

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

**FORM 10-K**

- ☐ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**  
**For the fiscal year ended December 31, 2019**  
**OR**  
☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**  
For the transition period from \_\_\_\_\_ to \_\_\_\_\_

**Commission File No. 001-34220**



**3D SYSTEMS CORPORATION**

(Exact name of Registrant as specified in its Charter)

**Delaware**  
(State or Other Jurisdiction of  
Incorporation or Organization)

**95-4431352**  
(I.R.S. Employer  
Identification No.)

**333 Three D Systems Circle**  
**Rock Hill, South Carolina 29730**  
(Address of Principal Executive Offices and Zip Code)

(Registrant's Telephone Number, Including Area Code): (803) 326-3900

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

<b>Title of each class</b>	<b>Trading Symbol</b>	<b>Name of each exchange on which registered</b>
Common Stock, par value \$0.01 per share	DDD	New York Stock Exchange

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

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

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

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

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

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

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

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

The aggregate market value of the registrant's common stock held by non-affiliates of the registrant on June 30, 2019 was \$998,362,110. 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.

DOCUMENTS INCORPORATED BY REFERENCE: Portions of the registrant's definitive proxy statement for its 2020 Annual Meeting of Stockholders are incorporated by reference into Part III of this Form 10-K.

**APPLICABLE ONLY TO CORPORATE ISSUERS:**

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

Shares of Common Stock, par value \$0.001, outstanding as of February 21, 2020: 118,514,324

**3D SYSTEMS CORPORATION**  
**Annual Report on Form 10-K**  
**For the Year Ended December 31, 2019**

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*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 forward-looking 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” or “us”) is a holding company incorporated in Delaware in 1993 that 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 the Asia Pacific region (“APAC”). We provide comprehensive 3D printing and digital manufacturing solutions, including 3D printers for plastics and metals, materials, software, on demand manufacturing services and digital design tools. Our solutions support advanced applications in a wide range of industries and verticals, including healthcare, dental, aerospace, automotive and durable goods.

Customers can use our 3D solutions to design and manufacture complex and unique parts, eliminate expensive tooling, produce parts locally or in small batches and reduce lead times and time to market. A growing number of customers are shifting from prototyping applications to also using 3D printing for production. We believe this shift will be further driven by our continued advancement and innovation of 3D printing solutions that improve durability, reliability, repeatability and total cost of operations.

Our precision healthcare capabilities include simulation; Virtual Surgical Planning (VSP®)(“VSP”); and printing of medical and dental devices, models, and surgical guides and instruments. We have over 30 years of experience and expertise which have proven vital to our development of an ecosystem and end-to-end digital workflow solutions which enable customers to optimize product designs, transform workflows, bring innovative products to market and drive new business models.

#### **Products**

We offer a comprehensive range of 3D printers, materials, software, haptic design tools, 3D scanners and virtual surgical simulators.

#### ***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. We offer a broad range of 3D printing technologies including Stereolithography (“SLA”), Selective Laser Sintering (“SLS”), Direct Metal Printing (“DMP”), MultiJet Printing (“MJP”) and ColorJet Printing (“CJP”), which are discussed in more detail below.

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 Class IV bio-compatible 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 and highly specialized materials 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, 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.

### SLA Printers

Our SLA 3D printers cure liquid resin materials with light or a laser to produce durable plastic parts with surface smoothness, high resolution, edge definition and tolerances that rival the accuracy of machined or molded plastic parts. We offer SLA printers with a wide range of materials, sizes and price points, which are designed for prototyping, end-use part production, casting patterns, molds, tooling, fixtures and medical models.

Figure 4™, a light-based SLA platform, also sometimes referred to as digital light processing (“DLP”), is an ultra-fast additive manufacturing technology with a discrete module design. This design allows a range of products and configurations to meet customer needs from a stand-alone product to modular products to fully-automated solutions. Figure 4 is capable of manufacturing parts in hybrid materials (multi-mode polymerization) that offer toughness, durability, biocompatibility, high temperature deflection and elastomeric properties. Figure 4 is also the first additive manufacturing product which can achieve six sigma repeatability. These capabilities enable new end-use applications in healthcare, dental, durable goods, automotive, aerospace and other verticals.

For SLA printers, we offer a variety of liquid resin materials, primarily under the Accura® brand name. The resins are designed to mimic specific, engineered thermoplastics and provide a wide range of characteristics, including tough, durable, clear, castable, polypropylene-like, ABS-like, high-temperature resistant and Class IV bio-compatible materials. We also offer dental materials for light-based SLA 3D printers under our NextDent™ brand name.

### SLS Printers

Our SLS 3D printers use a laser beam to melt and fuse powder-based nylon, engineered plastic and composite materials to produce very strong and durable parts. Customer uses of our SLS printers include functional test models and end-use parts, such as housings, machinery components, ducting, tooling, jigs and fixtures, medical devices and personalized surgery kits and guides.

Our proprietary SLS materials include a range of flexible and rigid plastics, nylons and composite materials marketed under the DuraForm®, LaserForm® and CastForm™ brand names. These materials are available in a variety of lightweight, tough, versatile, high temperature, flexible and durable formulations.

### DMP Printers

Our DMP solutions use a laser beam to sinter powders in a variety of metals to produce fully dense parts with outstanding purity, surface finish and resolution. We offer DMP solutions that can process a wide range of materials and powders, including materials with very fine granularity and proven manufacturing applications. We sell DMP systems in various sizes and configurations. Certain models are optimized for specific metals, including titanium, stainless steel and nickel super alloys. Our DMP printers are used in medical and dental implants, aerospace, automotive and hi-tech and industrial applications, such as conformal cooling, enhanced fluid flow and other complex, lightweight parts.

We offer metal powder materials for our DMP printers, including titanium, stainless steels, tool steels, super alloys, non-ferrous alloys, precious metals and aluminum.

### MJP Printers

Our MJP 3D printers utilize jetting head technology to deliver precise, tough parts with exceptional resolution in plastic, wax, elastomeric and engineered materials that we sell under the VisiJet® brand name. Our MJP printers offer the capability to print in real wax as well as rigid and flexible plastics and multiple materials in one build, making them ideal for mechanical functional testing, rapid tooling, jigs and fixtures, casting and foundry patterns and medical models.

## *CJP Printers*

Our CJP 3D printers produce parts using our VisiJet branded, powder-based ceramic-like materials. CJP printers build high-definition, full-color parts that can be sanded, drilled, infiltrated, painted and electroplated, which further expands the options available for finished part characteristics. CJP printers are ideal for producing models used in mechanical design, healthcare, architecture, education, entertainment and packaging applications.

## ***Software and Related Products***

We provide digital design tools, including software, scanners and haptic devices. We offer solutions for product design, mold and die design, 3D scan-to-print, reverse engineering, production machining, metrology and inspection. These products are designed to enable a seamless workflow for customers, and are marketed under our Geomagic®, Cimatron® and GibbsCAM® brand names. We also offer 3D Sprint and 3DXpert, 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 and print queue management capabilities.

## ***Other Products***

We offer 3D virtual reality simulators and simulator modules for medical applications. These 3D simulators are sold under our Simbionix™ brand name and offer clinicians a realistic, hands-on experience to master critical skills, prepare for upcoming procedures and create patient specific simulations and operating room environments through augmented reality and virtual reality. We also provide digitizing scanners for medical and mechanical applications.

## **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 are continuing 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. Our service engineers provide regularly scheduled preventive maintenance visits to customer sites, we provide training to our partners to enable them to perform these services, and we are adding remote monitoring and maintenance capabilities through our 3DConnect software.

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.

### ***On Demand Solutions***

We provide on demand manufacturing services through facilities worldwide in the Americas, EMEA and APAC. We provide a broad range of prototyping, production and finishing capabilities for precision plastic and metal parts and tooling with a wide range of additive and traditional manufacturing processes.

In addition to the sales of parts to customers, we, and our partners, utilize our on demand services as a sales and lead generation tool. Third-party preferred service providers also use our on demand manufacturing service as their comprehensive order-fulfillment center, and customers can use our facilities as fulfillment centers in disaster recovery plans.

## ***Software Services***

In addition to our software license products described above, we offer software maintenance, which includes updates and support for our software products. Our software is sold with 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.

## ***Healthcare Services***

As part of our precision healthcare 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 VSP™. We also provide service and maintenance for our surgical simulator products.

## **Global Operations**

We operate in the Americas, EMEA and APAC regions, and market our products and services in those areas as well as to other parts of the world.

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 sales and marketing strategy focuses on an integrated approach that is directed at providing comprehensive solutions designed to meet customer needs. We use a full range of marketing and lead generation tools to promote our products and services on a worldwide basis. Our marketing department supports our global sales organization and distribution channels by providing marketing materials, targeted marketing campaigns, sales leads and demand generation activities.

We sell our solutions globally through a direct sales force, partner channel and in certain geographies, appointed distributors. Our go-to-market and sales organization includes regional general managers, channel managers, direct sales people and application engineers and other support staff throughout the Americas, EMEA and APAC, who are responsible for the sale of products and services and for the management of our network of channel partners.

Additionally, our application engineers provide pre-sales and post-sales support, assist customers with leveraging our latest solutions and production techniques and help identify new applications and sales opportunities. Our on demand manufacturing service also expands our customer relationships and enables lead generation for future sales.

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 and others. For the years ended December 31, 2019 and 2018, one customer accounted for approximately 11% and 13% of our consolidated revenue, respectively. We expect to maintain our relationship with this customer. No single customer accounted for more than 10% of our consolidated revenue for the year ended December 31, 2017.

## **Production and Supplies**

We outsource our 3D printer assembly and refurbishment activities to selected design, engineering and manufacturing companies in the U.S., Belgium and Taiwan. We purchase finished printers from these suppliers pursuant to forecasts and customer orders that we supply to them. These suppliers also carry out quality control procedures on our printers prior to their shipment to customers. As part of these activities, these suppliers have responsibility for procuring the components and sub-assemblies either from us or third-party suppliers. While the outsourced suppliers of our printers have 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. We produce our Symbionix branded 3D simulators in Airport City, Israel.



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 materials from third parties for resale to our customers.

Our equipment assembly and materials blending activities, on demand manufacturing services and certain research and development activities are subject to compliance with applicable federal, state and local provisions regulating the storage, use and discharge of materials into the environment. 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 consolidated 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 research and development 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, customers, suppliers, assembly and design firms, engineering companies, materials companies and other 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, 2019 and 2018 we held 1,256 and 1,250 patents worldwide, respectively. At December 31, 2019 and 2018, we had 322 and 295 pending patent applications worldwide, respectively. The principal issued patents covering aspects of our various technologies will expire at varying times through the year 2027.

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 results of operations or financial position for the three-year period ended December 31, 2019.

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 research and development 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. We also compete with businesses and service bureaus that use such equipment to produce models, prototypes, molds and end-use parts. 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. Additionally, certain of our competitors are well established and may have greater financial resources than us.



We believe principal competitive factors include technology capabilities, materials, process and application know-how, total cost of operation of solution, product reliability and the ability to provide a full range of products and services 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 extend our technologies to new applications. Accordingly, our ongoing research and development programs are intended to enable us to continue technology advancement and develop innovative new solutions for the marketplace.

## Employees

At December 31, 2019, we had 2,472 full-time and part-time employees, compared to 2,620 at December 31, 2018. None of our U.S. employees are covered by collective bargaining agreements, however, some of our 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.

## Available Information

Our website address is [www.3DSystems.com](http://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 February 26, 2020. 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.

<b>Name and Current Position</b>	<b>Age as of February 26, 2020</b>
Vyomesh I. Joshi President and Chief Executive Officer	65
Todd A. Booth Executive Vice President and Chief Financial Officer	48
Charles W. Hull Executive Vice President and Chief Technology Officer	80
Andrew M. Johnson Executive Vice President, Chief Legal Officer and Secretary	45
Herbert Koeck Executive Vice President, Global Go-To-Market	59
Radhika Krishnan Executive Vice President, Software and Healthcare	49
Philip C. Schultz Executive Vice President, Operations	57
Sadie Stern Executive Vice President, People and Culture	45

**Vyomesh I. Joshi**, *President and Chief Executive Officer*. Mr. Joshi was appointed the Company's President and Chief Executive Officer in April 2016. Prior to joining the Company, Mr. Joshi worked at Hewlett-Packard Company ("HP") from 1980 until his retirement in March 2012. From 2001 to 2012, he was Executive Vice President of HP's Imaging and Printing Group, following two decades of research, engineering and management in HP's imaging and printing systems. On February 5, 2020, Mr. Joshi notified the Board of Directors of his intention to retire as President and Chief Executive Officer of the Company, and resign as a member of the Company's Board, effective as of the date that his successor assumes those roles. Following his retirement, Mr. Joshi will serve as a strategic advisor to the Company for a one-year period. In addition to his service on our Board of Directors, Mr. Joshi formerly served on the board of directors of Harris Corporation, Yahoo! Inc. and Wipro Ltd.

**Todd Booth**, *Executive Vice President and Chief Financial Officer*. Mr. Booth was appointed the Company's Executive Vice President and Chief Financial Officer in September 2019. Prior to joining the Company, he had over 25 years of financial leadership experience, including serving as Chief Operating Officer and Chief Financial Officer of Teledyne Marine, a division of Teledyne Technologies Incorporated, from March 2016 through August 2019, and as Vice President and Chief Financial Officer and North American Treasurer of Vallourec USA, a division of Vallourec S.A., from February 2011 through March 2016.

**Charles W. Hull**, *Executive Vice President, Chief Technology Officer*. Mr. Hull is a founder of the Company and has served on our Board of Directors since 1993. He has served as Chief Technology Officer since 1997 and as Executive Vice President since 2000. 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.

**Andrew M. Johnson**, *Executive Vice President, Chief Legal Officer and Secretary*. Mr. Johnson has served as Executive Vice President and Chief Legal Officer since November 2014. He served as Interim President and Chief Executive Officer, Chief Legal Officer and Secretary from October 2015 to April 2016 and as Vice President, General Counsel and Secretary from April 2012 to November 2014. Previously, he served as Assistant General Counsel and Assistant Secretary.

**Herbert Koeck**, *Executive Vice President, Global Go-To-Market*. Mr. Koeck has served as Executive Vice President, Global Go-To-Market since December 2018. He joined the Company in September 2016 as General Manager for 3D Systems Europe, Middle East, Africa and India. Mr. Koeck worked at HP from 1987 to 2016, where he served as Managing Director Hewlett-Packard Europe/Middle East and Africa and Senior Vice President for HP's combined Printing and PC business in the same region from 2013 to 2016.

**Radhika Krishnan**, *Executive Vice President, Software and Healthcare*. Ms. Krishnan has served as Executive Vice President, Software and Healthcare since January 2020 after joining the Company in November 2018 as Senior Vice President, Software. From February 2016 to March 2018, she served as Vice President/General Manager, Cloud Infrastructure for Lenovo Datacenter Group, a division of Lenovo Group. Prior to that, Ms. Krishnan served as Vice President, Products, Solutions and Alliances of Nimble Storage from July 2011 until January 2016. Ms. Krishnan has served on the board of directors of Laxmi Therapeutic Devices, a privately held medical development company, since July 2018.

**Philip C. Schultz**, *Executive Vice President, Operations*. Mr. Schultz has served as Executive Vice President, Operations since December 2018. He served as Senior Vice President, On Demand Solutions from September 2016 to December 2018. From 2014 to 2016, Mr. Schultz served as the Business Administrator for a non-profit, Grace Lutheran Church and Christian School. Previously, he served as Senior Vice President and General Manager of FoxConn from 2009 to 2014. Prior to that, Mr. Schultz held multiple roles at HP during a 25-year career.

**Sadie M. Stern**, *Executive Vice President, People and Culture*. Ms. Stern has served as Executive Vice President, People and Culture since January 2020. She joined the Company in October 2017 as Senior Vice President, Chief Human Resources Officer. Prior to joining the Company, Ms. Stern served as Senior Director, Human Resources at QUALCOMM Inc. from January 2012 to October 2017 and served in a number of human resources positions of increasing responsibility at LG Electronics and The Walt Disney Company earlier in her career.

#### **Item 1A. Risk Factors**

If any of the risks described below or if any other risks not currently known to us or that we currently deem not to be material actually occurs, our business, results of operations and financial condition could be materially adversely affected. In that event, the trading price of our common stock could decline.

**We face significant competition in many aspects of our business, which could cause our revenue and gross profit margins to decline. Competition could also cause us to reduce sales prices or to incur additional marketing or production costs, which could result in decreased revenue, increased costs and reduced margins.**

We compete for customers with a wide variety of producers of equipment and software for models, prototypes, other three-dimensional objects and end-use parts as well as producers of materials and services for this equipment. Some of our existing and potential competitors are researching, designing, developing and marketing other types of competitive equipment and software, materials and services. Certain of these competitors may have financial, marketing, manufacturing, distribution and other resources substantially greater than ours.

We also expect that future competition may arise from the development of allied or related techniques for equipment and materials that are not encompassed by our patents, from the issuance of patents to other companies that may inhibit our ability to develop certain products and from improvements to existing materials and equipment technologies.

Some of our patents have recently expired and others will expire in coming years. Upon expiration of those patents, our competitors may introduce products using the technology previously protected by the expired patents and those products may have lower prices than those of our products. To compete, we may need to reduce our prices for those products, which could adversely affect our revenues, margins and profitability. Additionally, the expiration of our patents could reduce barriers to entry into additive manufacturing, which could result in the reduction of our sales and earnings potential. If competitors using technology previously protected by our expired patents were to introduce products of inferior quality, our potential customers may view the technology negatively, which would have an adverse effect on our image and reputation and on our ability to compete with systems using other additive fabrication technologies.

We intend to follow a strategy of continuing product development to enhance our position to the extent practicable. We cannot assure you that we will be able to maintain our current position in the field or continue to compete successfully against current and future sources of competition. If we do not keep pace with technological change and introduce new products, we may lose revenue and demand for our products. We also incur significant costs associated with the investment in our product development activities in furtherance of our strategy that may not result in increased revenue or demand for our products and that could negatively affect our operating results.

**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 research and development programs are intended to enable us to maintain technological leadership. We believe that to remain competitive we must continually enhance and improve the functionality and features of our products, services and technologies. 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 products, services and technologies that address the increasingly sophisticated and varied needs of prospective customers, particularly in the area of printer speeds and materials functionality;
- 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.

**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 growth strategy.**

We cannot assure you that we will generate cash from operations or 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, 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, which could result in a default on our debt obligations.

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 growth strategy and we could 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 adversely impacted by a successful cyber-attack.**

We have experienced cyber security threats, threats to our information technology infrastructure and unauthorized attempts to gain access to our sensitive information. Prior cyber-attacks directed at us have not had a material impact on our business or financial results; however, this may not continue to be the case in the future. Cyber security assessment analyses undertaken by us have identified and prioritized steps to fortify our cyber security safeguards. We have and will continue to implement additional security measures and processes which enhance our ability to detect and respond to a cyber-attack. We have increased our cyber breach insurance and implemented company-wide cyber security awareness training. Despite the implementation of these new safeguards, there can be no assurance that we will adequately protect our information or that we will not experience any future successful attacks. The threats we face vary from attacks common to most industries to more advanced and persistent, highly organized adversaries who target us because of the products and services we provide. If we are unable to protect sensitive information, our customers or governmental authorities could question the adequacy of our threat mitigation and detection processes and procedures. Due to the evolving nature of these security threats, however, the impact of any future incident cannot be predicted.

We may need to expend significant additional resources to modify our cyber security protective measures, to investigate and remediate vulnerabilities or other exposures or to make required notifications, and we may be subject to litigation and financial losses. These costs related to cyber or other security threats or disruptions may not be fully insured or indemnified by other means. Occurrence of any of these events could adversely affect our internal operations, the services we provide to our customers, our financial results or our reputation; or such events could result in the loss of competitive advantages derived from our research and development efforts or other intellectual property or early obsolescence of our products and services.

**We are subject to U.S. and other anti-corruption laws, trade controls, economic sanctions and 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 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. Prior to shipping certain items, we must obtain an export license or verify that license exemptions are available. 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 sanctions 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.

**The costs and effects of litigation, investigations or similar matters involving us or our subsidiaries, or adverse facts and developments related thereto, could materially affect our business, operating results and financial condition.**

We may be involved from time to time in a variety of litigation, investigations, inquiries or similar matters arising out of our business, including those described in Note 22 to the consolidated financial statements in Item 8 of this Form 10-K. We cannot predict the outcome of these or any other legal matters. In the future, we may need to record litigation contingencies with respect to these matters because our insurance may not cover all claims that may be asserted against us. Should the ultimate judgments or settlements in any litigation or investigation significantly exceed our insurance coverage, they could have a material adverse effect on our business, financial condition and results of operations.

**We disclosed potential violations of U.S. export controls laws to the U.S. federal government that resulted in multiple investigations. We have implemented compliance processes and procedures to identify and prevent potential future violations of export control laws, trade sanctions, and government contracting laws and regulations, and continue to review our government contracting compliance risks and potential violations. Based on the disclosures and investigations, the U.S. Air Force temporarily suspended us from certain new federal contracts and orders in July 2019 and lifted that suspension in September 2019 following the execution of an Administrative Agreement with the Company. Failure to comply with the terms of the Administrative Agreement or the commencement of a separate action by another governmental agency would result in decreased revenues and additional harm to our reputation and otherwise adversely affect our business, operating results and financial condition.**

In October 2017, we received an administrative subpoena from BIS requesting the production of records in connection with possible violations of U.S. export control laws, including with regard to our Quickparts.com, Inc. subsidiary. In addition, while collecting information responsive to the above-referenced subpoena, our internal investigation identified potential violations of ITAR administered by DDTC and potential violations of the Export Administration Regulations administered by BIS.

