 27.8364 shares of Common Stock per \$1 principal amount of Notes (which is subject to adjustment in certain circumstances). This is equivalent to an initial conversion price of approximately \$35.92 per share. The conversion rate is subject to customary adjustments under certain circumstances in accordance with the terms of the Indenture.

The Notes are the Company's senior unsecured obligations and rank senior in right of payment to any of the Company's existing and future indebtedness that is expressly subordinated in right of payment to the Notes; rank equal in right of payment to any of the Company's future unsecured indebtedness that is not so subordinated; are effectively subordinated in right of payment to any of the Company's existing and future secured indebtedness to the extent of the value of the collateral securing such indebtedness; and are structurally subordinated to all existing and future indebtedness and other liabilities (including trade payables) of current or future subsidiaries of the Company. The annual effective interest rate of the Notes is 0.594% when including purchasers' discounts and commissions and offering expenses incurred by the Company. The Notes do not bear regular interest, and the principal amount of the Notes will not accrete. The Notes will mature on November 15, 2026, unless earlier redeemed, repurchased or converted in accordance with their terms.

The Notes are convertible at the option of the holders at any time prior to the close of business on the business day immediately preceding August 15, 2026, only under the following circumstances: (1) during any future calendar quarter (and only during such quarter), if the last reported sale price of the Company's common stock, par value \$0.001 per share (the "Common Stock"), is equal to or greater than 130% of the conversion price for each of at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter on each applicable trading day; (2) during the five business day period after any five consecutive trading day period (the "measurement period") in which the trading price (as defined in the Indenture) per \$1 principal amount of Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price per share of the Common Stock and the conversion rate on each such trading day; (3) if the Company calls such Notes for redemption at any time prior to the close of business on the second scheduled trading day immediately preceding the redemption date; and (4) upon the occurrence of specified corporate events, including a Fundamental Change (as defined in the Indenture), or distributions of the Common Stock. On or after August 15, 2026, until the close of business on the second scheduled trading day immediately preceding the maturity date, holders may convert all or any portion of their Notes at any time, at the option of the holder, regardless of the foregoing circumstances. Upon conversion, the Company will pay cash up to the aggregate principal amount of the Notes to be converted and pay or deliver, as the case may be, cash, shares of Common Stock, or a combination of cash and shares of Common Stock, at the Company's election, in respect of the remainder, if any, of the Company's conversion obligation in excess of the aggregate principal amount of the Notes being converted. Holders of the Notes have the right to require the Company to repurchase for cash all or a portion of their Notes at 100% of their principal amount, plus any accrued and unpaid special interest, upon the occurrence of a Fundamental Change. The Company is also required to increase the conversion rate for holders who convert their Notes in connection with a Fundamental Change or convert their Notes that are called for redemption, as the case may be, prior to the maturity date. As of December 31, 2024, none of the circumstances that would permit the holders of the Notes to exercise their conversion option had occurred.

The Notes are redeemable, in whole or in part, for cash at the Company's option at any time, and from time to time, since November 20, 2024 and before the 41st scheduled trading day immediately preceding the maturity date, but only if the last reported sale price per share of the Common Stock has been at least 130% of the conversion price then in effect for a specified period of time.

The Company incurred \$1.4 million, \$2.6 million, and \$2.7 million of interest expense attributable to debt issuance cost accretion for the years ended December 31, 2024, 2023, and 2022, respectively. In addition, in connection with the repurchases of a portion of the Notes in March 2024 and December 2023 (as further discussed below), the Company wrote off \$1.8 million and \$2.3 million of the debt issuance costs during the years ended December 31, 2024 and 2023, respectively. Debt issuance cost accretion of \$1.3 million and \$1.1 million is expected to be incurred in 2025 and 2026, respectively.

Convertible Notes Compliance

The Indenture contains covenants, events of default and other provisions that are customary for offerings of convertible notes. During the three months ended June 30, 2024, the Company became non-compliant with certain terms of the Indenture. The Company's failure to file its 2023 Form 10-K and provide it to the Trustee by April 1, 2024 represented a default under the terms of the Indenture. In addition, the Company's failure to file its Form 10-Q for the three months ended March 31, 2024 and provide it to the Trustee by May 30, 2024 represented an incremental default under the terms of the Indenture. These defaults did not become an event of default under the terms of the Indenture given that the Company filed its 2023 Form 10-K on August 13, 2024, curing the first default referenced above, and filed its Form 10-Q for the three months ended March 31, 2024 on August 20, 2024, curing the incremental default referenced above. Both defaults were cured prior to the end of the cure period provided for by the Indenture, which cure period was not initiated by the Trustee or holders of the Notes. The Company did not incur any special interest as a result of the defaults, nor did the Notes become subject to any other actions by the Trustee or the holders. As of December 31, 2024, the Company was in compliance with all of the covenants included in the Indenture.

Debt Extinguishment

In March 2024, the Company repurchased \$110.5 million of the Notes for \$87.2 million, including transaction expenses. The repurchased Notes were retired upon receipt, and the retirement of the debt obligations was accounted for as an extinguishment of debt. The repurchase of the Notes at a discount resulted in the recognition of a gain of \$21.5 million, after transaction expenses and the write-off of related debt issuance costs, which is reported in other income (loss), net on the Company's consolidated statement of operations for the year ended December 31, 2024.

In December 2023, the Company repurchased \$135.1 million of the Notes for \$100.6 million including transaction expenses. The repurchased notes were retired upon receipt, and the retirement of the debt obligations was accounted for as an extinguishment of debt. The repurchase of the notes at a discount resulted in the recognition of a gain of \$32.2 million, after transaction expenses and the write-off of related debt issuance costs, which is reported in other income (loss), net on the Company's consolidated statement of operations for the year ended December 31, 2023.

At December 31, 2024 and 2023, the estimated fair value of the Notes was \$189.4 million and \$247.3 million, respectively. This is based on the quoted market price of the Notes where the volume of activity is limited and not active and, thus, this is deemed a Level 2 fair value measurement.

(14) Employee Benefits

We sponsor a Section 401(k) plan (the "Plan") covering substantially all of our eligible U.S. employees. The Plan entitles eligible employees to make contributions to the Plan after meeting certain eligibility requirements. Contributions are limited to the maximum contribution allowances permitted under the Internal Revenue Code. We match 50% of contributions on the first 6% of the participant's eligible compensation.

For the years ended December 31, 2024, 2023 and 2022, we expensed \$2.5 million, \$2.6 million and \$2.3 million, respectively, for matching contributions related to the Plan.

International Retirement Plan

We sponsor a non-contributory defined benefit pension plan for certain employees of a non-U.S. subsidiary. We maintain insurance contracts outside of the plan that provide an annuity that is used to fund the current obligations under this plan. The following table provides a reconciliation of the changes in the projected benefit obligation for the years ended December 31, 2024 and 2023:

(in thousands)		2024	2023
Reconciliation of benefit obligation:			
Obligation as of January 1	\$	6,027	\$ 5,215
Service cost		59	59
Interest cost		210	220
Actuarial loss		145	541
Benefit payments		(187)	(173)
Effect of foreign currency exchange rate changes	<u>-</u>	(358)	165
Benefit obligation as of December 31		5,896	6,027
Fair value of assets as of December 31	<u> </u>	2,220	3,691
Funded status as of December 31	\$	(3,676)	\$ (2,336)

We recognized the following amounts in the consolidated balance sheets at December 31, 2024 and 2023:

(in thousands)	20	24	 2023
Other assets	\$	2,220	\$ 3,691
Accrued and other liabilities		(180)	(175)
Other liabilities		(5,716)	(5,852)
Net liability	\$	(3,676)	\$ (2,336)

Following are the projected benefit obligation and accumulated benefit obligation at December 31, 2024 and 2023:

(in thousands)	2024	2023	
Projected benefit obligation	\$ 5	896 \$ 6,	,027
Accumulated benefit obligation	\$ 5	672 \$ 5,	,776