On June 8, 2018 and thereafter, we submitted voluntary disclosures to BIS and DDTC identifying numerous potentially unauthorized exports of technical data. As part of our ongoing review of trade compliance risks and our cooperation with the government, on November 20, 2019, we submitted to the U.S. Treasury Department’s Office of Foreign Assets Control (“OFAC”) an initial notice of voluntary disclosure regarding potential violations of economic sanctions related to Iran. We are continuing to investigate this issue and will file a final disclosure with OFAC when our review is complete. We have and will continue to implement compliance enhancements to our export controls, trade sanctions, and government contracting compliance program to address the issues identified through our ongoing internal investigation and will cooperate with DDTC and BIS, as well as the U.S. Departments of Justice, Defense, Homeland Security and Treasury in their ongoing reviews of these matters.



In addition, on July 19, 2019, we received a notice of immediate suspension of federal contracting from the United States Air Force, pending the outcome of an ongoing investigation. The suspension applied to 3D Systems, its subsidiaries and affiliates, and was related to export controls violations involving 3D Systems' On Demand manufacturing business described above. Under the suspension, we were generally prohibited from receiving new federal government contracts or subcontracts from any executive branch agency as described in the provisions of 48 C.F.R Subpart 9.4 of the Federal Acquisition Regulation. The suspension allowed us to continue to perform current federal contracts, and also to receive awards of new subcontracts for items under \$35,000 and for items considered commercially available off-the-shelf items. The Air Force lifted the suspension on September 6, 2019 following the execution of a two-year Administrative Agreement with the Company. The Company is now eligible to obtain and perform U.S. government contracts and subcontracts without the suspension restrictions. Under the Administrative Agreement, the Company will be monitored and evaluated by independent monitors who will report to the Air Force on the Company's compliance with the terms of the Company's Ethics & Compliance Program, including our overall culture, government contracting compliance program, and export controls compliance program. The Company's failure to comply fully with the terms of the Administrative Agreement or the commencement of separate actions by other agencies of the federal government could result in reinstatement of the suspension or debarment from future federal contracting, which would result in decreased revenues and additional harm to our reputation and otherwise adversely affect our business, operating results and financial condition,

Although we cannot predict the ultimate resolution of these matters, we have incurred and expect to continue to incur significant legal costs and other expenses in connection with responding to the U.S. government agencies.

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 created a 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, and/or government contracting laws in the future. 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. Independent monitors will observe and evaluate the Company's continued compliance with its Ethics & Compliance Program during the term of the Administrative Agreement.

If the U.S. government finds that we have violated one or more export controls laws, trade sanctions, or government contracting laws, we could be subject to various civil or criminal penalties. By statute, these penalties can include but are not limited to fines, which by statute may be significant, denial of export privileges, and suspension or debarment from participation in U.S. government contracts. We may also be subject to contract claims based upon such violations. Any assessment of penalties or other liabilities incurred in connection with these matters could harm our reputation and customer relationships, create negative investor sentiment, and affect our share value. In connection with any resolution, we may also be required to undertake additional remedial compliance measures and program monitoring. We cannot at this time predict when the U.S. government agencies will conclude their investigations or determine an estimated cost, if any, or range of costs, for any penalties, fines or other liabilities to third parties that may be incurred in connection with these matters.

**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 attention and energies 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.

**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.

**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 occurs towards the end of the quarter, in particular for sales of hardware. 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. 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 continuously 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 and 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, channels or geographic areas in which we sell our products from period to period.

**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, 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;
- Effects of the implementation of the U.K.'s departure from the European Union, known as Brexit;
- Potentially adverse changes in taxation;
- The impact of public health epidemics on employees and the global economy, such as the coronavirus currently impacting China and elsewhere; 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.

While the geographic areas outside the U.S. in which we operate are generally not considered to be highly inflationary, our foreign operations are sensitive to fluctuations in currency exchange rates arising from, among other things, certain intercompany transactions that are generally denominated, for example, in U.S. dollars rather than their respective functional currencies.

Moreover, our operations are exposed to market risk from changes in interest rates and foreign currency exchange rates and commodity prices, 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. 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 depend on outsourcing partners for assembly of our 3D printers and our supply chain for spare parts and for raw materials used in our materials. If these relationships were to terminate or be disrupted, our business could be disrupted while we locate alternative suppliers and our expenses may increase.**

We have outsourced selected design and manufacturing companies to assemble our printers. In carrying out these outsourcing activities, we face a number of risks, including, among others, the following:

- The risk that the parties that we retain to perform assembly activities may not perform in a satisfactory manner;
- The risk of disruption in the supply of printers or other products to our customers if such third parties either fail to perform in a satisfactory manner or are unable to supply us with the quantity of printers or other products that are needed to meet then current customer demand; and
- The risk of insolvency of suppliers, as well as the risks that we face, as discussed below, in dealing with a limited number of suppliers.

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 materials that are used in our materials, as well as certain of those materials, from third-party suppliers.

While there are 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.

While we believe that 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 materials 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. 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.

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

Our success depends upon the performance of our senior management and other key personnel. Our senior executive team is critical to the management of our business and operations, as well as to the development and execution of our strategy. In 2019, our former Chief Financial Officer retired and we incurred costs to identify, recruit, and hire our current CFO, including amounts payable to our former CFO under his Transition Agreement, CFO search costs and relocation costs. On February 5, 2020, Vyomesh Joshi, our President and Chief Executive Officer, announced his intention to retire in 2020. We anticipate incurring similar or higher costs to identify and ensure the services of a highly-qualified successor to Mr. Joshi. High demand exists for senior management and other key personnel (including scientific, technical and sales personnel) in the 3D printing industry, and there can be no assurance that we will be able to attract and retain such personnel. We experience intense competition for qualified personnel.

While we intend to continue to provide competitive compensation packages to attract and retain key personnel and engage in regular succession planning for these positions, some of our competitors for these employees have greater resources and more experience, making it difficult for us to compete successfully for key personnel. If we cannot attract and retain sufficiently qualified technical employees for our research and development and manufacturing operations, we may be unable to develop and commercialize new products or new applications for existing products. Furthermore, possible shortages of key personnel, including engineers, in the regions surrounding our facilities could require us to pay more to hire and retain key personnel, thereby increasing our costs.

**We rely on our management information systems for inventory management, distribution and other key functions. If our information systems fail to adequately perform these functions, or if we experience an interruption in their operation, our business and operating results could be adversely affected.**

The efficient operation of our business is dependent on our management information systems. We rely on our management information systems to, among other things, effectively manage our accounting and financial functions, including maintaining our internal controls; to manage our manufacturing and supply chain processes; and to maintain our research and development data. The failure of our management information systems to perform properly could disrupt our business and product development, which may result in decreased sales, increased overhead costs, excess or obsolete inventory, and product shortages, causing our business and operating results to suffer. Although we take steps to secure our management information systems, including our computer systems, intranet and Internet sites, email and other telecommunications and data networks, the security measures we have implemented may not be effective and our systems may be vulnerable to theft, loss, damage and interruption from a number of potential sources and events, including unauthorized access or security breaches, natural or man-made disasters, cyber-attacks, computer viruses, power loss or other disruptive events. Our reputation and financial condition could be adversely affected if, as a result of a significant cyber event or otherwise, our operations are disrupted or shut down; our confidential, proprietary information is stolen or disclosed; we incur costs or are required to pay fines in connection with stolen customer, employee, or other confidential information; we must dedicate significant resources to system repairs or increase cyber security protection; or we otherwise incur significant litigation or other costs.

**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, 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, diversion of management time and attention and harm to our reputation.

**Regulation in the areas of privacy, data protection and information security could increase our costs and affect or limit our business opportunities and how we collect and/or use personal information.**

As privacy, data protection and information security laws, including data localization laws, are interpreted and applied, compliance costs may increase, particularly in the context of ensuring that adequate data protection and data transfer mechanisms are in place. In recent years, there has been increasing regulatory enforcement and litigation activity in the areas of privacy, data protection and information security in the U.S. and in various countries in which we operate.

In addition, state and federal legislators and/or regulators in the U.S. and other countries in which we operate are increasingly adopting or revising privacy, data protection and information security laws that potentially could have significant impact on our current and planned privacy, data protection and information security-related practices, our collection, use, sharing, retention and safeguarding of consumer and/or employee information, and some of our current or planned business activities. New legislation or regulation could increase our costs of compliance and business operations and could reduce revenues from certain business initiatives. Moreover, the application of existing or new laws to existing technology and practices can be uncertain and may lead to additional compliance risk and cost.

Compliance with current or future privacy, data protection and information security laws relating to consumer and/or employee data could result in higher compliance and technology costs and could restrict our ability to provide certain products and services, which could materially and adversely affect our profitability. Our failure to comply with privacy, data protection and information security laws could result in potentially significant regulatory and/or governmental investigations and/or actions, litigation, fines, sanctions, ongoing regulatory monitoring, customer attrition, decreases in the use or acceptance of our products and services and damage to our reputation and our brand.

**Global economic, political and social conditions and financial markets may harm our ability to do business, adversely affect our sales, costs, results of operations and cash flow.**

We are subject to global economic, political and social conditions that may cause customers to delay or reduce technology purchases due to economic downturns, difficulties in the financial services sector and credit markets, geopolitical uncertainties, tariffs and other macroeconomic factors affecting spending behavior. We face risks that may arise from financial difficulties experienced by our suppliers, resellers or customers, including, among others, the following:

- Customers or partners to whom we sell our products and services may face financial difficulties or may become insolvent, which could lead to our inability to obtain payment of accounts receivable that those customers may owe;
- Customers and potential customers may experience deterioration of their businesses, which may result in the delay or cancellation of plans to purchase our products;
- Key suppliers of raw materials, finished products or components used in the products that we sell may face financial difficulties or may become insolvent, which could lead to disruption in the supply of printers, materials or spare parts to our customers; and
- The inability of customers, including resellers, suppliers and contract manufacturers, to obtain credit financing to finance purchases of our products and raw materials used to build those products.

**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. The U.S. Tax Cuts and Jobs Act (“Tax Act”) is one such example of legislation that impacts our effective tax rate and tax posture. For additional details see Note 20 to the consolidated financial statements in Item 8 of this Form 10-K.

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.

**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.**

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

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

**Changes in business conditions may cause goodwill and other intangible 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. Such circumstances include a significant adverse change in the business climate 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. We may experience unforeseen circumstances that adversely affect the value of our goodwill or intangible assets and trigger an evaluation of the amount of the recorded goodwill and intangible assets. Future write-offs of goodwill or other intangible assets as a result of an impairment in the business could materially adversely affect our results of operations and financial condition.

**We may be subject to product liability claims, which could result in material expense, diversion of management time and attention and damage to our business reputation.**

The sale and support of our products entails the risk of product liability claims. From time to time, we may become subject to product liability claims that could lead to significant expenses. The risk may be heightened when we provide products into certain markets, such as healthcare, aerospace and automotive industries.

This risk of product liability claims may also be greater due to the use of certain hazardous chemicals used in the production of certain of our products, including irritants, harmful chemicals and chemicals dangerous to the environment. We may also be subject to claims that our products have been, or may be used to, create parts that are not in compliance with legal requirements or that infringe on the intellectual property rights of others.

We attempt to include provisions in our agreements with customers that are designed to limit our exposure to potential liability for damages arising from defects or errors in our products and other issues. However, the nature and extent of these limitations vary from customer to customer. Their effect is subject to a variety of legal limitations and it is possible that these limitations may not be effective as a result of unfavorable judicial decisions or laws enacted in the future.

Any claim brought against us, regardless of its merit, could result in significant expense, diversion of management time and attention, damage to our business reputation and failure to retain existing customers or to attract new customers. Although we maintain product liability insurance, such insurance is subject to deductibles and there is no guarantee that such insurance will be available or adequate to protect against all such claims. Costs or payments made in connection with product liability claims could adversely affect our financial condition and results of operations.

**Our business involves the use of hazardous materials, and we must comply with environmental, health and safety laws and regulations, which can be expensive and restrict how we do business.**

Our business involves the blending, controlled storage, use and disposal of hazardous materials. We and our suppliers are subject to federal, state, local and foreign laws and regulations governing the use, manufacture, storage, handling and disposal of these hazardous materials. Although we believe the safety procedures we utilized for handling and disposing of these materials comply with the standards prescribed by these laws and regulations, we cannot eliminate the risk of accidental contamination or injury from these materials. In the event of an accident, local, state, federal or foreign authorities may curtail the use of these materials and interrupt our business operations. If we are subject to any liability as a result of activities involving hazardous materials, our business and financial condition may be adversely affected and our reputation may be harmed.

**Our common stock price has been and may continue to be volatile.**

The market price of our common stock has experienced, and may continue to experience, considerable volatility. Between January 1, 2018 and December 31, 2019, the trading price of our common stock has ranged from a low of \$6.47 per share to a high of \$21.78 per share. Numerous factors could have a significant effect on the price of our common stock, including those described or referred to in this “Risk Factors” section of this Form 10-K, as well as, among other things:

- Our perceived value in the securities markets;
- Overall trends in the stock market;
- Announcements of changes in our forecasted operating results or the operating results of one or more of our competitors;
- Compliance with the terms of our Administrative Agreement with the U.S. Air Force;
- The impact of changes in our results of operations, our financial condition or our prospects;
- Future sales of our common stock or other securities (including any shares issued in connection with earn-out obligations for any past or future acquisition);
- Market conditions for providers of products and services such as ours;
- Executive level management uncertainty or change;
- Changes in recommendations or revenue or earnings estimates by securities analysts; and
- Announcements of acquisitions by us or one of our competitors.

#### **Item 1B.Unresolved Staff Comments**

None.

#### **Item 2. Properties**

Our headquarters are located in Rock Hill, South Carolina. As of December 31, 2019, we owned minimal facilities and we leased approximately 1.1 million square feet in the U.S (689 thousand square feet), EMEA (314 thousand square feet) and APAC (60 thousand square feet).

Our headquarters also serve as a research and development site. Other major research and development locations include Cary, North Carolina; San Diego, California; Seoul, South Korea; Tel Aviv, Israel; Valencia, California and Wilsonville, Oregon. We believe our existing facilities and equipment are in good operating condition and are suitable for our business in the manner that it is currently conducted. We expect to continue to make investments in capital equipment as needed to meet anticipated demand for our products and evaluate our existing real estate portfolio for potential consolidation and efficiencies. See “Item 1. Business – Production and Supplies” and Note 5 and Note 21 to the consolidated financial statements in Item 8 of this Form 10-K for further discussion of our facilities.



### **Item 3. Legal Proceedings**

Information relating to legal proceedings is included 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**

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

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

As of February 21, 2020, our outstanding common stock was held by approximately 1,109 stockholders of record. This figure does not reflect the beneficial ownership of shares held in the nominee 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, other than our \$200.0 million 5-year term and revolving senior secured credit facility, which limits the amount of cash dividends that we may pay in any one fiscal year to \$30.0 million.

#### **Issuance of Unregistered Securities and Issuer Purchases of Equity Securities**

We did not repurchase any of our equity securities in the open market during the year ended 2019, however, shares of common stock were surrendered to us for payment of tax withholding obligations in connection with the vesting of restricted stock awards pursuant to our 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 15 to the consolidated financial statements in Item 8 of this Form 10-K. We did not engage in any unregistered sales of equity securities in 2019.

#### **Issuer purchases of equity securities**

	<b>Total number of shares (or units) purchased</b>	<b>Average price paid per share (or unit)</b>
October 1, 2019 - October 31, 2019	4,504	\$ 8.63
November 1, 2019 - November 30, 2019	8,307	9.13
December 1, 2019 - December 31, 2019	6,027	8.83
Total	18,838 <sup>a</sup>	\$ 8.91 <sup>b</sup>

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

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

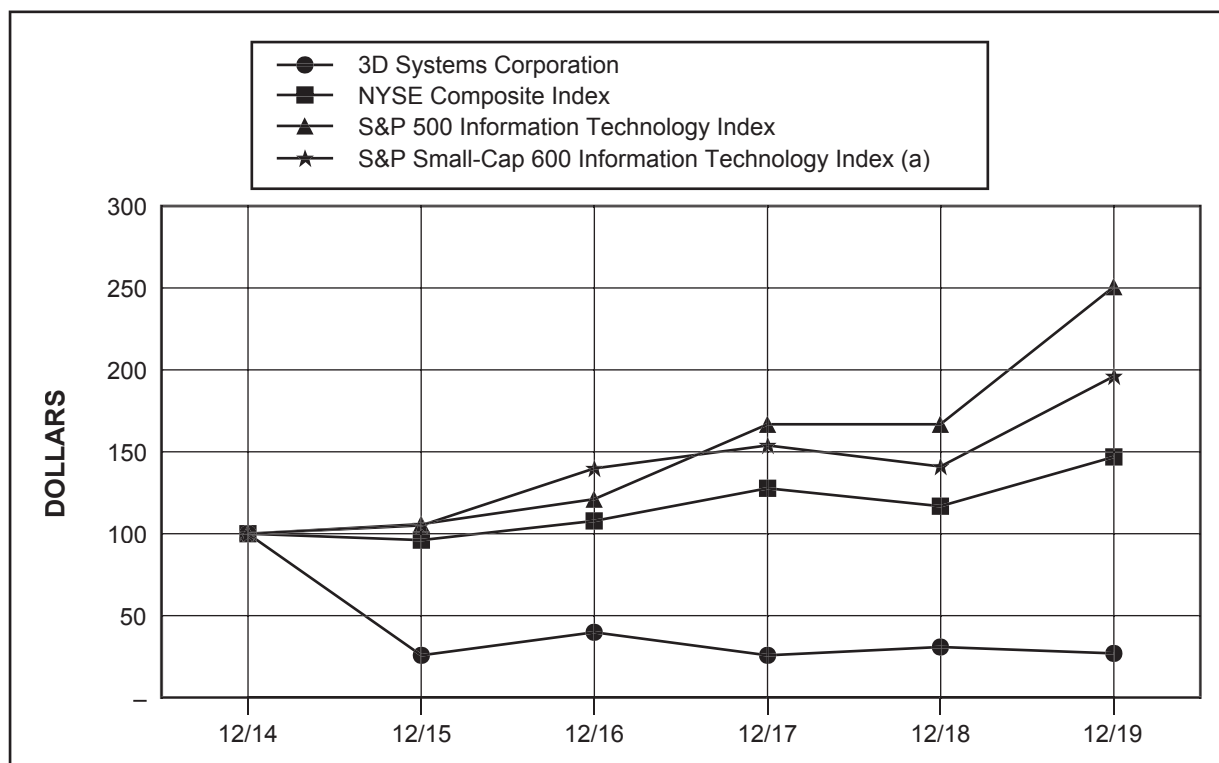


## Stock Performance Graph

The graph below shows, for the five years ended December 31, 2019, the cumulative total return on an investment of \$100 assumed to have been made on December 31, 2014 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, (b) the S&P 500 Information Technology Index, and (c) 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**



	December 31, 2014	December 31, 2015	December 31, 2016	December 31, 2017	December 31, 2018	December 31, 2019
3D Systems Corporation	\$ 100	\$ 26	\$ 40	\$ 26	\$ 31	\$ 27
NYSE Composite Index	100	96	108	128	117	147
S&P Small-Cap 600 Information Technology Index <sup>(a)</sup>	100	105	140	154	141	196
S&P 500 Information Technology Index	100	106	121	167	167	251

- a. We are changing the selection from the S&P 500 Information Technology Index to the S&P Small-Cap 600 Information Technology Index during the reporting period ending December 31, 2019 in order to show a more appropriate comparison to our industry.

## Item 6. Selected Financial Data

The selected consolidated financial data set forth below for the five years ended December 31, 2019 have been derived from our historical consolidated financial statements. You should read this information together with Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, and our consolidated financial statements and the notes thereto included in Item 8 of this Form 10-K.

(in thousands, except per share amounts)	Year ended December 31,				
	2019	2018	2017	2016	2015
<b>Consolidated Statement of (Loss) Income Data:</b>					
Consolidated Revenue:					
Products	\$ 215,519	\$ 259,124	\$ 222,750	\$ 238,011	\$ 271,078
Materials	169,058	170,091	168,846	156,839	150,740
Services	244,517	258,445	254,473	238,115	244,345
Total	629,094	687,660	646,069	632,965	666,163
Gross profit	278,041	324,394	304,839	309,751	291,809
Impairment of goodwill and other intangible	—	—	—	—	537,179
(Loss) income from operations	(57,104)	(43,191)	(53,973)	(38,420)	(641,924)
Net (loss) income	(69,632)	(45,263)	(65,323)	(39,265)	(663,925)
Net (loss) income available to common	(69,880)	(45,505)	(66,191)	(38,419)	(655,492)
Net (loss) income available to common stockholders per share:					
Basic and diluted	\$ (0.61)	\$ (0.41)	\$ (0.59)	\$ (0.35)	\$ (5.85)
<b>Consolidated Balance Sheet Data:</b>					
Working capital	\$ 210,206	\$ 233,414	\$ 231,293	\$ 302,545	\$ 286,996
Total assets	807,312	825,832	896,764	849,153	891,959
Current portion of long term debt	2,506	—	—	—	—
Current portion of capitalized lease obligations <sup>b</sup>	—	654	644	572	529
Current right of use liabilities	9,569	—	—	—	—
Long-term debt, net of deferred financing costs	45,215	25,000	—	—	—
Long-term right of use liabilities	35,402	—	—	—	—
Long-term portion of capitalized lease obligations	—	6,392	7,078	7,587	8,187
Total stockholders' equity	513,896	575,987	615,948	626,700	654,646
<b>Other Data:</b>					
Depreciation and amortization	\$ 50,396	\$ 59,293	\$ 62,041	\$ 60,535	\$ 83,069
Interest expense	4,442	1,188	919	1,282	2,011
Capital expenditures	23,985	40,694	30,881	16,567	22,399

- During the year ended December 31, 2015, non-cash, non-tax deductible Goodwill impairment charges equal to \$382,271 and \$61,388 were recorded for the Americas and EMEA, respectively, resulting from the annual impairment testing. Additionally during the year ended December 31, 2015, a non-cash Intangible asset charge equal to \$93,520 was recorded arising from our other intangible asset impairment testing.
- Prior year balances are comprised of the current and long-term portion of capitalized lease obligations as accounted for in accordance with ASC 840 Topic "Leases" prior to the adoption of ASC 842.

## **Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations**

The following discussion and analysis should be read together with the selected consolidated financial data and 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, as discussed more fully in this Form 10-K. See “Forward-Looking Statements” and “Risk Factors” in Part I, Item 1A.

For discussion related to the results of operations and changes in financial condition for fiscal 2018 compared to fiscal 2017, refer to Part II, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations in our fiscal 2018 Form 10-K, which was filed with the SEC on February 28, 2019.

### **Overview and Strategy**

We combine customer collaboration and innovation with the expertise of our people to execute on a strategy of providing digital manufacturing solutions. These ongoing efforts resulted the creation of nearly 200 million production parts by our customers in 2019.

We architect solutions specific to customers’ needs through a combination of materials, hardware platforms, software and professional services – creating a path to integrating additive into traditional production environments. As a result, manufacturers achieve design freedom, increase agility, scale production and improve overall total cost of operation.

### ***Digital Manufacturing Solutions for a Breadth of Industries***

Our digital manufacturing solutions customers span a range of industries including Aerospace and Defense, Automotive, Dental, Durable Goods and Healthcare.

- ***Aerospace and Defense:*** Aerospace and defense customers use our solutions to achieve manufacturing productivity improvements such as increased speed and reliability of quality assurance and validation processes, lowered fuel costs through lightweighting and parts consolidation, increased manufacturing productivity through innovative 3D printed casting patterns, 3D data recovery, injection-mold design and direct metal printing of airworthy parts.
- ***Automotive:*** Our production solutions are used by automotive manufacturers to develop lighter weight parts to drive down manufacturing costs, design and produce innovative assemblies that reduce part counts, provide greater strength and efficiency and create realistic prototypes that reduce time from the product development process.
- ***Dental:*** We offer a broad range of clinically validated digital dentistry technologies and materials that allow dental labs to access advanced digital workflows, driving speed, efficiency and precision of a range of indications delivered to patients.
- ***Durable Goods:*** Manufacturers of durable goods use our solutions to increase factory automation and connectivity, create greater product personalization and achieve just-in-time manufacturing. Our products and services help reduce mass production, one-size-fits-all manufacturing, long lead time and large inventories for our durable goods customers.
- ***Healthcare:*** We partner with surgeons, healthcare professionals and medical device manufacturers to offer a range of precision healthcare solutions, including 3D printed anatomical models, VSP and patient-specific surgical guides, instrumentation and implants.

### ***Accelerating Additive Manufacturing Adoption***

We partner with our customers in their progression in the use of additive manufacturing to help accelerate the adoption of additive manufacturing within their existing production environments. This process focuses on the customer’s desired application in order to design the solutions to achieve their needs and address challenges. Customers regularly engage with one of our Customer Innovation Centers (CIC), where a customized production workflow solution is designed to accelerate the development of advanced applications by providing customers with access to solutions, domain expertise and state-of-the-art technology. The process often includes our software as the core to the overall solution. Customers are able to scan and digitize solutions when digital files do not exist, and then prepare their CAD file for 3D printing. This preparation includes importing part data, orienting the part on the build plate, optimizing the geometry and creating supports to ensure the final part matches the design intent. The part is then created using our additive manufacturing hardware platforms. After printing, the part is post-processed and our software provides inspection capabilities.

## ***On Demand Solutions Provide Supply Chain Flexibility***

Our On Demand solutions facilitate supply chain flexibility by leveraging the same production solutions available direct to customers. Our On Demand solutions can provide single part production, or hundreds of parts, within days. Customers have access to a global network of facilities and nearly four decades of experience in 3D printing and advanced manufacturing solutions.

## ***Digital Factory Software***

Our extensive software portfolio allows manufacturers to deliver physical products with digital precision and speed. We provide manufacturers with access to subtractive and additive technologies to create their products, streamlining manufacturing processes from digitization and design to manufacturing, inspection and production management.

## ***Integrated Additive and Subtractive Production Solutions***

Our additive manufacturing solutions can complement our customers' traditional workflows to create a competitive advantage. Our strategic partnership with GF Machining Solutions is designed to help more manufacturers take advantage of additive technology. This partnership combines our innovation and expertise in additive manufacturing with GF Machining Solutions' leadership in precision machining, enabling manufacturers to combine additive and subtractive technologies to more efficiently produce complex metal parts within tight tolerances, and reduce total cost of operation.

## **Recent Developments**

Throughout 2019, we improved our offerings by introducing several next generation digital manufacturing solutions, materials that are opening new applications, software that is enabling a true digital approach to production, and advanced manufacturing services.

### ***Figure 4® Platform***

We introduced the Figure 4® Modular, providing customers with a digital manufacturing solution which can scale as their production needs expand, including up to 24 print engines. Each engine can run different materials and jobs simultaneously as part of a single, high-throughput line. Automation options that include job management and queuing, material delivery, and centralized post-processing, allow manufacturers to reduce demand on manufacturing resources and lower total cost of operation. Additionally, it is 3D Connect™-capable, allowing remote services via 3D Connect Service, which includes automatically notifying our service team when an alert condition occurs.

Alongside Figure 4® Modular, more than ten production-grade additive manufacturing materials were launched in 2019. These materials open new applications through unique and compelling properties that represent significant improvements in first-time print yield, heat deflection, UV stability, durability, flexibility and impact strength, while also enabling new biocompatible and injection molding workflows.

### ***MJP Platform***

During 2019 we strengthened our MJP printer platform by launching four new materials – VisiJet® Armor (a tough, ABS-like clear performance plastic), VisiJet ProFlex (a durable, polypropylene-like material with pliability), VisiJet M2S-HT90 (a high temperature resistant, biocompatible, transparent plastic) and VisiJet M2 ICAST (for casting applications).

### ***Culinary Printing***

In 2019, we commenced beta testing of the Brill 3D Culinary Studio. In partnership with Brill® a CSM Bakery Solutions Company® we provided the first products to customers identified as early adopters. General availability of this culinary printing solution is planned for 2020.

### ***Software Enhancements***

We enhanced our SLS Industrial Internet of Things (IIoT) capabilities through our proactive and preventive remote diagnostics for 3D production. This increases uptime, lowers operating costs and improves production efficiency within a customer's production environment.

We launched several updates to 3D Sprint<sup>®</sup>, our software platform for all plastics printers. These enhancements include new print modes for jewelry applications using our non-contact membrane technology, new SLA support generation enhancements, accuracy improvement modules, and dynamic scaling features. These updates also integrated new print modes for all our plastics materials to enable a seamless user experience.

3DConnect<sup>™</sup>, our common IIoT software platform for our printer products was updated for the new product introductions and for offering improvements to the current install base. We transitioned from Thingworx to the AWS platform for future scalability, integrated printer onboarding and platform maintenance – enabling improved customer service and actionable intelligence.

We launched new capabilities to our scan-based inspection solution with focus on probing workflows and a new Inspection Viewer using Geomagic<sup>®</sup> Control X. At SOLIDWORKS World 2019, we introduced an updated version of Geomagic for SOLIDWORKS to enhance the user's scan-to-CAD reverse engineering experience. Additionally, a new offering for all SOLIDWORKS users was launched with our 3DXpert product offering with a focus on Design for Additive Manufacturing (DfAM) and new advanced lattice and finite element analysis capabilities.

Improved capabilities within turning and multi-tasking machining solutions were offered via our GibbsCAM<sup>®</sup> 13 release. Improvements were released to enhance infrastructure and user experience to support larger models and faster reverse engineering design workflows through Geomagic Design X 2019. Near the end of 2019, Cimatron<sup>®</sup> 15 was released with enhanced Numerically Controlled capabilities for 5X and 3+2X systems, conformal cooling within additive molding, plate machining automation and Mill-Turn capabilities to target new machines within our existing customer base.

### ***DMP Platform***

Our metals digital manufacturing solutions were strengthened by our partnership with GF Machining Solutions through agreements regarding production metal printers including the DMP Flex 350. We also agreed to leverage GF Machining Solutions' sales and distribution in China. In December, the partnership announced its first co-branded product for additive manufacturing post-production, the AgieCharmilles CUT AM 500. This high-speed wire electrical discharge machining (EDM) system is capable of safely removing metal AM parts from build plates as large as 500x500x500mm. At Formnext 2019, we displayed a first-of-its-kind full metal AM production workflow from design to final part. It includes consulting through our Customer Innovation Centers, print preparation and analysis with 3DXpert<sup>®</sup> software, printing with our DMP Flex 350 and DMP Factory 500 metals printers, post-processing with GF Machining Solutions' System 3R referencing and clamping system. Zero point clamping enables optimal positioning of the build plate, facilitating a quick transition from the 3D printer to post-processing steps. We expanded capabilities within 3DXpert<sup>®</sup> to include DMP Inspection, which uses in-situ build data to predict part quality in order to reduce downstream inspection costs.

### ***Healthcare and Dental Portfolio***

We achieved a milestone in 2019 of manufacturing more than one million medical devices using metal digital manufacturing solutions for our partners in the medical device industry. Through our ISO-13485 certified facilities in Littleton, Colorado and Leuven, Belgium, we support manufacturing of more than 85 FDA-compliant medical device families. Seven of the top ten medical device companies in the world within the spine industry use our healthcare solutions to launch products that improve standard of patient care worldwide. Large contract manufacturers have adopted our metal digital manufacturing solutions to service the medical device industry with implants and instruments. In 2019 we entered the “point of care” segment by forming key partnerships with major hospital chains. With our portfolio of 3D printers, 3DXpert<sup>®</sup> and D2P<sup>®</sup> software, VSP and Medical Device Design and Manufacturing Services, we enable personalized patient care within these hospitals. Further, within our dental vertical, we continued expansion of regulatory approvals for dental materials in additional key markets, most notably NextDent<sup>®</sup> Denture 3D+ material in the United States, Canada and Australia to enable 3D printing of dentures.

During 2019, we continued to make progress in our bio-printing collaboration with United Therapeutics on the development of 3D printing systems for solid-organ scaffolds, beginning with lung scaffolds. This ultra-high resolution research and development project involves 3D printing with human recombinant collagen.

### **2019 Summary**

Total consolidated revenue for the year ended December 31, 2019 decreased by 8.5%, or \$58.6 million, to \$629.1 million, compared to \$687.7 million for the year ended December 31, 2018. These results reflect a decrease in printers revenue due to the ordering patterns of a large enterprise customer and the exit of our entertainment business, as well as macroeconomic slowdown in manufacturing activity.

Healthcare revenue includes sales of products, materials and services for healthcare-related applications, including simulation, training, planning, anatomical models, surgical guides and instruments and medical and dental devices. For the year ended December 31, 2019, healthcare revenue decreased by 3.5%, to \$217.6 million, and made up 34.6% of total revenue, compared to \$225.5 million, or 32.8% of total revenue, for the year ended December 31, 2018. The results reflect a decrease in products revenue, partially offset by increases in materials and services revenues.

For the year ended December 31, 2019, total software revenue from products and services decreased slightly by 2.7% to \$98.5 million, and made up 15.7% of total revenue, compared to \$101.2 million, or 14.7% of total revenue, for the year ended December 31, 2018.

Gross profit for the year ended December 31, 2019 decreased by 14.3%, or \$46.4 million, to \$278.0 million, compared to \$324.4 million for the year ended December 31, 2018. Gross profit margin for the years ended December 31, 2019 and 2018 was 44.2% and 47.2%, respectively. Gross profit margin decreased primarily due to under absorption of supply chain overhead resulting from lower production and lower revenue, in addition to the impact of the mix of sales.

Operating expenses for the year ended December 31, 2019 decreased by 8.8%, or \$32.4 million, to \$335.1 million, compared to \$367.6 million for the year ended December 31, 2018. Selling, general and administrative expenses for the year ended December 31, 2019 decreased by 6.6%, or \$17.9 million, to \$254.4 million, compared to \$272.3 million for the year ended December 31, 2018. Research and development expenses for the year ended December 31, 2019 decreased by 15.2%, or \$14.5 million, to \$80.8 million, compared to \$95.3 million for the year ended December 31, 2018. Selling, general and administrative expenses decreased primarily due to cost optimization efforts as well as lower amortization from previously acquired intangible assets. Research and development expenses decreased as we have completed projects related to new products and platforms brought to market in 2018, and prioritized investments in materials and software.

Our operating loss for the year ended December 31, 2019 was \$57.1 million, compared to an operating loss of \$43.2 million for the year ended December 31, 2018.

For the year ended December 31, 2019 and 2018, we generated \$31.6 million and \$4.8 million of cash from operations, respectively, as further discussed below. In total, our unrestricted cash balance at December 31, 2019 and December 31, 2018, was \$133.7 million and \$110.0 million, respectively. The higher cash balance was the result of net borrowings and cash provided by operating activities, partially offset by investments in our facilities and IT infrastructure. For information on our long-term borrowings, see “Liquidity and Capital Resources” under Item 7 and Note 12 to the consolidated financial statements in Item 8 of this Form 10-K.

## **Results of Operations for 2019 and 2018**

### ***Comparison of revenue***

Due to 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 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 Management’s Discussion and Analysis, the price and mix effects relate to changes in revenue that are not able to be specifically related to changes in unit volume.



### Comparison of revenue by geographic region

The following table sets forth changes in revenue by geographic region for the years ended December 31, 2019 and 2018.

**Table 1**

<i>(Dollars in thousands)</i>	<b>Americas</b>		<b>EMEA</b>		<b>APAC</b>		<b>Total</b>	
Revenue — 2018	<u>\$340,765</u>	49.6 %	<u>\$237,462</u>	34.5 %	<u>\$109,433</u>	15.9 %	<u>\$687,660</u>	100.0 %
Change in revenue:								
Volume	(44,011)	(12.9)%	22,392	9.4 %	(33,900)	(31.0)%	(55,519)	(8.1)%
Price/Mix	20,011	5.9 %	(9,320)	(3.9)%	(686)	(0.6)%	10,005	1.5 %
Foreign currency	(940)	(0.3)%	(10,131)	(4.3)%	(1,981)	(1.8)%	(13,052)	(1.9)%
Net change	<u>(24,940)</u>	(7.3)%	<u>2,941</u>	1.2 %	<u>(36,567)</u>	(33.4)%	<u>(58,566)</u>	(8.5)%
Revenue — 2019	<u><u>\$315,825</u></u>	50.2 %	<u><u>\$240,403</u></u>	38.2 %	<u><u>\$ 72,866</u></u>	11.6 %	<u><u>\$629,094</u></u>	100.0 %

Consolidated revenue decreased 8.5%, predominantly due to lower sales volume in the Americas and APAC regions driven by ordering patterns of a large enterprise customer, on demand solutions and from the exit of our entertainment business, and the unfavorable impact of foreign currency and price/mix in the EMEA region. The decreases were partially offset by favorable price/mix in the Americas region and increased volumes in the EMEA region primarily driven by healthcare.

For the years ended December 31, 2019 and 2018, revenue from operations outside the U.S. was 51.3% and 51.6% of total revenue, respectively.

### Comparison of revenue by class

We earn revenue from the sale of products, materials and services. The products category includes 3D printers, healthcare simulators and digitizers, software licenses, 3D scanners and haptic devices. The materials category includes a wide range of materials to be used with our 3D printers, the majority of which are proprietary, as well as conventional dental materials. The services category includes maintenance contracts and services on 3D printers and simulators, software maintenance, on demand solutions and healthcare services.

The following table sets forth the change in revenue by class for the years ended December 31, 2019 and 2018.

**Table 2**

<i>(Dollars in thousands)</i>	<b>Products</b>		<b>Materials</b>		<b>Services</b>		<b>Total</b>	
Revenue — 2018	<u>\$259,124</u>	37.7 %	<u>\$170,091</u>	24.7 %	<u>\$258,445</u>	37.6 %	<u>\$687,660</u>	100.0 %
Change in revenue:								
Volume	(44,073)	(17.0)%	(2,852)	(1.7)%	(8,594)	(3.3)%	(55,519)	(8.1)%
Price/Mix	4,775	1.8 %	5,230	3.1 %	—	— %	10,005	1.5 %
Foreign currency	(4,307)	(1.7)%	(3,411)	(2.0)%	(5,334)	(2.1)%	(13,052)	(1.9)%
Net change	<u>(43,605)</u>	(16.8)%	<u>(1,033)</u>	(0.6)%	<u>(13,928)</u>	(5.4)%	<u>(58,566)</u>	(8.5)%
Revenue — 2019	<u><u>\$215,519</u></u>	34.3 %	<u><u>\$169,058</u></u>	26.9 %	<u><u>\$244,517</u></u>	38.8 %	<u><u>\$629,094</u></u>	100.0 %

Consolidated revenue decreased 8.5%, predominantly driven by lower sales volume in the products class driven by ordering patterns of a large enterprise customer and the unfavorable impacts of foreign currency translation across all categories, partially offset by favorable price/mix.

Products revenue decreased due to lower volume of plastics printers, heavily impacted by the ordering patterns of a large enterprise customer as well as macroeconomic slowdown in manufacturing activity. For the years ended December 31, 2019 and 2018, revenue from printers contributed \$123.9 million and \$163.7 million, respectively. Software revenue included in the products category, including scanners and haptic devices, contributed \$53.7 million and \$56.6 million for the years ended December 31, 2019 and 2018, respectively.



Materials revenue decreased slightly due to the unfavorable impact of foreign currency translation and a decrease in volume related to weaker demand for materials utilized in older printer models, partially offset by an increase in volume related to new materials and favorable price/mix.

Services revenue decreased due to lower sales volumes in on demand solutions and from the exit of our entertainment business, partially offset by higher sales volumes in healthcare, and unfavorable impact from foreign currency translation. For the years ended December 31, 2019 and 2018, revenue from on demand solutions contributed \$92.6 million and \$107.1 million, respectively. For the years ended December 31, 2019 and 2018, software services revenue contributed \$44.8 million and \$44.6 million, respectively.

### Gross profit and gross profit margins

The following tables set forth gross profit and gross profit margins for the years ended December 31, 2019 and 2018.

**Table 3**

	Year Ended December 31,				Change in Gross Profit		Change in Gross Profit Margin	
	2019		2018					
	Gross Profit	Gross Profit Margin	Gross Profit	Gross Profit Margin	\$	%	Percentage Points	%
<i>(Dollars in thousands)</i>								
Products	\$ 38,526	17.9 %	\$ 79,928	30.8 %	\$(41,402)	(51.8)%	(12.9)	(41.9)%
Materials	116,230	68.8 %	119,494	70.3 %	(3,264)	(2.7)%	(1.5)	(2.1)%
Services	123,285	50.4 %	124,972	48.4 %	(1,687)	(1.3)%	2.0	4.1 %
Total	<u>\$278,041</u>	<u>44.2 %</u>	<u>\$324,394</u>	<u>47.2 %</u>	<u>\$(46,353)</u>	<u>(14.3)%</u>	<u>(3.0)</u>	<u>(6.4)%</u>

The decrease in total consolidated gross profit is due to the decrease in product sales, primarily driven by lower sales of printers.

Products gross profit margin decreased primarily due to under absorption of supply chain overhead resulting from lower production, in addition to the impact of the mix of sales. Materials gross profit margin decreased as a result of the mix of sales. Services gross profit margin improved from a favorable mix of sales towards higher gross profit margin service offerings and improvements in printer service margin.

### Operating expenses

The following tables set forth the components of operating expenses for the years ended December 31, 2019 and 2018.

**Table 4**

	Year Ended December 31,				Change	
	2019		2018			
	Amount	% Revenue	Amount	% Revenue	\$	%
<i>(Dollars in thousands)</i>						
Selling, general and administrative expenses	\$254,355	40.4 %	\$272,287	39.6 %	\$(17,932)	(6.6)%
Research and development expenses	80,790	12.8 %	95,298	13.9 %	(14,508)	(15.2)%
Total operating expenses	<u>\$335,145</u>	<u>53.2 %</u>	<u>\$367,585</u>	<u>53.5 %</u>	<u>\$(32,440)</u>	<u>(8.8)%</u>

Selling, general and administrative expenses decreased primarily due to reduced personnel and facility expenses, related to cost optimization efforts as well as lower amortization from previously acquired intangible assets.