The following table shows the components of net periodic benefit costs and the amounts recognized in accumulated other comprehensive income (loss) for the years ended December 31, 2024, 2023 and 2022:

(in thousands)		2024		2023	2022
Net periodic benefit cost:	S.				
Service cost	\$	59	\$	59	\$ 103
Interest cost		210		220	99
Amortization of actuarial (gain) loss			200	(46)	45
Total net periodic pension cost		269		233	247
Other changes in benefit obligations recognized in other comprehensive income (loss):					
Net loss (gain)		145		541	(3,387)
Amortization of prior years' unrecognized gain (loss)		_	9	46	(45)
Total recognized as other comprehensive income (loss), excluding tax		145		587	(3,432)
Total expense (gain) recognized in net periodic benefit cost and other comprehensive (loss) income	\$	414	\$	820	\$ (3,185)

The following assumptions are used to determine the benefit obligations as of December 31, 2024 and 2023:

	2024	2023
Discount rate	3.6%	3.6%
Rate of compensation increase	3.0%	3.0%

The following benefit payments, including expected future service cost, are expected to be paid:

(in thousands)

stimated future benefit payments for the years ending Decembe	r31:
2025	\$ 18
2026	21
2027	23
2028	26
2029	29
2030 through 2034	1,71

(15) Redeemable Non-controlling Interest

For each of the periods presented in our consolidated financial statements, the Company holds a 93.75% controlling interest in a consolidated foreign subsidiary that was acquired on April 1, 2022. The remaining 6.25% non-controlling interest in this foreign subsidiary is subject to redemption at a future date upon either (1) the exercise of a put option by the holder of the underlying shares or a call option by the Company, each of which is subject to the subsidiary achieving certain specified conditions, or (2) the passage of time subsequent to the date on which this subsidiary was acquired.

The put and call rights related to 50% of the common shares underlying this redeemable non-controlling interest ("RNCI") can be exercised upon the achievement of an initial revenue and gross profit target, while the put and call rights related to the remaining 50% of the common shares underlying the RNCI can be exercised upon the achievement of a second revenue and gross profit target. The exercise prices at which the shares underlying the RNCI can be put by their holders or called by the Company are determined based upon whether the consolidated foreign subsidiary achieves either or both of the predetermined revenue and gross profit targets. If either (1) one or both sets of revenue and gross margin targets are not achieved by the consolidated foreign subsidiary within specified time periods or (2) neither the put or call options are exercised within specified time periods despite the achievement of one or both sets of targets, the exercise price for the put and call options will be set at a floor strike price for periods thereafter. Up to 50% of the exercise price can be paid in shares of Common Stock at the election of 3D Systems.

On December 9, 2024, the Company signed a profit and loss transfer agreement with the foreign subsidiary whereby the subsidiary transfers its entire net profit or loss to 3D Systems for the next five years. For the year ended December 31, 2024, the Company consolidated 100% of the foreign subsidiary net loss.

Changes to the Company's RNCI balance during the years ended December 31, 2024 and 2023 are summarized below:

Year Ended December 31					
2024		2023		2022	
\$	2,006	\$	1,760	\$	5-A
					1,559
			(265)		(238)
	(61)		479		596
	13		32		(157)
\$	1,958	\$	2,006	\$	1,760
	\$	\$ 2,006 - (61) 13	\$ 2,006 \$ — (61) 13	2024 2023 \$ 2,006 \$ 1,760 — (265) (61) 479 13 32	2024 2023 \$ 2,006 \$ 1,760 - (265) (61) 479 13 32

(16) Common Stock and Preferred Stock

Common Stock

The Company is authorized to issue 220,000,000 shares of common stock. The holders of the common stock are entitled to one vote for each share held at all meetings of stockholders (and for written actions in lieu of meetings).

Dividends may be declared and paid on common stock from funds lawfully available as and when determined by the Board of Directors and subject to any preferential dividend rights of any then outstanding preferred stock. Through the year ended December 31, 2024, no dividends have been declared.

Preferred Stock

The Company is authorized to issue 5,000,000 shares of preferred stock, all of which remained unissued at December 31, 2024 and 2023.

(17) Stock-Based Compensation

Stock Incentive Plans

2015 Incentive Plan

The Company is authorized to grant shares of restricted stock, restricted stock units ("RSUs"), stock appreciation rights, cash incentive awards and options to purchase shares of common stock to employees and non-employees inclusive of directors pursuant to its 2015 Incentive Plan (the "2015 Plan"). The 2015 Plan also designates that shares may be used for performance-based awards and market-based awards. The vesting period for awards granted under the 2015 Plan is generally determined by the Board of Directors at the date of the grant. Generally, the awards vest one third each year, over 3 years. The total number of shares of common stock reserved and available for distribution under the 2015 Plan and the total number of shares of common stock that can be issued pursuant to stock options is 29,235,000 shares. Stock-based compensation expense is generally included in selling, general and administrative expenses in the consolidated statements of operations.

Systemic Bio Phantom Unit Plan

During the year ended December 31, 2023, we began granting phantom unit awards ("Phantom Units") under a new compensation plan designed for employees and non-employees performing services for Systemic Bio, a wholly-owned subsidiary of 3D Systems Corporation. All awards granted under the plan are subsidiary-level awards. The Phantom Units granted under the plan include both a time-based vesting condition (generally 4 years, subject to acceleration in connection with specified liquidity events) and a market condition that is met if (1) the value of Systemic Bio exceeds a specified multiple of the capital invested in this subsidiary (the "hurdle") and (2) the business achieves a specified minimum internal rate of return. The market conditions will be assessed upon (A) a trigger event (e.g., change in control, IPO or plan expiration of December 31, 2030) and/or (B) an interim liquidity event (defined as January 1, 2028) that occurs prior to a trigger event. All awards under the plan will be liability-classified due to our intention to settle these awards with cash; although, we have discretion to partially or fully settle these awards in equity upon vesting. Liability classification of the awards requires them to be remeasured at their fair value at the end of each reporting period. Due to the presence of the market-condition and the fact that Systemic Bio does not have a readily available share price, the awards are valued using a Monte Carlo simulation with the assistance of a thirdparty valuation firm. This valuation requires significant judgment regarding the input of various assumptions and estimates, which include the projected cash flows of (including projected capital invested in) Systemic Bio, the probability and/or timing of a trigger event or a liquidity event, the expected stock price volatility for selected public companies with comparable characteristics to Systemic Bio, the discount for the lack of marketability of Systemic Bio as a privately-held company, and the risk-free interest rate.

Restricted Stock and Restricted Stock Units

A summary of our restricted stock and RSU activity for the years ended December 31, 2024, 2023 and 2022 is as follows:

(in thousands, except per share amounts)	Number of Shares/ Units	Weighted Average Grant Date Fair Value		
Outstanding as of December 31, 2021 — unvested	3,980	\$	19.72	
Granted	4,422	\$	15.23	
Canceled	(700)	\$	16.90	
Vested	(2,687)	\$	15.92	
Outstanding as of December 31, 2022 — unvested	5,015	\$	18.19	
Granted	4,439	\$	10.26	
Canceled	(1,118)	\$	15.45	
Vested	(2,154)	\$	13.09	
Outstanding as of December 31, 2023 — unvested	6,182	\$	14.77	
Granted	3,392	\$	1.98	
Canceled	(1,845)	\$	14.69	
Vested	(2,544)	\$	13.28	
Outstanding as of December 31, 2024 — unvested	5,185	\$	7.16	

Included in the above outstanding balance as of December 31, 2024 are 1,435,000 shares of restricted stock that vest under specified market conditions, which were awarded to certain employees in 2024, 2023, and 2022.

Systemic Bio Phantom Unit Plan

During the years ended December 31, 2024 and 2023, we granted 147,000 and 597,000 Phantom Units, respectively. As of December 31, 2024 and 2023, 721,000 and 596,000 Phantom Units were outstanding. During the years ended December 31, 2024 and 2023, we recognized \$0.1 and \$0.5 million of compensation expense related to the Phantom Units. As of December 31, 2024 and 2023, the liability recognized in other liabilities on the consolidated balances sheets for the Phantom Units was \$0.6 million and \$0.5 million, respectively. The Phantom Units are excluded from the restricted stock and RSU summary table above.