Research and development expenses decreased as we have completed projects, related to new products and platforms brought to market in 2018, and prioritized investments in materials and software.

### ***Loss from operations***

The following table sets forth (loss) income from operations by geographic region for the years ended December 31, 2019, and 2018.

**Table 5**

<i>(Dollars in thousands)</i>	Year Ended December 31,	
	2019	2018
(Loss) income from operations:		
Americas	\$ (80,042)	\$ (69,081)
EMEA	14,623	5,283
APAC	8,315	20,607
Total	<u>\$ (57,104)</u>	<u>\$ (43,191)</u>

See “Comparison of revenue by geographic region,” “Gross profit and gross profit margins” and “Operating expenses” above.

### ***Interest and other expense, net***

The following table sets forth the components of interest and other (expense) income, net, for the years ended December 31, 2019 and 2018.

**Table 6**

<i>(Dollars in thousands)</i>	Year Ended December 31,	
	2019	2018
Interest and other expense, net		
Foreign exchange (loss) gain	\$ (2,287)	\$ 3,011
Interest expense, net	(3,233)	(399)
Other (expense) income, net	(2,476)	(2,649)
Total interest and other (expense) income, net	<u>\$ (7,996)</u>	<u>\$ (37)</u>

The increase in total interest and other expense, net for the year ended December 31, 2019, as compared to the year ended December 31, 2018, was primarily driven by unfavorable foreign currency impacts and higher interest expense, resulting from the Senior Credit Facility put in place in the first quarter of 2019. We recorded an adjustment to the fair value of certain cost method investments in both 2019 and 2018.

### **Benefit and provision for income taxes**

We recorded a \$4.5 million and a \$2.0 million provision for income taxes for the years ended December 31, 2019 and 2018, respectively.

In 2019, our provision reflected \$0.3 million in U.S. tax benefit and \$4.9 million in foreign jurisdictions tax expense. In 2018, our provision reflected \$5.9 million in U.S. tax benefit and \$7.9 million in foreign jurisdictions tax expense.

During 2019 and 2018, we concluded that it is more likely than not that our deferred tax assets will not be realized in certain jurisdictions, including the U.S. and certain foreign jurisdictions; therefore, we have a valuation allowance recorded against our deferred tax assets on our consolidated balance sheets totaling \$109.6 million and \$95.4 million as of December 31, 2019 and 2018, respectively.

For further discussion, see Note 2 and Note 20 to the consolidated financial statements in Item 8 of this Form 10-K.

## Net loss attributable to 3D Systems

The following tables set forth the primary components of net loss attributable to 3D Systems for the years ended December 31, 2019 and 2018.

**Table 7**

<i>(Dollars in thousands)</i>	Year Ended December 31,		Change
	2019	2018	
Loss from operations	\$ (57,104)	\$ (43,191)	\$ (13,913)
Other non-operating items:			—
Interest and other expense, net	(7,996)	(37)	(7,959)
Provision for income taxes	(4,532)	(2,035)	(2,497)
Net loss	(69,632)	(45,263)	(24,369)
Less: net income attributable to noncontrolling interests	248	242	6
Net loss attributable to 3D Systems Corporation	<u>\$ (69,880)</u>	<u>\$ (45,505)</u>	<u>\$ (24,375)</u>
Weighted average shares, basic and diluted	113,811	112,327	
Loss per share, basic and diluted	<u>\$ (0.61)</u>	<u>\$ (0.41)</u>	

The increase in net loss for the year ended December 31, 2019, as compared to the year ended December 31, 2018, was primarily driven by an increase in loss from operations. See “*Gross profit and gross profit margins*” and “*Operating expenses*” above.

## Liquidity and Capital Resources

**Table 8**

<i>(Dollars in thousands)</i>	December 31, 2019	December 31, 2018	Change	
			\$	%
Cash and cash equivalents	\$ 133,665	\$ 109,998	\$ 23,667	21.5 %
Accounts receivable, net	109,408	126,618	(17,210)	(13.6)%
Inventories	111,106	133,161	(22,055)	(16.6)%
	<u>354,179</u>	<u>369,777</u>	<u>(15,598)</u>	
Less:				
Current portion of long term debt	2,506	—	2,506	— %
Current right of use liabilities	9,569	—	9,569	— %
Current portion of capitalized lease obligations <sup>a</sup>	—	654	(654)	— %
Accounts payable	49,851	66,722	(16,871)	(25.3)%
Accrued and other liabilities	63,095	59,265	3,830	6.5 %
	<u>125,021</u>	<u>126,641</u>	<u>(1,620)</u>	
Operating working capital	<u>\$ 229,158</u>	<u>\$ 243,136</u>	<u>\$ (13,978)</u>	(5.7)%

- a. Prior year balance comprised of the current portion of capitalized lease obligations as accounted for in accordance with ASC 840 Topic “*Leases*,” prior to the adoption of ASC 842.

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 primarily consist of funding working capital and capital expenditures.

Cash flow from operations, cash and cash equivalents, and other sources of liquidity such as bank credit facilities and issuing equity or debt securities, are expected to be available and sufficient to meet foreseeable cash requirements. During the first quarter of 2019, we entered a 5-year \$100.0 million senior secured term loan facility (the “Term Facility”) and a 5-year \$100.0 million senior secured revolving credit facility (the “Revolving Facility,” and, together with the Term Facility, the “Secured Credit Facility”), which replaced our prior \$150.0 million 5-year revolving unsecured credit facility (the “Prior Credit Agreement”), which was terminated in connection with entry into the Senior Credit Facility. Borrowings under the Senior Credit Facility were used to refinance existing indebtedness of \$25.0 million outstanding under the Prior Credit Agreement and will be used to support working capital and general corporate purposes. As of December 31, 2019, we have availability under the Revolving Facility of \$34.3 million. For additional information on the Senior Credit Facility and the Prior Credit Agreement, see Note 12 to the consolidated financial statements in Item 8 of this Form 10-K.

Cash held outside the U.S. at December 31, 2019 was \$75.7 million, or 56.6% of total cash and cash equivalents, compared to \$73.3 million, or 66.7% of total cash and cash equivalents at December 31, 2018. 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 additional taxes related to such amounts. However, our estimates are provisional and subject to further analysis. 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.

Days sales outstanding (DSO) was 67 at December 31, 2019, compared to 69 days for the year at December 31, 2018. Accounts receivable more than 90 days past due increased to 12.1% of gross receivables at December 31, 2019, from 8.9% at December 31, 2018. We review specific receivables periodically to determine the appropriate reserve for accounts receivable.

The majority of our inventory consists of finished goods, including products, materials and service parts. Inventory also consists of raw materials for certain printers and service products. Inventory balances may fluctuate during cycles of new product launch, commercialization and timing of ramp up of production and sales of products.

The changes that make up the other components of working capital not discussed above resulted from the ordinary course of business. 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.

## **Cash flow**

### ***Cash flow from operations***

Cash provided by operating activities for the years ended December 31, 2019 and 2018 was \$31.6 million and \$4.8 million, respectively. Excluding non-cash charges from depreciation and amortization of \$50.4 million, stock-based compensation of \$23.6 million and other expenses of \$2.0 million, the net loss provided cash of \$6.3 million and \$44.1 million for the years ended December 31, 2019 and December 31, 2018, respectively. Non-cash charges generally consist of depreciation, amortization and stock-based compensation.

Improvements in working capital provided cash of \$25.3 million for the year ended December 31, 2019 and working capital requirements used cash of \$39.3 million for the year ended December 31, 2018. For the year ended December 31, 2019, drivers of working capital related to cash inflows were a decrease in accounts receivable, inventory and prepaid expenses and other current assets; partially offset by a decrease in accounts payable and accrued and other current liabilities.

### ***Cash flow from investing activities***

The primary outflow of cash for the years ended December 31, 2019 and 2018 relate to investments in our facilities including our customer innovation centers, healthcare and on-demand facilities as well as continued investments in our IT infrastructure. Fluctuations of cash used result from the timing of project starts and completions.

### **Acquisitions**

We made no acquisitions during the years ended December 31, 2019 and 2018.

## ***Cash flow from financing activities***

Cash provided by financing activities was \$18.7 million and \$14.3 million for the years ended December 31, 2019 and 2018, respectively. The primary inflow of cash for the year ended December 31, 2019 relates to borrowing on the Term Facility, partially offset by repayments under the Prior Credit Agreement and Term Facility, settlement of stock-based compensation and the purchase of non-controlling interest. The primary source of cash for the year ended December 31, 2018 was a \$25.0 million draw on our revolving credit line pursuant to the Prior Credit Agreement in the fourth quarter, offset by outflows of cash related to the settlement of stock-based compensation and payments on earnout provisions.

## **Off-Balance Sheet Arrangements**

We have no off-balance sheet arrangements and do not utilize any “structured debt,” “special purpose” or similar unconsolidated entities for liquidity or financing purposes.

## **Contractual Obligations and Commercial Commitments**

The table below summarizes our contractual obligations as of December 31, 2019.

**Table 9**

<i>(Dollars in thousands)</i>	Payments Due by Period				
	Less than 1 year	1-3 years	4-5 years	After 5 years	Total
Long-term debt obligations	\$ 2,506	11,275	\$ 34,451	\$ —	\$ 48,232
Operating lease obligations <sup>a</sup>	11,013	13,906	9,158	6,728	40,805
Finance lease obligations <sup>a</sup>	965	2,948	2,889	8,242	15,044
Purchase commitments <sup>b</sup>	53,562	—	—	—	53,562
Total	\$ 68,046	\$ 28,129	\$ 46,498	\$ 14,970	\$ 157,643

a. We lease certain facilities under non-cancelable operating and finance agreements. The leases are generally on a net-rent basis, under which we pay taxes, maintenance and insurance. For further discussion, see Note 5 to the consolidated financial statements in Item 8 of this Form 10-K.

b. Includes amounts committed under legally enforceable agreements for goods and services with defined terms as to quantity, price and timing of delivery. For further discussion, see Note 22 to the consolidated financial statements in Item 8 of this Form 10-K.

## **Other Contractual Commitments**

### ***Credit facilities***

In October 2014, we entered into the Prior Credit Agreement. As of December 31, 2018, there was \$25.0 million outstanding balance under the Prior Credit Agreement. The Prior Credit Agreement contained customary covenants, some of which required us to maintain certain financial ratios that determined the amounts available and terms of borrowings and events of default. The Prior Credit Agreement was terminated on February 27, 2019. See Note 12 to the consolidated financial statements in Item 8 of this Form 10-K.

On February 27, 2019, we entered into the Senior Credit Facility, which replaced the Prior Credit Agreement. Borrowings under the Senior Credit Facility were used to refinance the existing indebtedness under the Prior Credit Agreement and will be used to support working capital and for general corporate purposes. For further discussion of the Senior Credit Facility, see Note 12 to the consolidated financial statements in Item 8 of this Form 10-K.

We were in compliance with all covenants at both December 31, 2019 and December 31, 2018.

### ***Redeemable noncontrolling interests***

Owners of noncontrolling interests in a certain subsidiary held the right to require us to acquire either a portion of or all of the remaining ownership interests held by them. The owners' ability to exercise any such "put option" right was subject to the satisfaction of certain conditions, including conditions requiring notice in advance of exercise and specified timing of the exercise date. The "put option" right was recorded as mezzanine equity on the consolidated balance sheet at December 31, 2018 at its estimated redemption amount.

On November 19, 2019, we and the noncontrolling interest owners entered into an agreement to amend and restate the subsidiary's operating agreement, specifically amending the terms to the "put option" right and the exercise procedures thereof. On November 25, 2019, the noncontrolling interest owners exercised the "put option" right for all of the remaining ownership interests held by them. This amount has been adjusted to the current redemption price of \$10.0 million and recorded in accrued and other liabilities on the consolidated balance sheet at December 31, 2019. We paid the full amount of the redemption on January 7, 2020, subsequent to year-end. See Note 2 and Note 18 to the consolidated financial statements in Item 8 of this Form 10-K for further discussion.

### ***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 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 to the policy limits.

### **Financial Instruments**

We conduct business in various countries using both the functional currencies of those countries and other currencies to effect cross border transactions. As a result, we are subject to the risk that fluctuations in foreign exchange rates between the dates that those transactions are entered into and their respective settlement dates will result in a foreign exchange gain or loss. When practicable, we endeavor to match assets and liabilities in the same currency on our balance sheet and those of our subsidiaries in order to reduce these risks. We also, when we consider it to be appropriate, enter into foreign currency contracts to hedge exposures arising from those transactions. We had \$102.4 million and \$75.3 million in notional foreign exchange contracts outstanding as of December 31, 2019 and 2018, respectively. The fair value of these contracts was not material. For our hedges of foreign exchange rates, we have elected to not prepare and maintain the documentation to qualify for hedge accounting treatment under ASC 815, "Derivatives and Hedging," and therefore, changes in fair value are recognized in interest and other expense, net in the consolidated statements of operations and comprehensive loss and, depending on the fair value at the end of the reporting period, derivatives are recorded either in prepaid and other current assets or in accrued liabilities in the consolidated balance sheets.

We use derivative financial instruments to manage our exposure to changes in interest rates on outstanding debt instruments. In doing so, we have elected to prepare and maintain the documentation to qualify for hedge accounting treatment under ASC 815, "Derivatives and Hedging," and therefore, related gains and losses (realized or unrealized) related to derivative instruments are recognized in accumulated other comprehensive income (loss) and are reclassified into earnings when the underlying transaction is recognized in net earnings and, depending on the fair value at the end of the reporting period, derivatives are recorded either in prepaid and other current assets or in accrued liabilities in the consolidated balance sheets.

We do not hedge for trading or speculative purposes, and our foreign currency contracts are generally short-term in nature, typically maturing in 90 days or less.

See Note 13 to the consolidated financial statements in Item 8 of this Form 10-K for further discussion.



## **Critical Accounting Policies and Significant Estimates**

We prepare our consolidated financial statements in accordance with U.S. Generally Accepted Accounting Principles (GAAP). In doing so, we have to make estimates and assumptions that affect our reported amounts of assets, liabilities, revenues, expenses, gains and losses, as well as related disclosure of contingent assets and liabilities. In some cases, we could reasonably have used different accounting policies and estimates. In some cases, changes in the 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 these 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 policies and estimates, which we discuss further below. We have reviewed our critical accounting policies and estimates with the audit committee of our board of directors.

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

### **Revenue recognition**

Revenue is recognized when control of the promised products or services is transferred to customers in an amount that reflects the consideration we expect to receive in exchange for those products or services. A majority of our revenue is recognized at the point in time when products are shipped or services are delivered to customers.

We enter into contracts that can include various combinations of products and services, which are generally capable of being distinct and accounted for as separate performance obligations. Many of its contracts with customers include multiple 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. For the majority of items, 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 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 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 marketing incentives may lead to consideration that is variable. Judgment is exercised at contract inception to determine the expected value of the contract and resulting transaction price. Ongoing assessments are performed to determine if updates are needed to the original estimates.

See Note 2 and Note 4 to the consolidated financial statements in Item 8 of this Form 10-K for further discussion.

### **Allowance for doubtful accounts**

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 and historical collection experience. Based on these assessments, we may record a reserve for specific customers, as well as a general reserve and allowance for returns and discounts. 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 Services ("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.

## **Inventories**

Inventories are stated at the lower of cost or net realizable value, with cost being determined using 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.

## **Goodwill**

We review long-lived assets, including intangible assets subject to amortization, for impairment whenever events or changes in circumstances indicate that the carrying value of the asset may not be recoverable. We assess the recoverability of the carrying value of assets held for use based on a review of undiscounted projected cash flows. Impairment losses, where identified, are measured as the excess of the carrying value of the long-lived asset over its estimated fair value as determined by discounted projected cash flows.

Goodwill represents the purchase price paid in excess of the fair value of net tangible and intangible assets acquired in a business combination. We review goodwill for impairment annually or when circumstances indicate that the likelihood of an impairment is greater than 50%. Such circumstances include a significant adverse change in the business climate for one of our reporting units or a decision to dispose of a reporting unit or a significant portion of a reporting unit. The test for goodwill impairment is a two-step process to first identify potential goodwill impairment for each reporting unit by comparing the fair value of each of our reporting units to its respective carrying value and then, if necessary, measure the amount of the impairment loss. The process requires a significant level of estimation and use of judgment by management, particularly the estimate of the fair value of our reporting units. Our reporting units are consistent with our operating segments described in Note 21 to the consolidated financial statements in Item 8 of this Form 10-K.

We estimate the fair value of our reporting units based primarily on the discounted projected cash flows of the underlying operations, which requires us to make assumptions about estimated cash flows, including profit margins, long-term forecasts, discount rates and terminal growth rates. We developed these assumptions based on the market and geographic risks unique to each reporting unit.

Our EMEA, APAC and Americas reporting units carry approximately \$186.7 million, \$36.5 million and zero of goodwill, respectively, as of December 31, 2019. Goodwill in the Americas region was written off in 2015. The net carrying values of our long-lived assets in the EMEA, APAC, and Americas regions are approximately \$67.5 million, \$7.8 million, and \$65.9 million, respectively. In our 2019 impairment testing, we determined the EMEA and APAC reporting units had fair values in excess of their carrying values. Our 2019 impairment testing also indicated no impairment of long-lived assets in the Americas region as the undiscounted cash flows were in excess of the carrying value of long-lived assets. This headroom and recoverability were driven by our forecasts of future operating performance as well as external market indicators.

Our operating performance through December 31, 2019 has been negatively impacted by macroeconomic factors, the decrease and mix of sales, and the ordering patterns of a large enterprise customer. We are taking actions to counter these factors, including reducing our cost structure by focusing on cost of sales and operating expenses to drive future profitability. In the event that these matters are not satisfactorily resolved, we could experience a triggering event or impairment of our goodwill or long-lived asset balances in future periods.

We conducted our annual impairment testing for the years ended December 31, 2019 and 2018 in the fourth quarters. There was no goodwill impairment for the years ended December 31, 2019 and 2018.

### **Contingencies**

We record an estimated loss from a contingency when information indicates that it is probable that an asset has been impaired or a liability has been incurred at the date of the financial statements and the amount of the loss can be reasonably estimated. Accounting for contingencies requires us to use our judgment and the ultimate resolution of our exposure related to these matters may change as further facts and circumstances become known.

See Note 22 to the consolidated financial statements in Item 8 of this Form 10-K for further discussion.

### **Recent Accounting Pronouncements**

See Note 2 to the consolidated financial statements in Item 8 of this Form 10-K for recently issued accounting standards, including the expected dates of adoption and expected impact to the consolidated financial statements upon adoption.

### **Item 7A. Quantitative and Qualitative Disclosures about Market Risk**

We are exposed to market risks from fluctuations in interest rates, foreign currency exchange rates and commodity prices, 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.

#### **Interest rates**

Our earnings exposure related to movements in interest rates is primarily derived from variable interest rate borrowings. At December 31, 2019, we had \$48.2 million in variable-rate debt, of which \$8.2 million was not subject to interest rate swap agreements. A hypothetical interest rate change of 10% would not have a material impact on annualized interest expense.

#### **Foreign exchange rates**

Because we conduct our operations in many areas of the world involving transactions denominated in a variety of currencies, our results of operations as expressed in U.S. dollars may be significantly affected by fluctuations in rates of exchange between currencies. These fluctuations could be significant. In 2019, approximately 51.3% of our net sales and a significant portion of our costs were denominated in currencies other than the 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 euro, Japanese yen, British pound, South Korean won or other currencies in which we receive sale proceeds and the dollar have a direct impact on our operating results. There is normally a time lag between our sales and collection of the related sales proceeds, exposing us to additional currency exchange rate risk.

When practicable, we endeavor to match assets and liabilities in the same currency on our U.S. balance sheet and those of our subsidiaries in order to reduce these risks. We also, when we consider it appropriate, enter into foreign currency contracts to hedge exposures arising from those transactions.

At December 31, 2019, a hypothetical change of 10% in foreign currency exchange rates would cause a change in revenue of approximately \$28.5 million, assuming all other variables remained constant.

We enter into foreign currency forward contracts to reduce the effect of fluctuating foreign currencies. At December 31, 2019, we had notional forward exchange contracts outstanding of \$102.4 million. We believe these foreign currency forward contracts and the offsetting underlying commitments, when taken together, do not create material market risk.

## **Commodity prices**

We are exposed to price volatility related to raw materials and energy products 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. At December 31, 2019, a hypothetical 10% change in commodity prices for raw materials would cause a change to cost of sales of approximately \$5.2 million.

## **Item 8. Financial Statements and Supplementary Data**

Our consolidated financial statements and the related notes, together with the Report of Independent Registered Public Accounting Firm 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**

Our management, including the Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness of our disclosure controls and procedures, pursuant to Exchange Act Rule 13a-15(e), as of December 31, 2019. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded as of December 31, 2019 that our disclosure controls and procedures were effective.

### **Management's Report on Internal Control over Financial Reporting**

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control framework and processes were designed to provide reasonable assurance to management and the Board of Directors regarding the reliability of financial reporting and the preparation of our consolidated financial statements for external purposes in accordance with GAAP. Our internal control over financial reporting includes those policies and procedures that:

- Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets;
- Provide reasonable assurance that transactions are recorded properly to allow for the preparation of financial statements in accordance with GAAP and that our receipts and expenditures are being made only in accordance with authorizations of our management and Directors; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on the consolidated financial statements.

Because of its inherent limitations, a system of internal control over financial reporting can provide only reasonable assurance and may not prevent or detect misstatements. Further, because of changing conditions, effectiveness of internal control over financial reporting may vary over time. Management assessed the effectiveness of our internal control over financial reporting and concluded that, as of December 31, 2019, such internal control was effective at the reasonable assurance level described above.

The effectiveness of our internal control over financial reporting as of December 31, 2019 has been audited by BDO USA, LLP, an independent registered public accounting firm, as stated in their report included in Item 8 of this Form 10-K.

### **Changes in Internal Controls over Financial Reporting**

There were no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2019 that have materially affected, or are reasonably likely to materially effect, our internal control over financial reporting.

## **Item 9B. Other Information**

None.

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## PART III

### **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 2020 Annual Meeting of Stockholders (“Proxy Statement”) under the captions “Proposal One: Election of Directors,” “Corporate Governance Matters,” “Delinquent Section 16(a) Reports,” “Corporate Governance Matters—Code of Conduct and Code of Ethics,” “Corporate Governance Matters—Corporate Governance and Nominating Committee,” and “Corporate Governance Matters—Audit Committee.”

### **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 Matters—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, 2019. For a description of these plans, please see Note 15 to the consolidated financial statements in Item 8 of this Form 10-K.

<i>(in thousands, except exercise price)</i>	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 <sup>a</sup>	Number of securities remaining available for future issuance under equity compensation plans <sup>b</sup>
Equity compensation plans approved by stockholders:			
Stock options	1,240	\$ 14.43	
Restricted stock units	1,460		
Total	2,700		3,106

a. The weighted-average exercise price is only applicable to stock options.

b. 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 Matters—Director Independence” and “Corporate Governance Matters—Related Party Transaction Policies 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 Selection of Independent Registered Accounting Firm—Fees of Independent Registered Public Accounting Firm.”

## PART IV

### 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:

- 3.1 Certificate of Incorporation of Registrant. (Incorporated by reference to Exhibit 3.1 to 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 to 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 to 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 to 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 to 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 to 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 to 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 to Registrant's Registration Statement on Form S-3 (Registration No. 333-182065), filed on June 12, 2012.)
- 4.2 Description of Common Stock.
- 4.3\* Restricted Stock Plan for Non-Employee Directors of 3D Systems Corporation. (Incorporated by reference to Exhibit 4.4 to Registrant's Registration Statement on Form S-8 (Registration No. 333-115642), filed on May 19, 2004.)
- 4.4\* Amendment No. 1 to Restricted Stock Plan for Non-Employee Directors. (Incorporated by reference to Exhibit 10.1 to Registrant's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2005, filed on August 1, 2005.)
- 4.5\* Form of Restricted Stock Purchase Agreement for Non-Employee Directors. (Incorporated by reference to Exhibit 4.5 to Registrant's Registration Statement on Form S-8 (Registration No. 333-115642), filed on May 19, 2004.)
- 4.6\* Amended and Restated 2015 Incentive Plan of 3D Systems Corporation effective February 4, 2020.
- 4.7\* Appendix A to the 2015 Incentive Plan of 3D Systems Corporation effective May 19, 2015. (Incorporated by reference to Exhibit 10.3 to Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2015, filed on August 6, 2015.)
- 4.8\* Form of Restricted Stock Award Agreement under the Amended and Restated 2015 Incentive Plan. (Incorporated by reference to Exhibit 4.2 to Registrant's Registration Statement on Form S-8 (Registration No. 333-204305), filed on May 19, 2015.)



- 4.9\* Form of Restricted Stock Unit Award Agreement under the Amended and Restated 2015 Incentive Plan. (Incorporated by reference to Exhibit 4.3 to Registrant's Registration Statement on Form S-8 (Registration No. 333-204305), filed on May 19, 2015.)
- 4.10\* Form of Stock Option Award Agreement under the Amended and Restated 2015 Incentive Plan.
- 4.11\* Form of Restricted Stock Award Agreement with Share Price Vesting Conditions (Incorporated by reference to Exhibit 4.17 to Registrant's Annual Report on Form 10-K for the year ended December 31, 2016, filed on February 28, 2017.)
- 4.12\* Form of Performance-Based Restricted Stock Unit Award Agreement under the Amended and Restated 2015 Incentive Plan.
- 10.1 Lease Agreement dated February 8, 2006 between the Registrant and KDC-Carolina Investments 3, LP. (Incorporated by reference to Exhibit 99.1 to 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 to 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 to Registrant's Current Report on Form 8-K, filed on October 10, 2006.)
- 10.4 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 to Registrant's Current Report on Form 8-K, filed on December 20, 2006.)
- 10.5 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 to Registrant's Current Report on Form 8-K, filed on March 1, 2007.)
- 10.6 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 to Registrant's Form 8-K, filed on March 21, 2011.)
- 10.7 Credit Agreement, dated as of October 10, 2014, among 3D Systems Corporation, the Guarantors party thereto, PNC Bank, National Association, as Administrative Agent, PNC Capital Markets LLC, as Sole Lead Arranger and Sole Bookrunner, HSBC Bank USA, N.A., as Syndication Agent, and the other lenders party thereto. (Incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K, filed on October 14, 2014.)
- 10.8 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).
- 10.9 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).
- 10.10 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 Annual Report on Form 10-Q for the quarter ended September 30, 2019, filed on October 30, 2019).
- 10.11\* 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.)

- 10.12\* Employment Agreement, dated August 4, 2016, between 3D Systems Corporation and Charles W. Hull. (Incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K, filed August 8, 2016.)
- 10.13\* Employment Agreement, dated April 1, 2016, between 3D Systems Corporation and Vyomesh I. Joshi. (Incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K, filed on April 4, 2016.)
- 10.14\* Advisory Management, dated February 6, 2020 between 3D Systems Corporation and Vyomesh I. Joshi. (Incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K, filed February 6, 2020.)
- 10.15\* Employment Agreement between 3D Systems Corporation and Todd Booth, dated August 15, 2019. (Incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K, filed on August 19, 2019.)
- 10.16\* Employment Agreement, dated June 15, 2016, between 3D Systems Corporation and Andrew M. Johnson. (Incorporated by reference to Exhibit 10.2 to Registrant's Current Report on Form 8-K, filed on June 16, 2016.)
- 10.17\* Employment Agreement, dated September 5, 2016, between 3D Systems SA and Herbert Koeck. (Incorporated by reference to exhibit 10.24 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2018, filed on February 28, 2019).
- 10.18\* Letter of Secondment, dated March 5, 2018, between 3D Systems Corporation and Herbert Koeck. (Incorporated by reference to exhibit 10.25 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2018, filed on February 28, 2019).
- 10.19\* Second Letter of Secondment, dated January 8, 2020, between 3D Systems Corporation and Herbert Koeck.
- 10.20\* Employment Agreement, dated August 24, 2016, between 3D Systems Corporation and Philip Schultz. (Incorporated by reference to exhibit 10.26 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2018, filed on February 28, 2019).
- 10.21\* Employment Agreement between 3D Systems Corporation and Sadie Stern, dated September 15, 2017.
- 10.22\* Employment Agreement between 3D Systems Corporation and Radhika Krishnan, dated October, 22, 2018.
- 10.23\* 3D Systems Corporation Change of Control Severance Policy (Incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed February 23, 2018.)
- 10.24\* Transition Agreement, dated March 14, 2019, between 3D Systems Corporation and John N.McMullen (Incorporated by reference to to exhibit 10.1 to Registrant's Current Form 8-K filed March 14, 2019)
- 10.25\* Severance Agreement, between 3DSYSTEMS Corporation and Kevin McAlea, dated May 10, 2019. (Incorporated by reference to exhibit 10.1 of the Registrant's Current Form 8-K, filed May 15, 2019.)
- 21.1 Subsidiaries of Registrant.
- 23.1 Consent of Independent Registered Public Accounting Firm.
- 31.1 Certification of Principal Executive Officer filed pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 dated February 26, 2020.
- 31.2 Certification of Principal Financial Officer filed pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 dated February 26, 2020.
- 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 February 26, 2020.
- 32.2 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 February 26, 2020.

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.In
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.

\* Management contract or compensatory plan or arrangement

#### **Item 16. Form 10-K Summary**

None.

#### **SIGNATURES**

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

3D Systems Corporation

By: /s/ VYOMESH I. JOSHI

Vyomesh I. Joshi

Chief Executive Officer, President and  
Director

Date: February 26, 2020

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
<u>/s/ VYOMESH I. JOSHI</u> Vyomesh I. Joshi	Chief Executive Officer, President and Director (principal executive officer)	February 26, 2020
<u>/s/ TODD A. BOOTH</u> Todd A. Booth	Executive Vice President and Chief Financial Officer (principal financial and accounting officer)	February 26, 2020
<u>/s/ CHARLES W. HULL</u> Charles W. Hull	Executive Vice President, Chief Technology Officer and Director	February 26, 2020
<u>/s/ CHARLES G. MCCLURE, JR</u> Charles G. McClure, Jr.	Chairman of the Board of Directors	February 26, 2020
<u>/s/ MALISSIA R. CLINTON</u> Malissia R. Clinton	Director	February 26, 2020
<u>/s/ WILLIAM E. CURRAN</u> William E. Curran	Director	February 26, 2020
<u>/s/ THOMAS W. ERICKSON</u> Thomas W. Erickson	Director	February 26, 2020
<u>/s/ WILLIAM D. HUMES</u> William D. Humes	Director	February 26, 2020
<u>/s/ JIM D. KEVER</u> Jim D. Kever	Director	February 26, 2020
<u>/s/ KEVIN S. MOORE</u> Kevin S. Moore	Director	February 26, 2020
<u>/s/ JOHN J. TRACY</u> Dr. John J. Tracy	Director	February 26, 2020
<u>/s/ JEFFREY WADSWORTH</u> Dr. Jeffrey Wadsworth	Director	February 26, 2020

**3D Systems Corporation**  
**Index to Consolidated Financial Statements**

**Consolidated Financial Statements**

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<u>Consolidated Balance Sheets as of December 31, 2019 and 2018</u>	<u>F-5</u>
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<u>Consolidated Statements of Comprehensive Loss for the Years Ended December 31, 2019, 2018 and 2017</u>	<u>F-7</u>
<u>Consolidated Statements of Cash Flows for the Years Ended December 31, 2019, 2018 and 2017</u>	<u>F-8</u>
<u>Consolidated Statements of Stockholders' Equity for the Years Ended December 31, 2019, 2018 and 2017</u>	<u>F-10</u>
<u>Notes to Consolidated Financial Statements for the Years Ended December 31, 2019, 2018 and 2017</u>	<u>F-11</u>

## Report of Independent Registered Public Accounting Firm

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

### Opinion on Internal Control over Financial Reporting

We have audited 3D Systems Corporation and its subsidiaries' (the "Company's") internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (the "COSO criteria"). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets of the Company as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2019, and the related notes and our report dated February 26, 2020 expressed an unqualified opinion thereon.

### Basis for Opinion

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

We conducted our audit of internal control over financial reporting in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

### Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

/s/ BDO USA, LLP

Charlotte, North Carolina

February 26, 2020



## 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 sheets of 3D Systems Corporation and its subsidiaries (the “Company”) as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive loss, stockholders’ equity, and cash flows for each of the three years in the period ended December 31, 2019, 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, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the Company’s internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”) and our report dated February 26, 2020 expressed an unqualified opinion thereon.

### Basis for Opinion

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

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

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

### Critical Audit Matters

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

#### *Assessment of Goodwill Recoverability*

As described in Notes 2 and 9 to the Company’s consolidated financial statements, goodwill totaled \$223.2 million as of December 31, 2019. The carrying values of goodwill for the Europe and Middle East (“EMEA”), Asia Pacific (“APAC”), and Americas reporting units were \$186.7 million, \$36.5 million, and \$0, respectively, as of December 31, 2019. The Company performs an annual assessment of the recoverability of its goodwill during the fourth quarter, and also performs an assessment on an interim basis when events or changes in circumstances indicate that the carrying value of a reporting unit may exceed its fair value.

We identified the assessment of the recoverability of goodwill as a critical audit matter. The determination of the fair value of the reporting units requires management to estimate the future cash flows which include significant judgments about profit margins, long-term forecasts, terminal growth rates and discount rates. Auditing management's significant assumptions used in the assessment of the recoverability of goodwill involved especially challenging and subjective auditor judgment due to the Company's operating performance during 2019 which has been negatively impacted by macroeconomic factors and changes in the mix of sales and ordering patterns from certain enterprise customers.

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

- Testing the design and operating effectiveness of controls related to management's forecasting process, including controls over the data, inputs, and assumptions utilized to determine the fair value of the Company's reporting units, including the assessment of historical information utilized, future forecasts, profit margins, operating expenses, depreciation, discount rates, and terminal growth rates.
- Evaluating the reasonableness of management's assumptions used to develop cash flow forecasts and projections by comparing them to prior period forecasts, historical operating performance, internal and external communications made by the Company and forecasted information included in industry reports.
- Performing sensitivity analyses to assess the impact that fluctuations in the projected growth rates might have on the estimated fair values of the individual reporting units.
- Utilizing professionals with specialized skills and knowledge to assist in evaluating the reasonableness of certain fair value inputs and assumptions used to determine the fair value of the EMEA and APAC reporting units.

#### *Assessment of Inventory Reserve*

As described in Note 6 to the Company's consolidated financial statements, the consolidated inventory balance and the associated inventory reserve at December 31, 2019 were \$123.9 million and \$12.8 million, respectively. The Company estimates the inventory reserve based on the specific identification of obsolete products, as well as through an evaluation of excess and slow-moving items in order for inventory to be presented at the lower of cost or net realizable value.

We identified the estimation of the inventory reserve as a critical audit matter. Estimation of the inventory reserve involves management's complex judgments related to: (i) changing market and product demands, (ii) obsolescence of on-hand inventory based on age and usage, and (iii) discontinuation of certain products. Auditing management's significant judgments used in the inventory reserve involved especially challenging and subjective auditor judgment due to rapid technological change, the current year changes in the mix of sales and ordering patterns from certain enterprise customers.

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

- Testing the design and operating effectiveness of management's controls over: (i) the completeness and accuracy of the underlying data used in the inventory reserve calculation, including controls over the accuracy of the excess and obsolete inventory, and (ii) the assessment of adjustments made for previously reserved inventory.
- Evaluating the reasonableness of management's assumptions used in the inventory reserve calculation as compared to the Company's reserve policy and testing the underlying data supporting management's calculation by assessing the reasonableness of the assumptions against changing product demands and the discontinuation of certain products.
- Analyzing the reasonableness and accuracy of inventory write-offs in the current and prior years as an input in the inventory reserve calculation.
- Inquiring with management regarding discontinued or exited product lines and evaluating the reasonableness of management's assumptions relating to the expected impact on the overall product demand as well as the quantity of parts needed to service previously sold products.

/s/ BDO USA, LLP

We have served as the Company's auditor since 2003.

Charlotte, North Carolina

February 26, 2020

**3D SYSTEMS CORPORATION**  
**CONSOLIDATED BALANCE SHEETS**

<i>(In thousands, except par value)</i>	<b>December 31, 2019</b>	<b>December 31, 2018</b>
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 133,665	\$ 109,998
Accounts receivable, net of reserves — \$8,762 (2019) and \$8,423 (2018)	109,408	126,618
Inventories	111,106	133,161
Prepaid expenses and other current assets	18,991	27,697
Total current assets	373,170	397,474
Property and equipment, net <sup>a</sup>	92,940	107,718
Intangible assets, net	48,338	68,275
Goodwill	223,176	221,334
Right of use assets	36,890	—
Deferred income tax asset	5,408	4,217
Other assets	27,390	26,814
Total assets	<u>\$ 807,312</u>	<u>\$ 825,832</u>
<b>LIABILITIES AND EQUITY</b>		
Current liabilities:		
Current portion of long term debt	\$ 2,506	\$ —
Current right of use liabilities	9,569	—
Current portion of capitalized lease obligations	—	654
Accounts payable	49,851	66,722
Accrued and other liabilities	63,095	59,265
Customer deposits	5,712	4,987
Deferred revenue	32,231	32,432
Total current liabilities	162,964	164,060
Long-term debt, net of deferred financing costs	45,215	25,000
Long-term right of use liabilities	35,402	—
Long-term portion of capitalized lease obligations	—	6,392
Deferred income tax liability	4,027	6,190
Other liabilities	45,808	39,331
Total liabilities	293,416	240,973
Redeemable noncontrolling interests ("RNCI")	—	8,872
Commitments and contingencies (Note 22)		
Stockholders' equity:		
Common stock, \$0.001 par value, authorized 220,000 shares; issued 121,266 (2019) and 118,650 (2018)	120	117
Additional paid-in capital	1,371,564	1,355,503
Treasury stock, at cost — 3,670 shares (2019) and 2,946 shares (2018)	(18,769)	(15,572)
Accumulated deficit	(793,709)	(722,701)
Accumulated other comprehensive loss	(37,047)	(38,978)
Total 3D Systems Corporation stockholders' equity	522,159	578,369
Noncontrolling interests	(8,263)	(2,382)
Total stockholders' equity	513,896	575,987
Total liabilities, redeemable noncontrolling interests and stockholders' equity	<u>\$ 807,312</u>	<u>\$ 825,832</u>

a. Prior year balance includes \$4,466 of capitalized lease assets accounted for under ASC 840.

See accompanying notes to consolidated financial statements.

**3D SYSTEMS CORPORATION**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**

	Year Ended December 31,		
	2019	2018	2017
<i>(in thousands, except per share amounts)</i>			
Revenue:			
Products	\$ 384,577	\$ 429,215	\$ 391,596
Services	244,517	258,445	254,473
Total revenue	629,094	687,660	646,069
Cost of sales:			
Products	229,821	229,793	216,446
Services	121,232	133,473	124,784
Total cost of sales	351,053	363,266	341,230
Gross profit	278,041	324,394	304,839
Operating expenses:			
Selling, general and administrative	254,355	272,287	264,185
Research and development	80,790	95,298	94,627
Total operating expenses	335,145	367,585	358,812
Loss from operations	(57,104)	(43,191)	(53,973)
Interest and other expense, net	(7,996)	(37)	(3,548)
Loss before income taxes	(65,100)	(43,228)	(57,521)
Provision for income taxes	(4,532)	(2,035)	(7,802)
Net loss	(69,632)	(45,263)	(65,323)
Less: net income attributable to noncontrolling interests	248	242	868
Net loss attributable to 3D Systems Corporation	<u>\$ (69,880)</u>	<u>\$ (45,505)</u>	<u>\$ (66,191)</u>
Net loss per share available to 3D Systems Corporation common stockholders - basic and diluted	<u>\$ (0.61)</u>	<u>\$ (0.41)</u>	<u>\$ (0.59)</u>

See accompanying notes to consolidated financial statements.

**3D SYSTEMS CORPORATION**  
**CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS**

	Year Ended December 31,		
	2019	2018	2017
<i>(in thousands, except per share amounts)</i>			
Net loss	\$ (69,632)	\$ (45,263)	\$ (65,323)
Other comprehensive income (loss), net of taxes:			
Pension adjustments	(1,060)	(92)	220
Derivative financial instruments	(318)	—	—
Gain on liquidation of non-US entity	—	—	50
Foreign currency translation	2,996	(17,068)	31,678
Total other comprehensive income (loss), net of taxes:	1,618	(17,160)	31,948
Total comprehensive loss, net of taxes	(68,014)	(62,423)	(33,375)
Comprehensive income attributable to noncontrolling interests	191	524	1,127
Comprehensive loss attributable to 3D Systems Corporation	<u>\$ (68,205)</u>	<u>\$ (62,947)</u>	<u>\$ (34,502)</u>

See accompanying notes to consolidated financial statements.