Stock Options

During the year ended December 31, 2016, we awarded certain employees market condition stock options under the 2015 Plan that vest under specified market conditions. Each employee was generally awarded two equal tranches of market condition stock options that immediately vest when our common stock trades at either \$30 or \$40 per share for ninety consecutive calendar days.

We recognize compensation expense related to stock options on a straight-line basis over the derived term of the awards. The fair value of stock options with market conditions is estimated using a binomial lattice Monte Carlo simulation model. Expense for awards with a market condition is not reversed if the market condition is not met.

Stock option activity for the year ended December 31, 2024 was as follows:

		3	Year Ended De	cember 31, 2024		
(in thousands, except per share amounts)	Number of Shares		Weighted Average Exercise	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value	
Stock option activity:						
Outstanding at beginning of year	420	\$	13.26	2.7	\$	
Granted	=		=	=		<u> </u>
Exercised	9 <u></u> 21			-		
Forfeited and expired	(260)		13.26			2
Outstanding at end of year	160	\$	13.26	1.6	\$	_

During the years ended December 31, 2023 and December 31, 2022, there was no stock option activity. The aggregate intrinsic value of the outstanding stock options was \$0 and \$3.5 million as of December 31, 2022 and 2021, respectively. As of December 31, 2024 and 2023, none of the outstanding stock options were exercisable, and there was no unrecognized stockbased compensation expense related to stock options.

Other Compensation Arrangements that Include Share Settlement

Regenerative Medicine Earnout Payments and Performance-Based Stock Units

Volumetric Acquisition Earnout Payments

On December 1, 2021, the Company acquired Volumetric Biotechnologies, Inc. ("Volumetric"). Pursuant to the terms of the related acquisition agreement, the Company was potentially subject to aggregate earnout payments of up to \$355.0 million (i.e., incremental to the previously paid acquisition purchase price). These earnout payments would be triggered by (1) the achievement of seven discrete non-financial milestones, each of which required attainment prior to either December 31, 2030 or December 31, 2035, and (2) the continued employment of certain Volumetric key employees. Each potential milestone-based payment was deemed to be compensation expense that the Company would recognize ratably from the point in time when a milestone was deemed probable of achievement through the estimated time of achievement. Each milestone payment, if earned, would be expected to be settled approximately half in cash and half in shares of Common Stock and, accordingly, expense recognized for the portion of this earnout that is expected to be settled with shares of Common Stock would be reflected in the disclosure of stock-based compensation included herein, if and when accrued.

In February 2024, the Company informed the former owners of Volumetric, to whom the acquisition-related earnout payments of up to \$355.0 million could have potentially become payable, that four of the seven milestone-related earnout payments, each of which was related to kidney and liver research, were terminated. These four milestone-based earnout payments were terminated in accordance with the terms of the Volumetric acquisition agreement, based upon a determination that achievement was no longer financially viable due to the loss of the funding required from the Company's key strategic partner for the related research and development efforts. Upon termination of the four milestone-based earnout payments, the Company's maximum liability for earnout payments attributable to the acquisition of Volumetric was reduced to \$175.0 million, which would be payable if (1) each of the three remaining non-financial, science-based milestones was achieved within the timeframes set forth in the Volumetric acquisition agreement and (2) the certain key individuals from Volumetric continue to be employed.

On April 29, 2024, two key employees from Volumetric ("Volumetric Key Employees"), who were required to be employed at the time of achievement of each non-financial, science-based milestone outlined in the Volumetric acquisition agreement for each related acquisition earnout payment to become payable, resigned from their positions with the Company. As a result of the resignation of the Volumetric Key Employees, all parties to which the remaining three milestone-based earnout payments totaling \$175.0 million were potentially payable were notified that such amount was no longer eligible to be earned. While the Volumetric Key Employees claim that their terminations were for good reason, which would preserve the rights to milestone-based earnout payments under the Volumetric acquisition agreement, the Company vigorously denies this claim. Refer to Note 22 for further details regarding the resignation of the certain Volumetric Key Employees and all related actions occurring thereafter.

Regenerative Medicine Performance-Based Stock Units

The Company previously granted certain performance-based stock units ("PSUs" or the "RegMed Awards") to other employees with vesting terms that were based upon four individually-measured, science-based (i.e., non-financial) milestones to other employees who work on advancements in regenerative medicine related to lungs and tissue organs. The compensation expense associated with each individual milestone attributable to a RegMed Award was required to be recognized over the period commencing on the date that the respective milestone was deemed probable of being met through the anticipated date of achievement. During the fourth quarter of 2024, the Company cancelled all outstanding RegMed awards, which had an immaterial impact on the Company's consolidated financial statements.

Earnout and PSU Compensation Expense

Prior to the year ended December 31, 2023, the Company recognized compensation expense related to (1) one of the Volumetric milestones for which the potential earnout payment due to the sellers would be \$65.0 million and (2) one RegMed Award milestone for which the aggregate grant date fair value of the outstanding and unvested awards was \$4.5 million as of December 31, 2022, as the related milestone was deemed probable of achievement. During the year ended December 31, 2023, the Company reduced its budgeted funding for the research and development related to the respective Volumetric earnout and RegMed Award milestones, which resulted in the Company concluding that it was no longer probable that these respective milestones would be achieved by the end of the term of the Volumetric earnout arrangement or prior to the expiration of the RegMed Awards. In concluding that the Volumetric and RegMed Award milestone would no longer be achieved, the Company reversed all of the previously recognized compensation expense, one half of which was expected to be settled with Common Stock shares, which reduced selling, general and administrative expense by \$18.4 million, and our reported net loss per basic and diluted share of Common Stock by \$0.14 for the year ended December 31, 2023. No liability related to the Volumetric earnout was recognized on our consolidated balance sheets as of December 31, 2024 or December 31, 2023.

dp polar Earnout

On October 4, 2022 the Company acquired dp polar. The acquisition agreement included an earnout arrangement for \$2.2 million incremental to the acquisition purchase price, which would be settled via the issuance of 250,000 shares of the Company's Common Stock. The issuance and vesting of these shares was contingent upon certain service conditions of a key individual from dp polar through December 31, 2024. Management concluded that this potential obligation for the issuance of 250,000 shares of Common Stock should be accounted for as compensation expense recognized over the individual's service period and, accordingly, the related expense is reflected in the disclosure of stock-based compensation included herein. During April 2024, due to a change in the key individual's employment status, all service conditions of the dp polar earnout were deemed to have been met based on the terms of the initial arrangement. Accordingly, all remaining expense related to these shares was recognized during the year ended December 31, 2024. This arrangement is expected to be settled via the issuance of 250,000 shares of Common Stock subsequent to December 31, 2024.

Stock-Based Compensation Activity and Expense

The following table shows the stock-based compensation expense recognized during the years ended December 31, 2024, 2023, and 2022:

(in thousands)	2024	2023	 2022
Stock-based compensation expense	\$ 18,457	\$ 23,504	\$ 42,415
Tax benefit	\$ -	\$ _	\$ -

The Company has historically paid annual incentive compensation in shares of Common Stock that vest upon grant, however, the Company made a decision to fund its 2024 annual incentive compensation in cash, so there is no annual incentive compensation expense included in the above expense for the year ended December 31, 2024. The Company did not accrue and pay any annual incentive compensation related to the year ended December 31, 2023. Included in the above expense for the year ended December 31, 2022 is \$4.0 million of expense relating to annual incentive compensation.

Also, included in the above expenses for the years ended December 31, 2024, 2023, and 2022 are \$0, \$(8.6) million, and \$8.0 million, respectively, of expense related to the Volumetric earnout arrangement discussed above. Finally, the above expenses for the years ended December 31, 2024, 2023, and 2022 include \$1.0 million, \$1.0 million and \$0.3 million, respectively, of expense related to the dp polar earnout arrangement discussed above.