# 3D SYSTEMS CORPORATION

## CONSOLIDATED STATEMENTS OF CASH FLOWS

<i>(in thousands)</i>	Year Ended December 31,		
	2019	2018	2017
Cash flows from operating activities:			
Net loss	\$ (69,632)	\$ (45,263)	\$ (65,323)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Depreciation and amortization	50,396	59,293	62,041
Stock-based compensation	23,587	29,253	27,260
Lower of cost or market adjustment	—	—	12,883
Provision for bad debts	1,308	1,824	1,051
Loss on the disposition of property, equipment and other assets	2,282	—	—
Provision for deferred income taxes	(3,354)	(2,990)	(5,567)
Impairment of assets	1,728	1,998	2,427
Changes in operating accounts:			
Accounts receivable	15,071	599	3,987
Inventories	18,447	(34,035)	(17,716)
Prepaid expenses and other current assets	9,150	40,922	(49,834)
Accounts payable	(16,846)	11,559	12,448
Deferred revenue and customer deposits	677	(2,383)	(121)
Accrued and other current liabilities	960	(47,851)	50,330
All other operating activities	(2,193)	(8,130)	(7,739)
Net cash provided by operating activities	31,581	4,796	26,127
Cash flows from investing activities:			
Purchases of property and equipment	(23,985)	(40,694)	(30,881)
Cash paid for acquisition	—	—	(34,291)
Proceeds from sale of assets	1,620	333	273
Purchase of noncontrolling interest	(2,500)	—	(2,250)
Other investing activities	(2,007)	(1,466)	(3,510)
Net cash used in investing activities	(26,872)	(41,827)	(70,659)
Cash flows from financing activities:			
Proceeds from borrowings	100,000	25,000	—
Repayment of borrowings/long term debt	(76,768)	—	—
Payments related to net-share settlement of stock based compensation	(3,194)	(7,367)	(5,545)
Payments on earnout consideration	—	(2,675)	(3,206)
Other financing activities	(1,338)	(694)	(437)
Net cash provided by (used in) financing activities	18,700	14,264	(9,188)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	289	(3,145)	5,303
Net increase (decrease) in cash, cash equivalents and restricted cash	23,698	(25,912)	(48,417)
Cash, cash equivalents and restricted cash at the beginning of the period <sup>a</sup>	110,919	136,831	185,248
Cash, cash equivalents and restricted cash at the end of the period <sup>a</sup>	\$ 134,617	\$ 110,919	\$ 136,831
<b>Supplemental cash flow information</b>			
Cash interest payments	\$ 3,715	\$ 542	\$ 503
Cash income tax payments, net	\$ 10,722	\$ 8,964	\$ 6,339
Transfer of equipment from inventory to property and equipment, net <sup>b</sup>	\$ 3,187	\$ 5,612	\$ 9,881
Transfer of equipment to inventory from property and equipment, net <sup>c</sup>	\$ 32	\$ 2,563	\$ 378
Stock issued for acquisitions	\$ —	\$ —	\$ 3,208
<b>Noncash financing activity</b>			
Purchase of noncontrolling interest <sup>d</sup>	\$ (11,000)	\$ —	\$ —



- a. The amounts for cash and cash equivalents shown above include restricted cash of \$952, \$921 and \$487 as of December 31, 2019, 2018 and 2017, respectively, which were included in Other assets, net, in the consolidated balance sheets.
- b. Inventory is transferred from inventory 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. In general, an asset is transferred from Property and equipment, net, into inventory at its net book value when we have identified a potential sale for a used machine.
- d. Purchase of noncontrolling interest to be paid in installments over a four-year period recorded to Accrued and other current liabilities and Other liabilities on the consolidated balance sheets.

See accompanying notes to consolidated financial statements.

**3D SYSTEMS CORPORATION**  
**CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY**  
**Years Ended December 31, 2019, 2018 and 2017**

**Common Stock**

	Par Value \$0.001	Additional Paid In Capital	Treasury Stock	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total 3D Systems Corporation Stockholders' Equity	Equity Attributable to Noncontrolling Interests	Total Stockholders' Equity
<i>(in thousands, except par value)</i>								
<b>December 31, 2016</b>	115	\$ 1,307,428	\$ (2,658)	\$ (621,787)	\$ (53,225)	\$ 629,873	\$ (3,173)	\$ 626,700
Issuance (repurchase) of stock	—	—	(5,545)	—	—	(5,545)	—	(5,545)
Issuance of stock for acquisitions	—	3,208	—	—	—	3,208	—	3,208
Acquisition of noncontrolling interest	—	(1,440)	—	—	—	(1,440)	(860)	(2,300)
Cumulative impact of change in accounting policy	—	(10,206)	—	10,206	—	—	—	—
Stock-based compensation expense	—	27,260	—	—	—	27,260	—	27,260
Net loss	—	—	—	(66,191)	—	(66,191)	868	(65,323)
Liquidation of non-US entity	—	—	—	—	50	50	—	50
Pension adjustment	—	—	—	—	220	220	—	220
Foreign currency translation adjustment	—	—	—	—	31,419	31,419	259	31,678
<b>December 31, 2017</b>	115	1,326,250	(8,203)	(677,772)	(21,536)	618,854	(2,906)	615,948
Issuance (repurchase) of stock	2	—	(7,369)	—	—	(7,367)	—	(7,367)
Cumulative impact of change in accounting policy	—	—	—	576	—	576	—	576
Stock-based compensation expense	—	29,253	—	—	—	29,253	—	29,253
Net income (loss)	—	—	—	(45,505)	—	(45,505)	242	(45,263)
Pension adjustment	—	—	—	—	(92)	(92)	—	(92)
Foreign currency translation adjustment	—	—	—	—	(17,350)	(17,350)	282	(17,068)
<b>December 31, 2018</b>	117	1,355,503	(15,572)	(722,701)	(38,978)	578,369	(2,382)	575,987
Issuance (repurchase) of stock	3	—	(3,197)	—	—	(3,194)	—	(3,194)
Acquisition of non-controlling interest	—	(7,526)	—	—	256	(7,270)	(6,072)	(13,342)
Adjustment of RNCI carrying value	—	—	—	(1,128)	—	(1,128)	—	(1,128)
Stock-based compensation expense	—	23,587	—	—	—	23,587	—	23,587
Net income (loss)	—	—	—	(69,880)	—	(69,880)	248	(69,632)
Pension adjustment	—	—	—	—	(1,060)	(1,060)	—	(1,060)
Derivative financial instrument adjustment	—	—	—	—	(318)	(318)	—	(318)
Foreign currency translation adjustment	—	—	—	—	3,053	3,053	(57)	2,996
<b>December 31, 2019</b>	120	\$ 1,371,564	\$ (18,769)	\$ (793,709)	\$ (37,047)	\$ 522,159	\$ (8,263)	\$ 513,896

See accompanying notes to consolidated financial statements.

## **(1) Basis of Presentation**

The consolidated financial statements include the accounts of 3D Systems Corporation and all majority-owned subsidiaries and entities in which a controlling interest is maintained (“3D Systems” or the “Company” or “we” or “us”). A non-controlling interest in a subsidiary is considered an ownership interest in a majority-owned subsidiary that is not attributable to the parent. We include noncontrolling interests as a component of total equity in the consolidated balance sheets and the net income (loss) attributable to noncontrolling interests are presented as an adjustment from net loss used to arrive at net loss attributable to 3D Systems Corporation in the consolidated statements of operations and comprehensive loss. Our annual reporting period is the calendar year.

The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States (“GAAP”). All significant intercompany accounts and transactions have been eliminated in consolidation. Certain prior period amounts have been reclassified to conform to the current year presentation. Beginning in 2018, we classify product warranty revenue and related expenses within the “Products” line items of the consolidated statements of operations.

All dollar amounts presented in the accompanying footnotes are presented in thousands, except for per share information.

## **(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 the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. 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 ASC Topic 606, “Revenue from Contracts with Customers,” which we adopted on January 1, 2018, using the modified-retrospective method. See *Recent Accounting Pronouncements* in this Note 2 and Note 4 for further discussion of the adoption.

### **Cash and Cash Equivalents**

Cash and cash equivalents consist of cash and temporary investments with maturities of three months or less when acquired.

### **Investments**

Investments in non-consolidated affiliates (20-50 percent owned companies and joint ventures) are accounted for using the equity method. Investments through which we are not able to exercise significant influence over the investee and which we do not have readily determinable fair values are generally accounted for under the cost method.

We assess declines in the fair value of investments to determine whether such declines are other-than-temporary. Other-than-temporary impairments of investments are recorded to interest and other expense, net, in the period in which they become impaired.

For the years ended December 31, 2019 and 2018, we recorded impairment charges of \$927 and \$1,373, respectively, related to certain cost-method investments. The aggregate carrying amount of all investments accounted for under the cost method totaled \$8,327 and \$8,483 at December 31, 2019 and 2018, respectively, and is included in other assets, net, on our consolidated balance sheets.

## Accounts Receivable and Allowances for Doubtful Accounts

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 and historical collection experience. Based on these assessments, we may record a reserve for specific customers, as well as a general reserve and allowance for returns and discounts. 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.

The following presents the changes in the balance of our allowance for doubtful accounts:

Year Ended	Item	Balance at beginning of year	Additions charged to expense	Other	Balance at end of year
2019	Allowance for doubtful accounts	\$ 8,423	\$ 1,308	\$ (969)	\$ 8,762
2018	Allowance for doubtful accounts	10,258	1,824	(3,659)	8,423
2017	Allowance for doubtful accounts	12,920	1,051	(3,713)	10,258

## Inventories

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

## Long-Lived Assets and Goodwill

We review long-lived assets, including intangible assets subject to amortization, for impairment whenever events or changes in circumstances indicate that the carrying value of the asset may not be recoverable. Recoverability is assessed for the carrying value of assets held for use based on a review of undiscounted projected cash flows. Impairment losses, where identified, are measured as the excess of the carrying value of the long-lived asset over its estimated fair value as determined by discounted projected cash flows. No impairment charges for intangible assets with finite lives were recorded for the years ended December 31, 2019 and 2018.

Goodwill is the excess of cost of an acquired entity over the amounts assigned to assets acquired and liabilities assumed in a business combination. Goodwill is not amortized. Goodwill is tested for impairment annually in the fourth quarter of each year, 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 done at a reporting unit level, with all goodwill assigned to a reporting unit.

The test for goodwill impairment is a two-step process, first to identify potential goodwill impairment for each reporting unit, and then, if necessary, measure the amount of the impairment loss. Our reporting units are consistent with our geographies in Note 21. We completed the required annual goodwill impairment test during the fourth quarter of 2019. The first step of the goodwill impairment test compared the fair value of each of our reporting units to their carrying value. We estimated the fair value of our reporting units based primarily on the discounted projected cash flows of the underlying operations. The estimated fair value for each of our reporting units was in excess of their respective carrying values as of December 31, 2019.

For a summary of our goodwill by reporting unit, see Note 9.

## Redeemable Noncontrolling Interests

Owners of noncontrolling interests in a certain subsidiary held the right to require us to acquire either a portion of or all of the remaining ownership interests held by them. The owners' ability to exercise the "put option" right was subject to the satisfaction of certain conditions, including conditions requiring notice in advance of exercise and timing restrictions of the exercise date. The "put option" right was recorded as mezzanine equity on the consolidated balance sheet at December 31, 2018 at its estimated redemption amount.

On November 19, 2019, we and the noncontrolling interest owners entered into an agreement to amend and restate the subsidiary's operating agreement, specifically amending the terms to the "put option" right and the exercise procedures thereof. On November 25, 2019, the noncontrolling interest owners exercised the "put option" right for all of the remaining ownership interests held by

them. This amount has been adjusted to the current redemption price of \$10,000 and recorded in accrued and other liabilities on the consolidated balance sheet at December 31, 2019. See Note 18 for further discussion.

## **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 it is both probable that an asset has been impaired or that a liability has been incurred and that the amount of the loss can be reasonably estimated.

## **Foreign Currency Translation**

Local currencies generally are considered the functional currencies outside the United States. Assets and liabilities for operations in local-currency environments are translated at month-end exchange rates of the period reported. Income and expense items are translated at average exchange rates of each applicable month. Cumulative translation adjustments are recorded as a component of accumulated other comprehensive income (loss) in shareholders’ equity.

## **Derivative Financial Instruments**

We are exposed to market risk from changes in interest rates, foreign currency exchange rates and commodity prices, 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.

We use derivative financial instruments to manage our exposure to changes in interest rates on outstanding debt instruments. In doing so, we have elected to prepare and maintain the documentation to qualify for hedge accounting treatment under ASC 815, “*Derivatives and Hedging*,” and therefore, related gains and losses (realized or unrealized) related to derivative instruments are recognized in accumulated other comprehensive income (loss) and are reclassified into earnings when the underlying transaction is recognized in net earnings and, depending on the fair value at the end of the reporting period, derivatives are recorded either in prepaid and other current assets or in accrued liabilities in the consolidated balance sheets.

We and our subsidiaries conduct business in various countries using both their functional currencies and other currencies to effect cross border transactions. As a result, we and our subsidiaries are subject to the risk that fluctuations in foreign exchange rates between the dates that those transactions are entered into and their respective settlement dates will result in a foreign exchange gain or loss. When practicable, we endeavor to match assets and liabilities in the same currency on our U.S. balance sheet and those of our subsidiaries in order to reduce these risks. We, when we consider it to be appropriate, enter into foreign currency contracts to hedge the exposure arising from those transactions. See Note 13. For our hedges of foreign exchange rates and commodity prices, we have elected to not prepare and maintain the documentation to qualify for hedge accounting treatment under ASC 815, “*Derivatives and Hedging*,” and therefore, changes in fair value are recognized in interest and other expense, net in the consolidated statements of operations and comprehensive loss and, depending on the fair value at the end of the reporting period, derivatives are recorded either in prepaid and other current assets or in accrued liabilities in the consolidated balance sheets.

We are exposed to credit risk if the counterparties to such transactions are unable to perform their obligations. However, we seek to minimize such risk by entering into transactions with counterparties that are believed to be creditworthy financial institutions.

## **Research and Development Costs**

Research and development costs are expensed as incurred.

## **Earnings (Loss) per Share**

Basic earnings (loss) per share are calculated on the weighted-average number of common shares outstanding during each period. Diluted earnings per share include shares issuable upon exercise of outstanding stock options and stock-based awards where the conversion of such instruments would be dilutive. See Note 17.

## **Advertising Costs**

Advertising costs are expensed as incurred. Advertising costs, including trade shows, were \$13,732, \$13,562 and \$13,683 for the years ended December 31, 2019, 2018 and 2017, 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 be measured on an actuarial basis. Actuarial gains and losses resulting from both normal year-to-year changes in valuation assumptions and differences from actual experience are deferred and amortized. The application of these accounting standards require us to make assumptions and judgements that can significantly affect these measurements. Our critical assumptions in performing these actuarial valuations include the selection of the discount rate to determine the present value of the pension obligations that affects the amount of pension expense recorded in any given period. Changes in the discount rate could have a material effect on our reported pension obligations and related pension expense. See Note 16.

## **Equity Compensation Plans**

We recognize compensation expense for our stock-based compensation programs, which include stock options, restricted stock, restricted stock units (“RSU”) and performance shares. For service-based awards, stock-based compensation is estimated at the grant date based on the fair value of the awards expected to vest and recognized as expense ratably over the requisite service period of the award. For stock options and awards with market conditions, compensation cost is determined at the individual tranche level. 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 tax benefit carryforwards. Deferred income tax liabilities and assets 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. The 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.

See Note 20 for further discussion.



## Recent Accounting Pronouncements

### Recently Adopted Accounting Standards

On January 1, 2019, we adopted the FASB ASU No. 2016-02, “*Leases (Topic 842)*,” which requires the recognition of right-of-use (“ROU”) assets and related operating and finance lease liabilities on the balance sheet. We adopted ASU 2016-02 effective January 1, 2019 using the cumulative-effect adjustment transition method, which applies the provisions of the standard at the effective date without adjusting the comparative periods presented. As permitted under ASU 2016-02, we applied the practical expedients that allowed us to not (1) reassess historical lease classifications, (2) recognize short-term leases on the balance sheet, nor (3) separate lease and non-lease components for its real estate leases. As a result of the adoption of ASU 2016-02 on January 1, 2019, we recorded operating lease liabilities and ROU assets of \$38,415. The adoption of ASU 2016-02 had an immaterial impact on our consolidated statement of operations and consolidated statement of cash flows for the year ended December 31, 2019. For additional information about leases, see Note 5.

In August 2017, the FASB issued ASU No. 2017-12, “*Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities*” (“ASU 2017-12”), in order to create more transparency around how economic results are presented within both the financial statements and in the footnotes and to better align the results of cash flow and fair value hedge accounting with risk management activities. ASU 2017-12 is effective for fiscal years beginning after December 15, 2018, with early adoption permitted. We adopted ASU 2017-12 in the third quarter of 2019 and the implementation of this guidance did not have a material effect on our consolidated financial statements.

### Recently Issued Accounting Standards

In August 2018, the FASB issued ASU 2018-15, “*Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40)*,” which aligns the requirements for capitalizing implementation costs incurred in a service contract hosting arrangement with those of developing or obtaining internal-use software. This standard is effective for interim and annual reporting periods beginning after December 15, 2019, and early adoption is permitted. We have elected not to adopt the provisions of this ASU early and are evaluating the impact the new standard will have on our consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-04, “*Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*” (“ASU 2017-04”), which eliminates the performance of Step 2 from the goodwill impairment test. In performing its annual or interim impairment testing, an entity will instead compare the fair value of the reporting unit with its carrying amount and recognize any impairment charge for the amount by which the carrying amount exceeds the reporting unit’s fair value. Additionally, an entity should consider income tax effects from any tax deductible goodwill on the carrying amount of the reporting unit when measuring the goodwill impairment loss. The standard is effective for fiscal years beginning after December 15, 2019. Early adoption is permitted for interim or annual impairment tests performed on testing dates after January 1, 2017. We have elected not to adopt the provisions of this standard early.

In June 2016, the FASB issued ASU 2016-13, “*Measurement of Credit Losses on Financial Instruments*” (“ASU 2016-13”), which provides guidance regarding the measurement of credit losses for financial assets and certain other instruments that are not accounted for at fair value through net income, including trade and other receivables, debt securities, net investment in leases, and off-balance sheet credit exposures. The new guidance requires companies to replace the current incurred loss impairment methodology with a methodology that measures all expected credit losses for financial assets based on historical experience, current conditions, and reasonable and supportable forecasts. The guidance expands the disclosure requirements regarding credit losses, including the credit loss methodology and credit quality indicators. In May 2019, the FASB issued ASU 2019-05, “*Financial Instruments—Credit Losses (Topic 326)*,” which provides transition relief to entities adopting ASU 2016-13 by allowing entities to elect the fair value option on certain financial instruments. ASU 2016-13 will be effective for annual reporting periods, including interim reporting within those periods, beginning after December 15, 2019. Early adoption is permitted for annual reporting periods, including interim periods after December 15, 2018 and will be applied using a modified retrospective approach. We elected not to early adopt the provisions of this ASU and we do not expect there to be a material impact to the consolidated financial statements upon adoption of this standard in 2020.

In December 2019, the FASB issued ASU 2019-12, “*Income Taxes (Topic 740) - Simplifying the Accounting for Income Taxes*,” which simplifies the accounting for income taxes by eliminating some exceptions to the general approach in Accounting Standards Codification 740, Income Taxes. It also clarifies certain aspects of the existing guidance to promote more consistent application. This standard is effective for calendar-year public business entities in 2021 and interim periods within that year, and early adoption is permitted. We are currently not early adopting and are in the process of evaluating the impact the new standard will have on our consolidated financial statements.

No other new accounting pronouncements, issued or effective during 2019, have had or are expected to have a significant impact on the Company's consolidated financial statements.

### **(3) Acquisitions**

#### **2019 Acquisitions**

We made no acquisitions for the year ended December 31, 2019.

#### **2018 Acquisitions**

We made no acquisitions for the year ended December 31, 2018.

#### **2017 Acquisitions**

On January 31, 2017, we acquired 100 percent of the shares of Vertex-Global Holding B.V. ("Vertex"), a provider of dental materials worldwide under the Vertex and NextDent brands. The fair value of the consideration paid for this acquisition, net of cash acquired, was \$37,562, and consisted of cash and shares. The cash portion of the purchase price is included in cash paid for acquisitions, net of cash assumed, in the consolidated statement of cash flows. The share portion of the purchase price is included in issuance of stock for acquisitions in the Consolidated Statement of Equity. The operating results of Vertex have been included in our reported results since the closing date. The purchase price of the acquisition has been allocated to the estimated fair value of net tangible and intangible assets acquired, with any excess purchase price recorded as goodwill.

### **(4) Revenue**

We account for revenue in accordance with ASC Topic 606, "Revenue from Contracts with Customers," which we adopted on January 1, 2018, using the modified-retrospective method.

#### **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 in ASC Topic 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.

At December 31, 2019, we had \$107,882 of outstanding performance obligations. We expect to recognize approximately 92 percent of our remaining performance obligations as revenue within the next twelve months, an additional 5 percent by the end of 2021 and the balance thereafter.

#### **Revenue Recognition**

Revenue is recognized when control of the promised products or services is transferred to customers 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 accounted for as separate performance obligations. Many of our contracts with customers include multiple performance obligations. For such arrangements, we allocate revenue to each performance obligation based on its relative stand-alone selling price ("SSP"). Revenue is recognized net of allowances for returns and any taxes collected from customers, which 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.

A majority of our revenue is recognized at the point in time when products are shipped or services are delivered to customers. Please see below for further discussion.

#### ***Hardware and Materials***

Revenue from hardware and material sales is recognized when control has transferred to the customer, which typically occurs when the goods have been shipped to the customer, risk of loss has transferred to the customer and we have a present right to payment for the hardware. 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 a warranty under which we provide maintenance for periods up to one year. 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 on 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. 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 is included but subsequent years are optional. This optional support is considered a separate obligation from the software and is deferred at the time of sale and subsequently recognized ratably over future periods.

### ***Services***

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 and costs are expensed as incurred. Deferred revenue is recognized ratably over the term of the maintenance period on a straight-line basis. Revenue from training, installation and non-contract maintenance services is recognized at the time of performance of the service.

On demand manufacturing and healthcare 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.