At December 31, 2024, there was \$19.2 million of unrecognized stock-based compensation expense related to all unvested equity awards, which we expect to recognize over a weighted-average period of 1.9 years.

(18) Income Taxes

The components of our loss before income taxes for the years ended December 31, 2024, 2023 and 2022 are as follows:

		Y	Year Ended December 31,							
(in thousands) Loss before income taxes:		2024		2023		2022				
	,				Te.					
Domestic	\$	(160,709)	\$	(239,971)	\$	(110,610)				
Foreign		(89,287)		(122,341)		(10,199)				
Total	\$	(249,996)	\$	(362,312)	\$	(120,809)				

The components of our income tax provision for the years ended December 31, 2024, 2023 and 2022 are as follows:

(in thousands)	-	2024			2022
Current:					
U.S. federal	\$	24	\$	135	\$ 119
State		301		(50)	(498)
Foreign		2,820		1,686	5,037
Total		3,145		1,771	4,658
Deferred:					
U.S. federal		-			-
State		s s			-
Foreign		(952)		(2,412)	(2,518)
Total		(952)		(2,412)	(2,518)
Total income tax (benefit) provision	\$	2,193	\$	(641)	\$ 2,140

The overall effective tax rate differs from the statutory federal tax rate for the years ended December 31, 2024, 2023 and 2022 as follows:

	<u></u>	f Pretax (Loss) Income	me			
	2024	2023	2022			
Tax provision based on the federal statutory rate	21.0 %	21.0 %	21.0 %			
Increase in valuation allowances	(17.3)	(6.5)	(10.7)			
Change in carryforward attributes	_	7—	(1.9)			
Global intangible low-taxed income inclusion		(0.4)	(0.5)			
Non-deductible expenses	-	-	(1.6)			
Non-deductible earnout expense	R 8	1.0	(2.8)			
Goodwill impairment charge	(8.7)	(14.6)	-			
Foreign income tax rate differential	0.2	0.5	(0.3)			
Deemed income related to foreign operations	(0.6)	(0.3)	(0.2)			
Tax rate change	(0.1)	· —	(1.2)			
Employee share-based payments	(0.3)	(0.5)	(1.6)			
Other	(0.3)	(0.7)	0.4			
Deferred and payable adjustments	1.3	(1.3)	(1.7)			
Non-deductible penalties		(<u></u>)	(2.5)			
State taxes, net of federal benefit, before valuation allowance	1.2	0.7	1.4			
Return-to-provision adjustments	(0.5)	0.2	(0.2)			
Other tax credits	2.0	1.1	0.8			
Uncertain tax positions and audit settlements	1.3	8	(0.2)			
Effective tax rate	(0.8)%	0.2 %	(1.8)%			

The difference between our effective tax rate for 2024 and 2023 and the federal statutory rate was 21.8 and 20.8 percentage points, respectively. The difference in the effective rate is primarily due to the net increase in valuation allowances and non-deductible goodwill impairment charges.

The difference between our effective tax rate for 2022 and the federal statutory rate was 22.8 percentage points. The difference in the effective rate is primarily due to valuation allowance changes and non-deductible expenses, including earnout expense and penalties.

On December 12, 2022, the European Union member states agreed to implement the Organization for Economic Co-operation and Development's ("OECD") Pillar Two global corporate minimum tax rate of 15% on companies with revenues of at least €750 million, which went into effect in 2024. Pillar Two does not impact the Company.

In 2024 we recorded full valuation allowances for 3DSystems GmbH and Kumovis GmbH, which are foreign subsidiaries of the Company. In addition, we released a valuation allowance for Oqton Belgium. In 2023, we recorded full valuation allowances for Wematter and Layerwise, which are foreign subsidiaries of the Company. In 2022, there was no significant change to our valuation allowance assertions. We continue to review results of operations and forecast estimates to determine if it is more likely than not that the deferred tax assets will be realized.

The components of our net deferred income tax assets and net deferred income tax (liabilities) at December 31, 2024 and 2023 are as follows:

(in thousands)	2024		2023		
Deferred income tax assets:		- "			
Intangible assets	\$ 15,6	85 \$	13,830		
Stock options and restricted stock awards	3,0	32	5,409		
Reserves and allowances	6,8	79	6,395		
Net operating loss carryforwards	59,6	41	47,875		
Tax credit carryforwards	31,3	26	25,286		
Accrued liabilities	2,6	81	2,371		
Deferred revenue	2,1	76	2,783		
Lease tax assets	17,4	98	15,985		
Research expenditures capitalization	44,7	73	30,601		
Other	3,2	36	1,227		
Valuation allowance	(168,2	.99)	(125,533)		
Total deferred income tax assets	18,6	28	26,229		
Deferred income tax liabilities:					
Intangible assets	2,0	81	8,688		
Property and equipment	2,3	52	4,082		
Lease tax liabilities	14,1	59	13,924		
Other		49	467		
Total deferred income tax liabilities	18,6	41	27,161		
Net deferred income tax liabilities	\$	(13) \$	(932)		

At December 31, 2024, \$59.6 million of our deferred income tax assets was attributable to \$399.6 million of gross net operating loss carryforwards, which consisted of \$102.9 million of loss carryforwards for U.S. federal income tax purposes, \$176.6 million of loss carryforwards for U.S. state income tax purposes and \$120.2 million of loss carryforwards for foreign income tax purposes.

The net operating loss carryforwards for U.S. federal income tax purposes do not expire. The net operating loss carryforwards for U.S. state income tax purposes begin to expire in 2025. In addition, certain net loss carryforwards for foreign income tax purposes begin to expire in 2025 and certain other loss carryforwards for foreign purposes do not expire.

At December 31, 2024, tax credit carryforwards deferred assets of \$31.3 million consisted of \$19.3 million of research and experimentation credit carryforwards for U.S. federal income tax purposes, \$5.4 million of research and experimentation tax credit carryforwards for U.S. state income tax purposes, and \$6.6 million of foreign tax credits for U.S. federal income tax purposes. Certain state research and experimentation and other state credits began to expire in 2023 and credits will continue to expire in 2024 and on, as the statutes expire for the various jurisdictions. We have recorded a valuation allowance related to the U.S. federal and state tax credits.

Due to the transition tax, our previously unremitted earnings have been subjected to U.S. federal income tax, although, other additional taxes such as, withholding tax, could be applicable. We intend to permanently reinvest our earnings outside the U.S. and as such, have not provided for any additional taxes on approximately \$105.1 million of unremitted earnings. We believe the unrecognized deferred tax liability related to these earnings is approximately \$5.1 million.

Including interest and penalties, the total net decrease of our unrecognized benefits is \$2.2 million for the year ended December 31, 2024. The decrease was primarily related to the reversal of a prior year position related to a China tax position. We do not anticipate any additional unrecognized tax benefits during the next 12 months that would result in a material change to our consolidated financial position. The total amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate is \$2.3 million. We include interest and penalties in the consolidated financial statements as a component of income tax expense.

	Unrecognized Tax Benefits ⁽¹⁾								
(in thousands)	-	2024 2023			2022				
Balance at January 1	\$	(18,604)	\$	(17,150)	\$	(17,261)			
Increases related to prior year tax positions		(1,170)		(99)		(192)			
Decreases related to prior year tax positions		4,337		107		508			
Decreases related to prior year tax positions as a result of lapse of statute				271		145			
Decreases related to settlement				-		7.00			
Increases related to current year tax positions		(976)		(1,733)		(269)			
Increases related to acquired tax positions				_		(119)			
Decreases related to acquired tax positions		-		22		38			
Balance at December 31	\$	(16,413)	\$	(18,604)	\$	(17,150)			

⁽¹⁾ The unrecognized tax benefit balance as of December 31, 2024, 2023, and 2022 includes \$1.3 million, \$0.3 million, and \$0.3 million of interest and penalty, respectively.

Tax years 2020 through 2023 remain subject to examination by the U.S. Internal Revenue Service ("IRS"). State income tax returns are generally subject to examination for a period of three to four years after filing the respective tax returns. The tax years 2019 through 2023 remain open to examination by the various foreign taxing jurisdictions to which the Company is subject.

The following presents the changes in the balance of our deferred income tax asset valuation allowance:

Year Ended	Item	Balance at eginning of year	(r	Additions eductions) harged to expense	Other ⁽¹⁾	Ba	lance at end of year
2024	Deferred income tax asset valuation allowance	\$ 125,533	\$	43,365	\$ (599)	\$	168,299
2023	Deferred income tax asset valuation allowance	\$ 100,694	\$	23,606	\$ 1,233	\$	125,533
2022	Deferred income tax asset valuation allowance	\$ 91,165	\$	12,848	\$ (3,319)	\$	100,694

⁽¹⁾ The Other portion of changes to our valuation allowance consists primarily of the impact of acquisitions and changes in foreign currency translation rates.

(19) Net Loss Per Share

Basic net loss per share is calculated by dividing net loss attributable to 3D Systems' common stock shareholders by the weighted average number of common shares outstanding during the applicable period. Diluted net loss per share incorporates the additional shares issuable upon the assumed exercise of stock options, the vesting of restricted stock and restricted stock units, and the assumed conversion of debt, except in such case when (1) the inclusion of such shares or potential shares would be anti-dilutive or (2) when the vesting of restricted stock or restricted stock units is contingent upon one or more performance conditions that have not been met as of the balance sheet date.

	Year Ended December 31,								
n thousands, except per share amounts)		2024	2023			2022			
Numerator for basic and diluted net loss per share:									
Net loss attributable to 3D Systems Corporation	\$	(255,593)	\$	(362,688)	\$	(122,711)			
Redeemable non-controlling interest redemption value in excess of carrying value	12	61		(479)		(596)			
Net loss attributable to common stock shareholders	\$	(255,532)	\$	(363,167)	\$	(123,307)			
Denominator for net loss per share:	die.	*	5						
Weighted average shares – basic and diluted ⁽¹⁾⁽²⁾		131,861		129,944		127,818			
Net loss per share – basic and diluted	\$	(1.94)	\$	(2.79)	\$	(0.96)			

⁽¹⁾ Equity awards for the years ended December 31, 2024, 2023 and 2022 are deemed anti-dilutive because we reported a net loss for these periods.

The following table presents the potentially dilutive shares that were excluded from the computation of diluted net loss per share attributable to common stockholders because their effect was considered anti-dilutive for the years ended December 31, 2024, 2023 and 2022, respectively.

(in thousands) Restricted stock and restricted stock units	Year	Ended December 31,	=======================================
	2024	2023	2022
	5,185	6,182	5,015
Stock options	160	420	420
Total	5,345	6,602	5,435

As of December 31, 2024, there are no contingently issuable shares related to the Volumetric earnout arrangement discussed in Note 17 or the fiscal year 2024 annual bonus incentive compensation plan.

For the year ended December 31, 2023, the table above excludes an estimate of 138,000 shares that are contingently issuable under the dp polar earnout agreement, as discussed in Note 17. As of December 31, 2023, there are no contingently issuable shares related to the Volumetric earnout arrangement discussed in Note 17 or the fiscal year 2023 annual bonus incentive compensation plan.

For the year ended December 31, 2022, the table above excludes the following: (1) an estimate of 718,000 shares contingently issuable upon the achievement of certain milestones in the Volumetric earnout arrangement discussed in Note 17; (2) an estimate of 341,000 shares for the payment of accrued incentive compensation that was settled in shares during the second quarter of 2023; and (3) an estimate of 22,000 shares related to the dp polar earnout arrangement discussed in Note 17 that are contingently issuable. These share estimates are based on the expense recognized through December 31, 2022 divided by the 2022 average share price of \$12 per share.

On November 16, 2021, the Company issued \$460.0 million in aggregate principal amount of 0% Convertible Senior Notes due November 15, 2026, as discussed in Note 13. The Notes' impact to diluted shares is calculated using the if-converted method as prescribed in ASU 2020-06. The Notes will increase the diluted share count when the average share price over a quarterly or annual reporting period is greater than \$35.92 per share, the conversion price of the Notes. For the years ended December 31, 2024, 2023, and 2022, the Notes were anti-dilutive on a stand-alone basis because the average share price during these periods did not exceed the conversion price, and because we reported a net loss for each of the respective periods.

⁽²⁾ Includes 250,000 shares of Common Stock related to the dp polar earnout arrangement that are expected to be settled via the issuance of 250,000 shares of Common Stock subsequent to December 31, 2024.

(20) Accumulated Other Comprehensive Loss

The changes in the balances of accumulated other comprehensive loss by component are as follows:

(in thousands)	t	Foreign currency ranslation djustment	1.50	ned benefit nsion plan	on s	ealized loss short-term vestments		Total
Balance at December 31, 2021	\$	(35,464)	\$	(2,242)	\$	_	\$	(37,706)
Other comprehensive income (loss)		(18,730)		2,777		(3,557)		(19,510)
Amounts reclassified from accumulated other comprehensive loss ^a		-		165	_	3,229		3,394
Balance at December 31, 2022		(54,194)		700		(328)	1.	(53,822)
Other comprehensive income (loss)		9,630		(354)		108		9,384
Amounts reclassified from accumulated other comprehensive loss ^a		· —		(32)		220		188
Balance at December 31, 2023		(44,564)		314				(44,250)
Other comprehensive loss		(10,653)		(163)		-		(10,816)
Balance at December 31, 2024	\$	(55,217)	\$	151	\$		\$	(55,066)

a. Amount reclassified into non-operating income (loss) on the consolidated statements of operations.

The amounts presented in the table above are net of income taxes. Income tax effects of these items are released from accumulated other comprehensive loss contemporaneously with the related gross pretax amount. For additional information about foreign currency translation see Note 2. For additional information about the defined benefit pension plan, see Note 14.

(21) Segment Information

Our chief operating decision maker ("CODM"), who is our President and Chief Executive Officer, is responsible for reviewing segment performance and making decisions regarding resource allocation. Our CODM regularly reviews the results of our business through two reportable segments: Healthcare Solutions and Industrial Solutions, which are based on the industry verticals they serve. For Healthcare Solutions, those industry verticals include dental, medical devices, personalized health services and regenerative medicine. For Industrial Solutions, those industry verticals include aerospace, defense, transportation and general manufacturing.

During the quarter ended December 31, 2024, we changed our segment measure of profitability to gross profit. The CODM evaluates the operating results of each segment based upon gross profit, which is used during the annual budget and forecasting process, as well as on a quarterly basis when reviewing budget-to-actual and period-over-period variances. All internal segment reporting and discussions of results with our CODM are now based on segment gross profit. Prior year segment results have been revised to conform with current year presentation in connection with the changes referenced above.

The CODM does not review disaggregated asset information on the basis of the Company's segments; therefore, such information is not presented.