### ***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.

Credit is extended, and creditworthiness is determined, based on 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. Customers with a favorable profile may receive credit terms that differ from our general credit terms. Creditworthiness is considered, among other things, in evaluating our relationship with customers with past due balances.

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.

See Note 21 for additional information related to revenue by reportable segment and major lines of business.

### ***Significant Judgments***

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

Judgment is required to determine the SSP for each distinct performance obligation in a contract. For the majority of items, 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 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 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, it 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 marketing incentives may lead to consideration that is variable. Judgment is exercised at contract inception to determine the most likely outcome of the contract and resulting transaction price. Ongoing assessments are performed to determine if updates are needed to the original estimates.

### **Contract Balances**

The timing of revenue recognition, billings and cash collections results in billed accounts receivable, unbilled receivables (contract assets), and customer deposits and deferred revenues (contract liabilities) on the consolidated balance sheets. Timing of revenue recognition may differ from the timing of invoicing to customers. We record a receivable when revenue is recognized at the time of invoicing, or 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 items being shipped where the customer has not been charged, but for which revenue had been recognized. In our on demand manufacturing business, customers may be required to pay in full before work begins on their orders, resulting in customer deposits. We typically bill in advance for installation, training and maintenance contracts as well as extended warranties, resulting in deferred revenue. Changes in contract asset and liability balances were not materially impacted by any other factors for the period ended December 31, 2019.

Through December 31, 2019, we recognized revenue of \$26,486 related to our contract liabilities at January 1, 2019. Through December 31, 2018, we recognized revenue of \$37,206 related to our contract liabilities at January 1, 2018.

### **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.

### **(5) Leases**

We have various lease agreements for our facilities, equipment and vehicles with remaining lease terms ranging from one to seventeen years. We determine if an arrangement contains a lease at inception. Some leases include the options to purchase, terminate or extend for one or more years; these options are included in the ROU asset and liability lease term when it is reasonably certain 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 the information available at the 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 were 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 ROU asset recorded on the balance sheet was determined based upon factors considered at the commencement date, subsequent changes in the rate or index that were not contemplated in the ROU asset balances recorded on the balance sheet result in variable expenses being incurred when paid during the lease term.

Components of lease cost (income) were as follows:

<i>(in thousands)</i>	Year Ended December 31, 2019
Operating lease cost	\$ 14,743
Finance lease cost - amortization expense	737
Finance lease cost - interest expense	477
Short-term lease cost	114
Variable lease cost	245
Sublease income	(84)
Total	<u>\$ 16,232</u>

Rent expense for the years ended December 31, 2018 and 2017, accounted for under the previous guidance at ASC 840 *Leases*, was \$15,809 and \$14,899, respectively.

Balance sheet classifications at December 31, 2019 are summarized below:

<i>(in thousands)</i>	December 31, 2019		
	Right of use assets	Current right of use liabilities	Long-term right of use liabilities
Operating Leases	\$ 28,571	\$ 9,231	\$ 24,835
Finance Leases	8,319	338	10,567
Total	<u>\$ 36,890</u>	<u>\$ 9,569</u>	<u>\$ 35,402</u>

Our future minimum lease payments as of December 31, 2019 under operating lease and finance leases, with initial or remaining lease terms in excess of one year, were as follows:

<i>(in thousands)</i>	December 31, 2019	
	Operating Leases	Finance Leases
Years ending December 31:		
2020	\$ 11,013	\$ 965
2021	7,611	1,473
2022	6,295	1,475
2023	5,341	1,469
2024	3,817	1,420
Thereafter	6,728	8,242
Total lease payments	40,805	15,044
Less: imputed interest	(6,739)	(4,139)
Present value of lease liabilities	<u>\$ 34,066</u>	<u>\$ 10,905</u>

Supplemental cash flow information related to our operating leases for the period ending December 31, 2019, was as follows:

<i>(in thousands)</i>	December 31, 2019
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash outflow from operating leases	\$ 15,602
Operating cash outflow from finance leases	\$ 456
Financing cash outflow from finance leases	\$ 725

Weighted-average remaining lease terms and discount rate for our operating leases for the period ending December 31, 2019, were as follows:

	December 31, 2019	
	Operating	Financing
Weighted-average remaining lease term	5.3 years	10.4 years
Weighted-average discount rate	6.49 %	6.03 %

## **(6) Inventories**

Components of inventories at December 31, 2019 and 2018 are summarized as follows:

<i>(in thousands)</i>	2019	2018
Raw materials	\$ 42,066	\$ 49,624
Work in process	5,496	2,969
Finished goods and parts	63,544	80,568
Inventories	<u>\$ 111,106</u>	<u>\$ 133,161</u>

We record a reserve to the carrying value of our inventory to reflect the rapid technological change in our industry that impacts the market for our products. The inventory reserve was \$12,812 and \$10,310 as of December 31, 2019 and 2018, respectively.

## **(7) Property and Equipment**

Property and equipment at December 31, 2019 and 2018 are summarized as follows:

<i>(in thousands)</i>	2019	2018	Useful Life (in years)
Land	\$ 541	\$ 903	N/A
Building	5,093	12,408	25-30
Machinery and equipment	158,753	151,429	2-7
Capitalized software	22,928	18,357	3-5
Office furniture and equipment	4,618	4,955	1-5
Leasehold improvements	33,444	31,514	Life of lease <sup>a</sup>
Construction in progress	9,944	15,083	N/A
Total property and equipment	<u>235,321</u>	<u>234,649</u>	
Less: Accumulated depreciation and amortization	<u>(142,381)</u>	<u>(126,931)</u>	
Total property and equipment, net <sup>b</sup>	<u>\$ 92,940</u>	<u>\$ 107,718</u>	

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.

b. Prior year balance includes \$4,466 of capitalized lease assets accounted for under ASC 840.

We include all depreciation from assets attributable to the generation of revenue in the cost of sales line item in the Statement of Operations. Depreciation related to assets that are not attributable to the generation of revenue are included in the research and development and selling and general administrative line items in the Statement of Operations. Depreciation expense on property and equipment for the years ended December 31, 2019, 2018 and 2017 was \$29,982, \$29,302 and \$25,561, respectively.

For the years ended December 31, 2019, 2018 and 2017, we recognized impairment charges of \$181, \$625 and \$636, respectively, on property and equipment, net.



## **(8) Intangible Assets**

Intangible assets, net, other than goodwill, at December 31, 2019 and 2018 are summarized as follows:

<i>(in thousands)</i>	2019			2018			Weighted Average Useful Life Remaining (in years)
	Gross <sup>a</sup>	Accumulated Amortization	Net	Gross <sup>a</sup>	Accumulated Amortization	Net	
Intangible assets with finite lives:							
Customer relationships	\$103,661	\$ (77,021)	\$ 26,640	\$103,332	\$ (67,129)	\$ 36,203	4
Acquired technology	54,378	(51,875)	2,503	52,691	(47,546)	5,145	1
Trade names	23,907	(19,133)	4,774	25,096	(17,669)	7,427	4
Patent costs	11,760	(9,535)	2,225	11,032	(8,382)	2,650	15
Trade secrets	19,494	(15,714)	3,780	19,374	(13,574)	5,800	2
Acquired patents	16,215	(14,706)	1,509	16,212	(13,160)	3,052	7
Other	26,256	(19,349)	6,907	26,551	(18,553)	7,998	1
Total intangible assets	<u>\$255,671</u>	<u>\$ (207,333)</u>	<u>\$ 48,338</u>	<u>\$254,288</u>	<u>\$ (186,013)</u>	<u>\$ 68,275</u>	5

a. Change in gross carrying amounts consists primarily of charges for license and patent costs and foreign currency translation.

Amortization expense related to intangible assets was \$20,312, \$29,722 and \$35,559 for the years ended December 31, 2019, 2018 and 2017, respectively.

Annual amortization expense for intangible assets is expected to be \$16,936 in 2020, \$12,488 in 2021, \$7,370 in 2022, \$2,418 in 2023 and \$1,320 in 2024.

## **(9) Goodwill**

The following are the changes in the carrying amount of goodwill by geographic reporting unit:

<i>(in thousands)</i>	Americas	EMEA	APAC	Total
Balance at December 31, 2017	\$ —	\$ 191,948	\$ 38,934	\$ 230,882
Acquisitions and adjustments	—	(331)	—	(331)
Effect of foreign currency exchange rates	—	(7,597)	(1,620)	(9,217)
Balance at December 31, 2018	—	184,020	37,314	221,334
Effect of foreign currency exchange rates	—	2,675	(833)	1,842
Balance at December 31, 2019	<u>\$ —</u>	<u>\$ 186,695</u>	<u>\$ 36,481</u>	<u>\$ 223,176</u>

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

For discussion on acquisitions, see Note 3. For discussion on goodwill impairment testing, see Note 2.

## **(10) Employee Benefits**

We sponsor a Section 401(k) plan (the “Plan”) covering substantially all 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 50.0% of contributions on the first 6.0% of the participant’s eligible compensation. We will give a minimum match of one thousand five hundred dollars to participants who average a minimum 6.0% deferral contribution rate per plan year. In addition, we have several other U.S. and non-U.S. defined contribution plans covering eligible U.S. and non-U.S. employees, respectively.

For the years ended December 31, 2019, 2018 and 2017, we expensed \$2,688, \$2,606 and \$2,360, respectively, for matching contributions to defined contribution plans.

### **(11) Accrued and Other Liabilities**

Accrued liabilities at December 31, 2019 and 2018 are summarized as follows:

<i>(in thousands)</i>	<u>2019</u>	<u>2018</u>
Compensation and benefits	\$ 21,139	\$ 23,787
Accrued taxes	9,840	17,246
Vendor accruals	9,734	6,895
Payable to owners of redeemable noncontrolling interests	10,000	—
Arbitration awards	2,256	2,256
Product warranty liability	2,908	3,788
Accrued other	4,223	2,219
Accrued professional fees	1,545	1,657
Royalties payable	1,450	1,417
Total	<u>\$ 63,095</u>	<u>\$ 59,265</u>

Other liabilities at December 31, 2019 and 2018 are summarized as follows:

<i>(in thousands)</i>	<u>2019</u>	<u>2018</u>
Long term employee indemnity	\$ 14,408	\$ 13,609
Long term tax liability	5,011	4,168
Defined benefit pension obligation	10,357	8,518
Long term deferred revenue	7,370	8,121
Other long term liabilities	8,662	4,915
Total	<u>\$ 45,808</u>	<u>\$ 39,331</u>

Changes in product warranty obligations, including deferred revenue on extended warranty contracts, for the years ended December 31, 2019, 2018 and 2017, are summarized below:

<i>(in thousands)</i>	<u>Beginning Balance</u>	<u>Additional Accrual/ Revenue Deferred</u>	<u>Costs Incurred/ Deferred Revenue Amortization</u>	<u>Ending Balance</u>
Year Ended December 31,				
2019	\$ 7,660	\$ 8,124	\$ (9,592)	\$ 6,192
2018	10,202	9,347	(11,889)	7,660
2017	9,051	13,623	(12,472)	10,202

### **(12) Borrowings**

#### **Credit Facility**

On February 27, 2019, we, as borrower, and certain of our subsidiaries, as guarantors, entered into a 5-year \$100,000 senior secured term loan facility (the “Term Facility”) and a 5-year \$100,000 senior secured revolving credit facility (the “Revolving Facility” and, together with the Term Facility, the “Senior Credit Facility”). The Senior Credit Facility replaced our prior \$150,000 5-year revolving, unsecured credit facility (the “Prior Credit Agreement”), which was terminated on February 27, 2019 in connection with the entry into the Senior Credit Facility. The proceeds of the Senior Credit Facility were used to refinance existing indebtedness of \$25,000 outstanding under the Prior Credit Agreement and to support working capital and general corporate purposes.

Pursuant to the Senior Credit Facility, the guarantors guarantee, among other things, all our obligations and each other guarantor's obligations under the Senior Credit Facility. From time to time, we may be required to cause additional domestic subsidiaries to become guarantors under the Senior Credit Facility. The Senior Credit Facility is scheduled to mature on February 26, 2024, at which time all amounts outstanding thereunder will be due and payable. However, the maturity date of the Revolving Facility may be extended at our election with the consent of the lenders subject to the terms set forth in the Senior Credit Facility. The Senior Credit Facility contains customary covenants, some of which require us to maintain certain financial ratios that determine the amounts available and terms of borrowings and events of default. We were in compliance with all covenants at December 31, 2019.

The payment of dividends on our common stock is restricted under provisions of the Senior Credit Facility, which limits the amount of cash dividends that we may pay in any one fiscal year to \$30,000. We currently do not pay, and have not paid, any dividends on our common stock, and currently intend to retain any future earnings for use in our business.

Borrowings under the Senior Credit Facility are subject to interest at varying spreads above quoted market rates and a commitment fee is paid on the total unused commitment. At December 31, 2019, our floating interest rate was 3.80% and commitment fees for the years ended December 31, 2019 and 2018 totaled \$374 and \$370, respectively. Subject to certain terms and conditions contained in the Revolving Facility, we have the right to request up to four increases to the amount of the Revolving Facility in an aggregate amount not to exceed \$100,000.

At December 31, 2019, we had a balance of \$48,232 outstanding on the Term Facility, whereby future payments under the Term Facility are expected to be \$2,506 in 2020, \$4,385 in 2021, \$6,890 in 2022, \$7,517 in 2023 and \$26,934 in 2024. Unamortized deferred financing costs were \$511.

As a result of the Term Facility, we have exposure to floating interest rates. To manage interest expense, we entered into a floating to fixed interest rate swap to reduce exposure to changes in floating interest rates on the Term Facility. The interest rate swap has a notional value of \$40.0 million and will expire on February 26, 2024, concurrent with the Term Facility. The notional value will decline over the term of the interest rate swap as amortization payments reduce the principal amount of the Term Facility. As a result of the interest rate swap, the percentage of total principal debt (excluding capital leases) that is subject to floating interest rates is approximately 17%. We designated the swap as a cash flow hedge for accounting treatment purposes. See Note 13 for additional information.

## Interest Income and Expense

Interest income totaled \$1,209, \$789 and \$784 for the years ended December 31, 2019, 2018 and 2017, respectively.

Interest expense totaled \$4,442, \$1,188 and \$919 for the years ended December 31, 2019, 2018 and 2017, respectively.

## (13) Hedging Activities and Financial Instruments

### Derivatives Designated as Hedging Instruments

On July 8, 2019, we entered into an interest rate swap contract, designated as a cash flow hedge, to minimize the risk associated with the variability of cash flows in interest payments from variable-rate debt due to fluctuations in the one-month USD-LIBOR, subject to a 0% floor, through February 26, 2024. Changes in the interest rate swap are expected to offset the changes in cash flows attributable to fluctuations of the one-month USD-LIBOR for the interest payments associated with our variable-rate debt.

The notional amount and fair value of the derivative on our balance sheet at December 31, 2019 are disclosed below:

<i>(in thousands)</i>	Balance Sheet location	Notional amount		Fair value	
Interest rate swap contract	Other liabilities	\$	40,000	\$	(318)

Amounts released from accumulated other comprehensive loss (AOCL) and reclassified into "Interest and other expense, net" did not have a material impact on our consolidated statements of operations and comprehensive loss for the year ended December 31, 2019. The net amount of AOCL expected to be reclassified to earnings in the next 12 months is not expected to have a material impact on our consolidated statements of operations and comprehensive loss.

## Derivatives Not Designated as Hedging Instruments

We conduct business in various countries using both the functional currencies of those countries and other currencies to effect cross border transactions. As a result, we are subject to the risk that fluctuations in foreign exchange rates between the dates that those transactions are entered into and their respective settlement dates will result in a foreign exchange gain or loss. When practicable, we endeavor to match assets and liabilities in the same currency on our balance sheet and those of our subsidiaries in order to reduce these risks. When appropriate, we enter into foreign currency contracts to hedge exposures arising from those transactions. We have elected not to prepare and maintain the documentation to qualify for hedge accounting treatment under ASC 815, “*Derivatives and Hedging*,” and therefore, all gains and losses (realized or unrealized) are recognized in “Interest and other expense, net” in the consolidated statements of operations and comprehensive loss. Depending on their fair value at the end of the reporting period, derivatives are recorded either in prepaid expenses and other current assets or in accrued liabilities on the consolidated balance sheet.

We had \$102,407 and \$75,304 in notional foreign exchange contracts outstanding as of December 31, 2019 and 2018, respectively. The fair values of these contracts were not material.

We translate foreign currency balance sheets from each international businesses’ functional currency (generally the respective local currency) to U.S. dollars at end-of-period exchange rates, and statements of earnings at average exchange rates for each period. The resulting foreign currency translation adjustments are a component of other comprehensive income (loss).

We do not hedge the fluctuation in reported revenue and earnings resulting from the translation of these international operations’ results into U.S. dollars.

### **(14) Preferred Stock**

We had \$5,000 shares of preferred stock that were authorized but unissued at December 31, 2019 and 2018.

### **(15) Stock-Based Compensation**

Effective May 19, 2004, we adopted our 2004 Incentive Stock Plan, as further amended and restated on February 3, 2015 (the “2004 Stock Plan”), and our 2004 Restricted Stock Plan for Non-Employee Directors, as further amended and restated on April 1, 2013 (the “Director Plan”). On May 19, 2015, our stockholders approved the 2015 Incentive Plan of 3D Systems Corporation, as further amended and restated on May 16, 2017 (the “2015 Plan” and, together with the 2004 Stock Plan, the “Incentive Plans”).

The 2015 Plan authorizes shares of restricted stock, RSUs, stock appreciation rights, cash incentive awards and the grant of options to purchase shares of our common stock. The 2015 Plan also designates measures that may be used for performance awards. The Director Plan authorizes shares of restricted stock for our non-employee directors. The 2004 Stock Plan authorized shares of restricted stock, RSUs, stock appreciation rights and the grant of options to purchase shares of our common stock. The 2004 Stock Plan also designated measures that may be used for performance awards. The 2004 Stock Plan was superseded by the 2015 Plan and, as of December 31, 2019, there were no outstanding awards under the 2004 Stock Plan as the final vesting of awards granted under the 2004 Stock Plan occurred during 2018.

Generally, awards granted prior to November 13, 2015 become fully-vested on the 3-year anniversary of the grant date and awards granted on or after November 13, 2015 vest one third each year over 3 years.

Stock-based compensation expense (income) is included in selling, general and administrative expenses in the consolidated statements of operations and comprehensive income (loss). The following table details the components of stock-based compensation expense (income) recognized in net earnings in each of the past three years:

(in thousands)	Year Ended December 31,		
	2019	2018	2017
Restricted Stock	\$ 25,154	\$ 24,933	\$ 22,920
Stock Options	(1,567)	4,320	4,340
Total stock-based compensation expense	<u>\$ 23,587</u>	<u>\$ 29,253</u>	<u>\$ 27,260</u>

## Restricted Stock

We determine the fair value of restricted stock and RSUs based on the closing price of our stock on the date of grant. We generally recognize compensation expense related to restricted stock and RSUs on a straight-line basis over the period during which the restriction lapses. Forfeitures are recognized in the period in which they occur. A summary of restricted stock and RSU activity during December 31, 2019 follows:

<i>(in thousands, except per share amounts)</i>	<b>Number of Shares/Units</b>	<b>Weighted Average Grant Date Fair Value</b>
Outstanding at beginning of period — unvested	3,831	\$ 14.03
Granted	3,107	9.68
Canceled	(795)	11.97
Vested	(1,670)	13.53
Outstanding at end of period — unvested	<u>4,473</u>	<u>\$ 11.42</u>

Included in the outstanding balance above are 241 shares of restricted stock that vest under specified market conditions and 370 shares of restricted stock that vest under specified Company performance measures. The specified market condition shares were awarded to certain employees in 2017 and 2016 and were generally awarded in two equal tranches of market condition restricted stock that immediately vests when our common stock trades at either \$30 or \$40 per share for ninety consecutive calendar days.

Some RSUs are granted with a performance measure derived from non-GAAP-based management targets. Depending on our performance with respect to this metric, 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.

At December 31, 2019, there was \$69 of unrecognized pre-tax stock-based compensation expense related to non-vested restricted stock awards with market conditions, which we expect to recognize over a weighted-average period of 0.4 years.

At December 31, 2019, there was \$33,334 of unrecognized pre-tax stock-based compensation expense related to all other non-vested restricted stock award shares and units, which we expect to recognize over a weighted-average period of 1.8 years.

## Stock Options

During the year ended December 31, 2016, we awarded certain employees market condition stock options under the 2015 Plan, included in the activity above, 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. Forfeitures are recognized in the period in which they occur. The fair value of stock options with market conditions is estimated using a binomial lattice Monte Carlo simulation model.

Stock option activity for the year ended December 31, 2019 was as follows:

	Year Ended December 31, 2019			
	Number of Shares	Weighted Average Exercise	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
<i>(in thousands, except per share amounts)</i>				
Stock option activity:				
Outstanding at beginning of period	1,780	\$ 14.10	—	—
Granted	—	—	—	—
Exercised	—	—	—	—
Forfeited and expired	(540)	13.34	—	—
Outstanding at end of period	<u>1,240</u>	<u>\$ 14.43</u>	<u>6.5</u>	<u>—</u>

In the table above, intrinsic value is calculated as the excess, if any, between the market price of our stock on the last trading day of the year and the exercise price of the options. Because the market price was lower than the exercise price, the intrinsic value is zero.