Revenue, cost of sales and gross profit for each of our reportable segments were as follows:

	Year Ended December 31,					
(in thousands)	2024		2023		2022	
Revenue:	3	182				
Healthcare Solutions	\$ 189,736	\$	213,216	\$	260,988	
Industrial Solutions	250,385		274,853		277,043	
Total revenue	440,121		488,069		538,031	
Cost of sales:		1960	- (%			
Healthcare Solutions	116,237	1	128,066		162,221	
Industrial Solutions	159,706		163,582		161,577	
Total cost of sales	275,943		291,648		323,798	
Gross profit:	•					
Healthcare Solutions	73,499)	85,150		98,767	
Industrial Solutions	90,679		111,271		115,466	
Total gross profit	164,178		196,421		214,233	
Selling, general and administrative	(210,132	()	(210,172)		(244,181)	
Research and development	(86,479)	(89,466)		(87,071)	
Asset impairment charges	(144,967	((302,787)		-	
Foreign exchange gain (loss), net	2,452		(4,825)		(4,424)	
Interest income	7,300	2	19,511		9,352	
Interest expense	(2,564	.)	(3,301)		(2,811)	
Other income (loss), net	20,214	1	32,307		(5,907)	
Loss before income taxes	\$ (249,996	\$	(362,312)	\$	(120,809)	

Depreciation and amortization included in the measurement of gross profit by segment were as follows:

	Year Ended December 31,						
(in thousands)		2024		2023		2022	
Depreciation and amortization:							
Healthcare Solutions	\$	5,389	\$	4,593	\$	4,850	
Industrial Solutions	\$	2,947	\$	2,801	\$	2,461	

The following table summarizes long-lived assets by geographic region as of December 31, 2024 and 2023:

(in thousands) United States	December 31,			
	2024			2023
	\$ 76	,829	\$	94,734
Belgium	19	,598		21,524
Other foreign entities	14	,058		18,783
Total	\$ 110	,485	\$	135,041

(22) Commitments and Contingencies

We lease certain of our facilities and equipment under non-cancelable operating and finance leases. See Note 11.

The Company has certain purchase commitments under agreements with remaining terms in excess of one year, primarily related to printer assemblies, inventory, capital expenditures, and software licenses. As of December 31, 2024, such purchase commitments totaled \$15.4 million, with \$9.3 million of the purchase obligations expected to come due within the next twelve months.

Indemnification

In the normal course of business, we periodically enter into agreements to indemnify customers or suppliers against claims of intellectual property infringement made by third parties arising from the use of our products. Historically, costs related to these indemnification provisions have not been significant, and we are unable to estimate the maximum potential impact of these indemnification provisions on our future results of operations.

To the extent permitted under Delaware law, we indemnify our directors and officers for certain events or occurrences while the director or officer is, or was, serving at our request in such capacity, subject to limited exceptions. The maximum potential amount of future payments we could be required to make under these indemnification obligations is unlimited; however, we have directors and officers insurance coverage that may enable us to recover future amounts paid, subject to a deductible and the policy limits. There is no assurance that the policy limits will be sufficient to cover all damages, if any.

Other Commitments

Government Settlement

As previously disclosed, beginning in October 2017, the Company undertook an internal investigation relating to possible violations of U.S. export control laws, including the International Traffic in Arms Regulations administered by the Directorate of Defense Trade Controls of the Department of State ("DDTC") and the Export Administration Regulations administered by the Bureau of Industry and Security of the Department of Commerce ("BIS"). In February 2023, the Company settled these matters with the U.S. Department of Justice ("DOJ"), DDTC and BIS. As a part of these settlement agreements, the Company agreed to pay \$15.0 million in civil monetary penalties to these agencies, with an additional \$10.0 million suspended penalty amount to be allocated to remedial compliance measures required by DDTC. The penalty amounts subject to payment were broken down as follows: DDTC, \$10.0 million (payable in three installments over a three-year period); BIS, \$2.8 million; and DOJ, \$2.3 million. During the year ended December 31, 2024, we paid the second installment penalty of \$3.5 million in accordance with the DDTC settlement agreement. The original \$10.0 million suspended penalty has not been recognized as a liability, as it will be recognized as incurred for remedial compliance measures during the three-year term of the settlement agreement. The application of the Company's spend on remedial compliance measures as a reduction to the original \$10.0 million suspended penalty must be approved by DDTC, which approval will be sought on an annual basis in accordance with the terms of the settlement agreement. In February 2024, the DDTC formally approved (1) the application of \$2.3 million of remedial compliance spend that occurred during the year ended December 31, 2023 against the suspended penalty and (2) a reduction of the suspended penalty to \$7.7 million. In February 2025, the DDTC formally approved (1) the application of \$2.6 million of remedial compliance spend that occurred during the year ended December 31, 2024 against the suspended penalty and (2) a reduction of the suspended penalty to \$5.1 million. Any portion not expended for compliance measures at the end of the three-year term of the settlement agreement will be paid by the Company to DDTC.

We initially accrued liabilities related to the foregoing matters during the year ended December 31, 2022, which included recording the \$10.0 million DDTC civil monetary penalty at a discount using the risk-free interest rate in effect at the time of recognition, due to the multiple annual periods over which the \$10.0 million would be paid. We have made payments in accordance with the settlement terms and, as of December 31, 2024, the remaining unsettled liability related to the Government Settlement was \$3.0 million, which is reported in accrued and other liabilities on our consolidated balance sheet and was paid in February 2025.

Letter of Credit

On June 2, 2023, we issued \$1.2 million of guarantees in the form of a standby letter of credit as security for a long-term real estate lease. The letter of credit had an initial maturity date of June 2024 and includes automatic one-year extensions, which are not to continue beyond July 1, 2033. The first automatic one-year extension occurred in June 2024, and the letter of credit now has a current maturity date of June 2025. We have not recorded any liability for this guarantee, as we believe the likelihood of having to perform under the letter of credit is remote. In connection with this transaction, we pledged an equal amount of cash to the issuing bank of this letter of credit. The cash pledged is recorded as restricted cash and included in other assets on our consolidated balance sheets.

Litigation

Securities Class Action

The Company and certain of its current and former executive officers were named as defendants in a consolidated putative stockholder class action lawsuit pending in the United States District Court for the Eastern District of New York. The action is styled In re 3D Systems Securities Litigation, No. 1:21-cv-01920-NGG-TAM (E.D.N.Y.) (the "Securities Class Action"). On July 13, 2021, the Court appointed a Lead Plaintiff for the putative class and approved his choice of Lead Counsel. Lead Plaintiff filed his Consolidated Amended Complaint (the "Amended Complaint") on September 13, 2021, alleging that defendants violated the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and SEC Rule 10b-5 promulgated thereunder by making false and misleading statements and omissions, and that the current and former executive officers named as defendants are control persons under Section 20(a) of the Exchange Act. The Amended Complaint was filed on behalf of stockholders who purchased shares of the Company's common stock between May 6, 2020 and March 5, 2021, and sought monetary damages on behalf of the purported class. The defendants moved to dismiss the Amended Complaint on February 15, 2022, and the motion was fully briefed in May 2022. On October 28, 2022, the parties notified the District Court that they reached an agreement in principle resolving this action and, on December 19, 2022, Lead Plaintiff filed a motion seeking entry of an order preliminarily approving the settlement and establishing notice procedures. The District Court held a final fairness hearing on November 21, 2023 and subsequently entered the Order and Final Judgement approving the Securities Class Action settlement and dismissing the Securities Class Action claims with prejudice on January 4, 2024. The time for any party to appeal expired on February 5, 2024, and no appeals were filed. The matter is now concluded. In connection with the resolution of the Securities Class Action, we reached a settlement of \$4.0 million, of which \$0.7 million was paid by the Company during the year ended December 31, 2023 and the remaining \$3.3 million was paid by insurance during the year ended December 31, 2023.

Derivative Actions

The Company was named as a nominal defendant and certain of its current and former executive officers and directors were named as defendants in derivative lawsuits pending in the United States District Court for the Eastern District of New York and the South Carolina Court of Common Pleas for the 16th Circuit, York County, and the Supreme Court of the State of New York, Kings County. The actions are styled Nguyen v. Joshi, et al., No. 21-cv-03389-NGG-TAM (E.D.N.Y.) (the "Nguyen Action"), Lesar v. Graves, et al., No. 2021CP4602308 (S.C., Ct. of Common Pleas for the 16th Judicial Cir., Cty. of York) (the "Lesar Action"), Scanlon v. Graves, et al., No. 2021CP4602312 (S.C., Ct. of Common Pleas for the 16th Judicial Cir., Cty. of York) (the "Scanlon Action"), Bohus v. Joshi, et al., No. 22-cv-2203-CBA-RML (E.D.N.Y.) (the "Bohus Action"), and Fernicola v. Clinton, et. al., No. 512613/2022 (N.Y., Kings County Supreme Court) (the "Fernicola Action") (together, the "Derivative Actions"). The Complaints in the Nguyen and Bohus Actions, which were filed on June 15, 2021 and April 18, 2022, respectively, assert breach of fiduciary duty claims against all defendants and claims for contribution under the federal securities laws against certain of the defendants. The Complaints in the Lesar and Scanlon Actions, which were filed on July 26, 2021, assert breach of fiduciary duty and unjust enrichment claims against the defendants. The Complaint in the Fernicola Action was filed on May 2, 2022, and asserts claims for breach of fiduciary duty and waste of corporate assets against the director defendants. On August 27, 2021, the Nguyen Action was stayed until 30 days after the earlier of: (i) the close of discovery in a securities class action lawsuit that had been brought against the Company in 2021 and settled in January 2024 (the "Securities Class Action"), or (ii) the deadline for appealing a dismissal of the Securities Class Action with prejudice. On October 26, 2021, the Lesar Action and the Scanlon Action were consolidated into a single stockholder derivative action, styled as In Re 3D Systems Corp. Shareholder Derivative Litigation, No. 2021CP4602308 (S.C., Ct. of Common Pleas for the 16th Judicial Cir., Cty. Of York) (the "South Carolina Derivative Action"). On March 3, 2022, the South Carolina Derivative Action was stayed until 30 days after the earlier of: (i) the close of discovery in the Securities Class Action, or (ii) the deadline for appealing a dismissal of the Securities Class Action with prejudice. On June 16, 2022, the Bohus Action was consolidated with the Nguyen Action (the "E.D.N.Y. Derivative Action"). The E.D.N.Y. Derivative Action was stayed until 30 days after the earlier of: (i) the close of discovery in the Securities Class Action, or (ii) the deadline for appealing a dismissal of the Securities Class Action with prejudice. On August 15, 2022, the Fernicola Action was voluntarily dismissed without prejudice. The deadline for appealing the dismissal of the Securities Class Action expired on February 5, 2024 and no appeals were filed. Accordingly, the discovery stays in the South Carolina and E.D.N.Y. Derivative Actions lifted on March 6, 2024. On February 13, 2024, the parties to the Derivative Actions reached an agreement in principle resolving the actions. On April 30, 2024, the parties executed a Stipulation of Settlement, subject to both preliminary and final approval by the Court of Common Pleas for the 16th Judicial Circuit, State of South Carolina, County of York (the "South Carolina Court"). The South Carolina Court granted preliminary approval during a hearing held on July 11, 2024 and final approval during a hearing on October 21, 2024.

The South Carolina Derivative Action concluded after no appeal was received by November 20, 2024. The E.D.N.Y. Derivative Action was dismissed with prejudice on December 2, 2024.

The only monetary component of the Stipulation of Settlement is a \$2.0 million fee and expense award to counsel for plaintiffs in the Derivative Actions, all of which was paid by insurance.

SEC Investigation

On April 15, 2022, the Company was informed that the SEC is conducting a formal investigation of the Company related to, among other things, the allegations in the Securities Class Action. The Company has subsequently received subpoenas from the SEC for the production of documents and information related to its investigation as a follow on to a previous voluntary request for documents. The most recent SEC subpoena was received by the Company in August 2024, and seeks additional documents and information relating to its continuing investigation of the Company. The Company is cooperating with the SEC in connection with its formal investigation, which is ongoing.

Termination of Volumetric Milestones Related to Potential Earnout Payments

Following the acquisition of Volumetric in 2021, the Company could have been required to pay up to \$355.0 million of acquisition-related earnout payments to the former owners of Volumetric if the Company were to achieve seven non-financial, science-based milestones prior to either December 31, 2030 or December 31, 2035 (refer to Note 17). Due to the loss of funding from the Company's key strategic partner for kidney and liver research and development efforts, the Company notified the former owners of Volumetric on February 24, 2024 that it was terminating the four milestones that related to those kidney and liver research and development efforts, as achievement was no longer financially viable. As a result of the termination of the four milestones, the Company's maximum liability for acquisition-related earnout payments was reduced to \$175.0 million, which would have been payable if each of the three remaining non-financial, science-based milestones was achieved within the timeframes set forth in the Volumetric acquisition agreement.

On March 29, 2024, the former owners of Volumetric notified the Company that they were initiating dispute resolution under the provisions of the acquisition agreement in an effort to recover the \$355.0 million. The parties did not reach a resolution during the 30-day negotiation period following this notice and now have entered into non-binding mediation in accordance with the terms of the acquisition agreement.

On April 29, 2024, the Volumetric Key Employees, who were required to be employed at the time of achievement of each non-financial, science-based milestone outlined in the Volumetric acquisition agreement for each related acquisition earnout payment to become payable, resigned from their positions with the Company. As a result of the resignation of the Volumetric Key Employees, all parties to which the remaining three milestone-based earnout payments totaling \$175.0 million were potentially payable were notified that such amount was no longer eligible to be earned. While the Volumetric Key Employees claim that their terminations were for good reason, which would preserve the rights to milestone-based earnout payments under the Volumetric acquisition agreement, the Company vigorously denies this claim. Presently, no lawsuit has been filed by the former owners of Volumetric to which milestone-based earnout payments were potentially payable, and there is no reasonable estimate or range of estimates of potential financial liability associated with this matter.

On August 21, 2024, the Company proposed a settlement of \$1.8 million with the former shareholders and key employees of Volumetric during mediation and this amount is recorded within accrued and other liabilities on the consolidated balance sheet as of December 31, 2024. The former shareholders have not responded to the settlement offer. On December 13, 2024, the Company received a Notice of Claim for Indemnification from VBI Stockholders' Representative, LLC., which claims to be the successor Stockholders' Representative under Merger Agreement. The Notice repeated the former shareholders' claims of breach. On January 10, 2025, the Company served a Notice of Objection which denied all liability. The delivery of this Notice of Objection triggers a 45-day negotiation period under the terms of the acquisition agreement. As of March 26, 2025, the Company has not heard anything further from the former shareholders and key employees of Volumetric regarding this matter.

Intrepid Automation

On May 19, 2021, 3D Systems, Inc. initiated a lawsuit in the Superior Court of the State of California for the County of San Diego against five former employees and Intrepid Automation, Inc. (collectively, the "Intrepid Parties") alleging theft of trade secrets, unfair competition, breach of contract, and related claims ("2021 Lawsuit"). In June 2021, this lawsuit was removed to the United States District Court for the Southern District of California. In September 2022, the Intrepid Parties filed counterclaims against 3D Systems, Inc. In September 2022, the Company filed a motion to dismiss these counterclaims; this motion was granted in part in May 2023. The Intrepid Parties filed amended counterclaims in May 2023 alleging theft of trade secrets, fraudulent inducement, breach of contract, unfair competition, and related claims; this amended complaint sought damages in excess of \$20 million as well as injunctive relief. These counterclaims were partially dismissed in March 2024 in response to a second motion to dismiss filed by the Company. The parties filed motions for summary judgment in April and May 2024. In March 2025, the Court granted the Intrepid Parties' motion, dismissing the Company's claims against the Intrepid Parties, but denied the Company's motion for summary judgment with respect to the counterclaims brought by the Intrepid Parties in the 2021 Lawsuit.

On December 4, 2024, Intrepid Automation, Inc. ("Intrepid") filed a lawsuit in the United States District Court for the Southern District of California against 3D Systems Corporation and 3D Systems, Inc. alleging infringement of U.S. patents 11,014,301 and 11,338,511 ("2024 Lawsuit"); this complaint seeks unspecified damages and injunctive relief.

The Company intends to defend itself vigorously against the 2024 Lawsuit and the counterclaims in the 2021 Lawsuit.

Other

We are involved in various other legal matters incidental to our business. Although we cannot predict the results of the litigation with certainty, we believe that the disposition of all of these various other legal matters will not have a material adverse effect, individually or in the aggregate, on our consolidated results of operations, consolidated cash flows or consolidated financial position.

Refer to Note 12 for details regarding our remaining liability balances accrued and recorded for all legal contingencies and settlements as of December 31, 2024.

(23) Fair Value Measurements

Fair value is the exchange price to sell an asset or transfer a liability (an exit price) in an orderly transaction between market participants at the measurement date. Fair value measurements use market data or assumptions market participants would use in pricing the asset or liability, including assumptions about risk and the risks inherent in the inputs to the valuation technique. These inputs may be readily observable, corroborated by market data, or generally unobservable. Valuation techniques maximize the use of observable inputs and minimize use of unobservable inputs. The accounting guidance for fair value measurements and disclosures establishes a three-level fair value hierarchy:

- Level 1 Inputs are based on quoted prices in active markets for identical assets and liabilities.
- Level 2 Inputs are based on observable inputs other than quoted prices in active markets for identical or similar assets and liabilities.
- Level 3 One or more inputs are unobservable and significant.

Financial and nonfinancial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement.

Assets and Liabilities Measured at Fair Value on a Recurring Basis

Cash equivalents are valued utilizing the market approach for measuring the fair value of financial assets and liabilities. The market approach uses prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities. The carrying amounts of our cash and cash equivalents, accounts receivable, accounts payable, and accrued liabilities approximate fair value as of December 31, 2024 and 2023 because of the relatively short duration of these instruments.

Assets measured at fair value on a recurring basis as of December 31, 2024 include money market funds with a fair value of \$98.2 million, which are included in cash and cash equivalents and other assets (consisting of restricted cash) on the consolidated balance sheet, and for which Level 1 inputs are used to measure at fair value.

Assets measured at fair value on a recurring basis as of December 31, 2023 include money market funds with a fair value of \$256.0 million, which are included in cash and cash equivalents on the consolidated balance sheet, and for which Level 1 inputs are used to measure at fair value.

We did not have any transfers of assets and liabilities between Level 1, Level 2 and Level 3 of the fair value measurement hierarchy during the years ended December 31, 2024 and 2023.

Assets Measured at Fair Value on a Nonrecurring Basis

During the year ended December 31, 2024 the Company recorded asset impairment charges related to property and equipment, intangible assets, goodwill, and ROU assets. During the year ended December 31, 2023, the Company recorded asset impairment charges related to intangible assets and goodwill. The recognition of these impairment charges required the Company to measure the fair value of the reporting unit to which goodwill is assigned, the fair value of asset groups, and the fair values of the long-lived assets comprising the impaired asset groups using Level 3 inputs. Refer to Note 2, Note 7, Note 8, Note 9, and Note 11 for additional details regarding the impairment charges recognized during the year ended December 31, 2024 and December 31, 2023 and the related fair value measurements.

(24) Restructuring and Exit Activity Costs

Restructuring Plan Objectives and Status of Execution

In 2023, the Company commenced a multi-faceted restructuring plan (the "2023 Restructuring Plan") to improve operating efficiencies throughout the organization and drive long-term value creation. The key initiatives of the plan were announced in 2023 and included:

- improving manufacturing efficiencies related to the Company's European metal printer operations by (1) in-sourcing
 certain metal printer platforms into the Company's Riom, France manufacturing facility and (2) co-locating the
 engineering and manufacturing of in-sourced metal printer products in order to improve cycle time from development
 to production;
- reducing headcount throughout all functions and areas of the organization; and
- rationalizing the Company's geographic footprint through the exit of leased facilities.

As of December 31, 2024, the Company has completed its in-sourcing activities. Actions taken to reduce headcount commenced during the year ended December 31, 2023 and were completed during the year ended December 31, 2024.

During the last quarter of our fiscal year ended December 31, 2023, as part of its efforts to rationalize its geographic footprint, the Company began identifying and evaluating opportunities to exit leased facilities, whether by early termination of a lease, non-renewal of a lease, or ceasing use with an intent to sublease a facility. Throughout the year ended December 31, 2024, the Company (1) partially or fully exited 18 leased facilities that were identified as part of the Company's plan and (2) commenced active marketing efforts to sublease the available space in facilities that were either partially or fully exited, but have a continuing lease. The Company exited one additional lease in the first quarter of 2025, and has now exited all facilities identified as part of its facilities rationalization plan under the 2023 Restructuring Plan.

2023 Restructuring Plan Costs, Cash Settlements and Recognized Liabilities

We incurred \$8.2 million in severance and termination benefit costs related to headcount reductions between inception of our 2023 Restructuring Plan and the completion of headcount reductions under the plan during the year ended December 31, 2024. These costs were generally recognized when probable and estimable because they were typically being determined consistent with the Company's past practices or statutory law. During the three months ended June 30, 2024, we recorded a reduction of approximately \$1.0 million from our severance accrual included in cost of sales as a result of the decision to continue to operate certain facilities. This reduction in severance costs was partially offset by incremental severance charges recorded in cost of sales during the year ended December 31, 2024.

We may incur non-cash impairment charges as a result of exiting leased facilities for which we are unable to terminate the existing lease, if the carrying values of the related ROU asset balances and other related asset balances (e.g., leasehold improvements) will not be fully recoverable through our efforts to sublease an exited facility. However, since inception of our 2023 Restructuring Plan, with the exception of certain amounts paid to terminate certain leases early, our consolidated financial statements have not reflected material transactions or charges resulting from the decisions to cease the use of facilities for our own operations because the facilities for which we have continuing leases (and any related assets, as applicable) generally have not yet qualified to be measured for impairment separate from the asset group to which they have historically belonged, which typically occurs when we have entered into a sublease. During the year ended December 31, 2024, we paid \$0.6 million to terminate certain leases related to facilities identified as part of our facilities exit plan. In addition, during 2023, the Company recognized \$0.6 million of impairment charges related to certain fixed assets that were retired in connection with the Company's restructuring activities. There have been no impairment charges recorded related to fixed assets during the year ended December 31, 2024 that relate specifically to decisions to exit facilities.

The following table provides details regarding the net severance, termination benefit and other employee costs that were incurred (or reversed) under our 2023 Restructuring Plan and amounts that were settled with cash during the years ended December 31, 2024 and 2023, as well as the related accrued liability balances included in our consolidated balance sheets as of December 31, 2024 and 2023:

(in thousands)	December 31, 2024		December 31, 2023	
Balance at beginning of period	\$	3,933	\$	_
Costs incurred and other adjustments to accrued liability during the period		(30)		8,242
Amounts settled with cash	ar-	(3,416)		(4,309)
Balance at the end of period	\$	487	\$	3,933

The financial statement impacts of (1) severance, termination benefits and other employee costs that were incurred under our 2023 Restructuring Plan during the years ended December 31, 2024 and 2023 and (2) adjustments recorded with respect to the liability recognized under the 2023 Restructuring Plan during the year ended December 31, 2024 are reflected in our consolidated statements of operations as follows:

	Year Ended				
(in thousands)	Decem	ber 31, 2024	Decem	ber 31, 2023	
Total cost of sales ^a	\$	(785)	\$	1,401	
Selling, general and administrative		370		5,598	
Research and development		385		1,243	
Total	\$	(30)	\$	8,242	

a. Only restructuring costs recorded to cost of sales have been included in our reported segment results, as gross profit is our measure of segment profitability. All severance and termination costs recorded to costs of sales are included in our Healthcare segment and, accordingly, are reflected in the Healthcare segment's reported gross profit. There were no facility termination costs or impairment costs included in the amounts reported for consolidated or segment cost of sales. See Note 21 for the reported gross profit for each of our reportable segments.

2025 Restructuring Plan

In March 2025, the Company authorized the next phase of its multi-faceted cost savings and restructuring initiative (the "2025 Restructuring Plan"). The 2025 Restructuring Plan includes initiatives to deliver sustainable growth and profitability, enabled by a streamlining of both infrastructure and business processes, while consistently investing in core research and development activities to support long-term growth opportunities. The expected annual savings from the 2025 Restructuring Plan are significant and will begin to be realized beginning in the first half of 2025.