At December 31, 2019, there was \$181 of unrecognized pre-tax stock-based compensation expense related to stock options, which we expect to recognize over a weighted-average period of 0.4 years.

#### **(16) International Retirement Plan**

We sponsor a non-contributory defined benefit pension plan for certain employees of a non-U.S. subsidiary initiated by a predecessor of the subsidiary. We maintain insurance contracts 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, 2019 and 2018:

<i>(in thousands)</i>	2019	2018
Reconciliation of benefit obligations:		
Obligations as of January 1	\$ 8,658	\$ 8,434
Service cost	166	155
Interest cost	151	148
Actuarial loss (gain)	1,815	453
Benefit payments	(139)	(145)
Effect of foreign currency exchange rate changes	(154)	(387)
Benefit obligations as of December 31	<u>10,497</u>	<u>8,658</u>
Fair value of assets as of December 31 <sup>a</sup>	<u>3,343</u>	<u>3,224</u>
Funded status as of December 31, net of tax benefit	<u>\$ (7,154)</u>	<u>\$ (5,434)</u>

a. No change in underlying asset value for the periods.

We recognized the following amounts in the consolidated balance sheets at December 31, 2019 and 2018:

<i>(in thousands)</i>	2019	2018
Other assets	\$ 3,343	\$ 3,224
Accrued liabilities	(140)	(140)
Other liabilities	(10,357)	(8,518)
Net liability	<u>\$ (7,154)</u>	<u>\$ (5,434)</u>



The following projected benefit obligation and accumulated benefit obligation were estimated as of December 31, 2019 and 2018:

*(in thousands)*

	<u>2019</u>	<u>2018</u>
Projected benefit obligation	\$ 10,497	\$ 8,658
Accumulated benefit obligation	\$ 9,351	\$ 7,587

The following table shows the components of net periodic benefit costs and the amounts recognized in “Accumulated other comprehensive income (loss)” as of December 31, 2019, 2018 and 2017:

*(in thousands)*

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Net periodic benefit cost:			
Service cost	\$ 166	\$ 155	\$ 184
Interest cost	151	148	131
Amortization of actuarial loss	200	177	244
Total net periodic pension cost	<u>517</u>	<u>480</u>	<u>559</u>
Other changes in plan assets and benefit obligations recognized in other comprehensive income:			
Net loss (gain)	1,815	453	(558)
Amortization of prior years' unrecognized loss	(200)	(177)	(244)
Tax (benefit) provision	(555)	(88)	247
Total recognized as accumulated other comprehensive income	<u>1,060</u>	<u>188</u>	<u>(555)</u>
Total expense recognized in net periodic benefit cost and other comprehensive income	<u>\$ 1,577</u>	<u>\$ 668</u>	<u>\$ 4</u>

The following assumptions are used to determine benefit obligations as of as of December 31, 2019 and 2018:

	<u>2019</u>	<u>2018</u>
Discount rate	0.8%	1.8%
Rate of compensation	3.0%	3.5%

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

*(in thousands)*

Estimated future benefit payments:

2020	\$ 168
2021	175
2022	181
2023	185
2024	187
2025-2029	1,277

### **(17) Net Loss Per Share**

We compute basic loss per share using net loss attributable to 3D Systems Corporation and the weighted average number of common shares outstanding during the applicable period. Diluted loss per share incorporates the additional shares issuable upon assumed exercise of stock options and the release of restricted stock and RSUs, except in such case when their inclusion would be anti-dilutive.

	Year Ended December 31,		
	2019	2018	2017
<i>(in thousands, except per share amounts)</i>			
Numerator for basic and diluted net loss per share:			
Net loss attributable to 3D Systems Corporation	\$ (69,880)	\$ (45,505)	\$ (66,191)
Denominator for basic and diluted net loss per share:			
Weighted average shares	113,811	112,327	111,554
Net loss per share - basic and diluted	<u>\$ (0.61)</u>	<u>\$ (0.41)</u>	<u>\$ (0.59)</u>

For the years ended December 31, 2019, 2018 and 2017 the effect of dilutive securities, including non-vested stock options and restricted stock awards/units, was excluded from the denominator for the calculation of diluted net loss per share because we recognized a net loss for the period and their inclusion would be anti-dilutive. Dilutive securities excluded were 5,822, 5,015 and 5,341 shares for the years ended December 31, 2019, 2018 and 2017, respectively.

### **(18) Noncontrolling Interests**

As of December 31, 2019, we owned approximately 70% of the capital and voting rights of Robtec, a service bureau and distributor of 3D printing and scanning products in Brazil. Robtec was acquired on November 25, 2014. Subsequent to our year-end, on January 7, 2020, we made a payment equal to the current redemption price of \$10,000 for all of the remaining ownership interests held and brought our ownership of the capital and voting rights to 100%. See Redeemable Noncontrolling Interests in Note 2 for additional discussion.

As of December 31, 2019, we owned 100% of the capital and voting rights of Easyway, a service bureau and distributor of 3D printing and scanning products in China. Approximately 65% of the capital and voting rights of Easyway were acquired on April 2, 2015, and an additional 5% of the capital and voting rights of Easyway were acquired on July 19, 2017 for \$2,300. The remaining 30% of the capital and voting rights of Easyway were acquired on January 21, 2019 for \$13,500 to be paid in installments over four years, with the first installment of \$2,500 paid in March 2019.

### **(19) Fair Value Measurements**

ASC 820, “Fair Value Measurements and Disclosures,” defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. ASC 820 also establishes a fair value hierarchy that requires an entity to maximize the use of observable inputs that may be used to measure fair value:

*Level 1* - Quoted prices in active markets for identical assets or liabilities;

*Level 2* - Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities; or

*Level 3* - Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The above standard applies to cash equivalents, Israeli severance funds and derivatives. We utilize the market approach to measure fair value for financial assets and liabilities. The market approach uses prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities.

Assets and liabilities measured at fair value on a recurring basis are summarized below:

(in thousands)	Fair Value Measurements as of December 31, 2019			
	Level 1	Level 2	Level 3	Total
Description				
Cash equivalents <sup>a</sup>	\$ 20,869	\$ —	\$ —	\$ 20,869
Israeli severance funds <sup>b</sup>	\$ —	\$ 7,449	\$ —	\$ 7,449
Derivative financial instruments <sup>c</sup>	\$ —	\$ (318)	\$ —	\$ (318)

(in thousands)	Fair Value Measurements as of December 31, 2018			
	Level 1	Level 2	Level 3	Total
Description				
Cash equivalents <sup>a</sup>	\$ 6,141	\$ —	\$ —	\$ 6,141
Israeli severance funds <sup>b</sup>	\$ —	\$ 6,822	\$ —	\$ 6,822

- Cash equivalents include 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 and are included in cash and cash equivalents in the consolidated balance sheet.
- We partially fund a liability for our Israeli severance requirement through monthly deposits into fund accounts, the value of these contributions are recorded to non-current assets on the consolidated balance sheet.
- Derivative instruments are reported based on published market prices for similar assets or are estimated based on published market prices for similar assets or are estimated based on observable inputs such as interest rates, yield curves, credit risks, spot and future commodity prices and spot and future exchange rates. See Note 13 for additional information on our derivative financial instruments.

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 year ended December 31, 2019.

In addition to the assets and liabilities included in the above table, certain of our assets and liabilities are to be initially measured at fair value on a non-recurring basis. This includes goodwill and other intangible assets measured at fair value for impairment assessment, in addition to redeemable noncontrolling interests. For further discussion on the valuation techniques and inputs used in the fair value measurement of goodwill and other intangible assets, see Notes 2, 8 and 9.

## **(20) Income Taxes**

The U.S. Tax Cuts and Jobs Act (“Tax Act”) was enacted in December 2017. The Tax Act significantly changed U.S. tax law by, among other things, lowering the U.S. corporate income tax rate from 35% to 21% effective January 1, 2018, extending the carryforward period for newly generated net operating losses, implementing a territorial tax system, and imposing a one-time transition tax on deemed repatriated earnings of foreign subsidiaries.

The SEC staff issued Staff Accounting Bulletin No. 118 (“SAB 118”) to address the application of GAAP in situations when a registrant did not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Tax Act and allowed the registrant to record provisional amounts during a measurement period not to extend beyond one year of the enactment date. We applied this guidance when accounting for the enactment date effects of the Tax Act in 2017, and at December 31, 2017, we provided for provisional amounts related to the Tax Act, including, re-measurement of deferred tax assets and liabilities, one-time transition tax, and tax on global intangible low-taxed Income Inclusion (“GILTI”). For the report year ending December 31, 2018, we had completed our accounting for all of the enactment date income tax effects of the Tax Act, and we recorded an adjustment of a \$1,524 tax benefit, which was offset by an adjustment to our valuation allowance of \$1,524 tax expense.

The Tax Act provides for a modified territorial tax system with GILTI provisions effective in 2018, which applies an incremental tax on low taxed foreign income. The GILTI provisions require us to include in our U.S. income tax return any foreign subsidiary earnings in excess of an allowable return on the foreign subsidiary’s tangible assets.

The components of our income before income taxes are as follows:

	2019	2018	2017
Income (Loss) before income taxes:			
Domestic	\$ (79,821)	\$ (59,233)	\$ (75,965)
Foreign	14,721	16,005	18,444
Total	<u>\$ (65,100)</u>	<u>\$ (43,228)</u>	<u>\$ (57,521)</u>

The components of income tax provision for the years ended December 31, 2019, 2018 and 2017 are as follows:

	2019	2018	2017
Current:			
U.S. federal	\$ (135)	\$ (5,882)	\$ (83)
State	801	286	741
Foreign	7,220	10,621	12,711
Total	<u>7,886</u>	<u>5,025</u>	<u>13,369</u>
Deferred:			
U.S. federal	(1,008)	(322)	—
State	—	3	1,097
Foreign	(2,346)	(2,671)	(6,664)
Total	<u>(3,354)</u>	<u>(2,990)</u>	<u>(5,567)</u>
Total income tax provision	<u>\$ 4,532</u>	<u>\$ 2,035</u>	<u>\$ 7,802</u>

The overall effective tax rate differs from the statutory federal tax rate for the years ended December 31, 2019, 2018 and 2017 as follows:

	% of Pretax Loss		
	2019	2018	2017
Tax provision based on the federal statutory rate	21.0 %	21.0 %	35.0 %
Increase in valuation allowances	(21.3)	(34.8)	48.8
Global intangible low-taxed income inclusion	(7.0)	(6.6)	—
One-Time transition tax	—	(2.8)	(16.5)
Nondeductible expenses	(1.8)	(2.3)	(3.3)
Taxes related to distributions	(0.8)	(2.3)	—
Foreign income tax rate differential	1.0	(1.5)	—
Deemed income related to foreign operations	(0.5)	(1.5)	(4.1)
Tax rate change	(1.1)	(1.4)	2.2
Employee share-based payments	—	0.1	(13.2)
Other	(0.9)	0.6	2.9
Deferred and payable adjustments	3.3	0.9	(1.1)
ASU 842 Adoption	(0.1)	—	—
State taxes, net of federal benefit, before valuation allowance	2.8	2.4	1.0
Return to provision adjustments	(2.5)	2.7	2.0
Other tax credits	(1.9)	5.1	—
U.S. Tax Cuts and Jobs Act - rate change adjustment	—	6.4	(65.9)
Uncertain tax positions and audit settlements	2.8	9.4	(1.4)
Effective tax rate	<u>(7.0)%</u>	<u>(4.6)%</u>	<u>(13.6)%</u>

The difference between our effective tax rate for 2019 and the federal statutory rate was 28.0 percentage points. The difference in the effective rate is primarily due to valuation allowance changes, provisions for GILTI, prior period adjustments, and adjustments to uncertain tax positions.

The difference between our effective tax rate for 2018 and the federal statutory rate was 25.6 percentage points. The difference in the effective rate is primarily due to the impact of the Tax Act, including adjustments related to the Tax Act, the new provisions for GILTI, tax credits, adjustments to uncertain tax positions related to statute of limitations expiration and change in valuation allowances.

The difference between our effective tax rate for 2017 and the federal statutory rate was 48.6 percentage points. The difference in the effective rate is due primarily to the impact of the Tax Act, change in valuation allowances that were recorded during the year, as well as our foreign income inclusions and employee share-based payments that were previously recognized through other comprehensive income.

In 2019 and 2018, there were no significant changes 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.

During the third quarter of 2017, we determined that it is more likely than not that the deferred tax assets related to Phenix Systems would not be realized based on our review of results from operations and other evidence. During the fourth quarter of 2017, it was determined that it was more likely than not that Layerwise, located in Belgium, would realize benefits based on results from operations and utilization of existing net operating losses. There were no other changes to our valuation allowance assertions.

The components of our net deferred income tax assets and net deferred income tax (liabilities) at December 31, 2019 and 2018 are as follows:

(in thousands)

	2019	2018
Deferred income tax assets:		
Intangibles	\$ 20,624	\$ 22,530
Stock options and restricted stock awards	6,065	5,916
Reserves and allowances	11,959	15,656
Net operating loss carryforwards	57,782	41,356
Tax credit carryforwards	12,749	13,669
Accrued liabilities	3,218	3,040
Deferred revenue	3,940	5,036
Lease Tax Asset	5,970	—
163(j) Limitation Carryforward	1,519	—
Valuation allowance	(109,643)	(95,398)
Total deferred income tax assets	14,183	11,805
Deferred income tax liabilities:		
Intangibles	4,495	6,994
Property, plant and equipment	3,282	5,265
Lease Tax Liability	4,195	—
Liabilities related to distributions	—	997
Other	830	522
Total deferred income tax liabilities	12,802	13,778
Net deferred income tax assets/( liabilities)	\$ 1,381	\$ (1,973)

At December 31, 2019, \$57,782 of our deferred income tax assets was attributable to \$369,516 of gross net operating loss carryforwards, which consisted of \$194,962 of loss carryforwards for U.S. federal income tax purposes, \$139,691 of loss carryforwards for U.S. state income tax purposes and \$36,894 of loss carryforwards for foreign income tax purposes.

The net operating loss carryforwards for U.S. federal income tax purposes begin to expire in 2035. The net operating loss carryforwards for U.S. state income tax purposes began to expire in 2018. In addition, certain loss carryforwards for foreign income tax purposes begin to expire in 2020 and certain other loss carryforwards for foreign purposes do not expire.

At December 31, 2019, tax credit carryforwards included in our deferred income tax assets consisted of \$2,934 of research and experimentation credit carryforwards for U.S. federal income tax purposes, \$4,037 of research and experimentation tax credit carryforwards for U.S. state income tax purposes, \$4,026 of foreign tax credits for U.S. federal income tax purposes, \$1,021 of research and experimentation tax credit carryforwards for foreign income tax purposes and \$729 of other state tax credits. Certain state research and experimentation and other state credits begin to expire in 2021. We have recorded a valuation allowance related to the U.S. federal and state tax credits.

Due to the one time transition tax, our previously unremitted earnings have now been subjected to U.S. federal income tax, although, other additional taxes such as, withholding tax, could be applicable. We intend to permanently reinvest its earnings outside the U.S. and as such, it has not provided for any additional taxes on approximately \$181,002 of unremitted earnings. We believe the unrecognized deferred tax liability related to these earnings is approximately \$21,210.

Including interest and penalties, we decreased our unrecognized benefits by \$857 for the year ended December 31, 2019 and increased our unrecognized tax benefits by \$3,293 for the year ended December 31, 2019. The decrease was primarily related to the release of unrecognized tax benefits due to the expiration of statute of limitations and effective settlement of an audit. We do not anticipate any additional unrecognized tax benefits during the next 12 months that would result in a material change to its consolidated financial position. The total amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate is \$4,920. We include interest and penalties in the consolidated financial statements as a component of income tax expense.



(in thousands)	Unrecognized Tax Benefits*		
	2019	2018	2017
Balance at January 1	\$ (13,031)	\$ (18,310)	\$ (18,251)
Increases related to prior year tax positions	(2,684)	(1,400)	(4,104)
Decreases related to prior year tax positions	857	8,272	4,045
Increases related to current year tax positions	(609)	(1,593)	—
Balance at December 31	<u>\$ (15,467)</u>	<u>\$ (13,031)</u>	<u>\$ (18,310)</u>

\*The unrecognized tax benefit balance includes an insignificant amount of interest and penalties.

Tax years 2013 and 2014 remain subject to examination by the U.S. Internal Revenue Service (“IRS”) for certain credit carryforwards, while tax years 2016 through 2018 remain open to examination by the IRS. State income tax returns are generally subject to examination for a period of three to four years after filing the respective tax returns. We file income tax returns (which are open to examination beginning in the year shown in parentheses) in Australia (2015), Belgium (2016), Brazil (2014), China (2016), France (2016), Germany (2015), India (2014), Israel (2015), Italy (2014), Japan (2014), Korea (2014), Mexico (2014), Netherlands (2014), Switzerland (2014), the United Kingdom (2018) and Uruguay (2014).

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

Year Ended	Item	Balance at beginning of year	Additions (reductions) charged to expense	Other	Balance at end of year
2019	Deferred income tax asset valuation allowance	\$ 95,398	\$ 14,245	\$ —	\$ 109,643
2018	Deferred income tax asset valuation allowance	80,796	14,602	—	95,398
2017	Deferred income tax asset valuation allowance	109,913	(28,071)	(1,046)	80,796

## **(21) Segment Information**

We operate as one segment and conduct our business through various offices and facilities located throughout the Americas region (United States, Canada, Brazil, Mexico and Uruguay), EMEA region (Belgium, France, Germany, Israel, Italy, the Netherlands, Switzerland and the United Kingdom), and APAC region (Australia, China, India, Japan and Korea). We have historically disclosed summarized financial information for the geographic areas of operations as if they were segments in accordance with ASC 280, “*Segment Reporting*.” Financial information concerning our geographical locations is based on the location of the selling entity.

For the years ended December 31, 2019 and 2018, one customer accounted for approximately 11% and 13% of our consolidated revenue. No single customer accounted for more than 10% of our consolidated revenue for the year ended December 31, 2017.

Summarized financial information concerning our geographical operations is shown in the following tables:

(in thousands)	Year Ended December 31,		
	2019	2018	2017
Revenue from unaffiliated customers:			
United States	\$ 306,650	\$ 332,611	\$ 322,399
Other Americas	9,175	8,154	11,377
EMEA	240,403	237,462	220,357
APAC	72,866	109,433	91,936
Total revenue	<u>\$ 629,094</u>	<u>\$ 687,660</u>	<u>\$ 646,069</u>

<i>(in thousands)</i>	Year Ended December 31,		
	2019	2018	2017
Revenue by class of product and service:			
Products	\$ 215,519	\$ 259,124	\$ 222,750
Materials	169,058	170,091	168,846
Services	244,517	258,445	254,473
Total revenue	<u>\$ 629,094</u>	<u>\$ 687,660</u>	<u>\$ 646,069</u>

<i>(in thousands)</i>	Year Ended December 31, 2019			
	Intercompany Sales to			
	Americas	EMEA	APAC	Total
Americas	\$ 1,764	\$ 40,704	\$ 16,428	\$ 58,896
EMEA	66,832	47,395	4,982	119,209
APAC	5,146	2,132	3,136	10,414
Total intercompany sales	<u>\$ 73,742</u>	<u>\$ 90,231</u>	<u>\$ 24,546</u>	<u>\$ 188,519</u>

<i>(in thousands)</i>	Year Ended December 31, 2018			
	Intercompany Sales to			
	Americas	EMEA	APAC	Total
Americas	\$ 2,342	\$ 59,206	\$ 22,962	\$ 84,510
EMEA	75,875	28,075	7,209	111,159
APAC	4,633	32	3,570	8,235
Total intercompany sales	<u>\$ 82,850</u>	<u>\$ 87,313</u>	<u>\$ 33,741</u>	<u>\$ 203,904</u>

<i>(in thousands)</i>	Year Ended December 31, 2017			
	Intercompany Sales to			
	Americas	EMEA	APAC	Total
Americas	\$ 2,169	\$ 51,689	\$ 20,388	\$ 74,246
EMEA	70,709	19,098	4,945	94,752
APAC	2,790	174	3,936	6,900
Total	<u>\$ 75,668</u>	<u>\$ 70,961</u>	<u>\$ 29,269</u>	<u>\$ 175,898</u>

<i>(in thousands)</i>	Year Ended December 31,		
	2019	2018	2017
(Loss) income from operations:			
Americas	\$ (80,042)	\$ (69,081)	\$ (79,429)
EMEA	14,623	5,283	7,483
APAC	8,315	20,607	17,973
Total	<u>\$ (57,104)</u>	<u>\$ (43,191)</u>	<u>\$ (53,973)</u>

<i>(in thousands)</i>	Year Ended December 31,		
	2019	2018	2017
Depreciation and amortization:			
Americas	\$ 23,569	\$ 25,005	\$ 25,484
EMEA	24,125	30,191	31,135
APAC	2,702	4,097	5,422
Total	<u>\$ 50,396</u>	<u>\$ 59,293</u>	<u>\$ 62,041</u>

<i>(in thousands)</i>	Year Ended December 31,		
	2019	2018	2017
Capital expenditures:			
Americas	\$ 12,591	\$ 19,668	\$ 23,925
EMEA	11,120	20,057	5,227
APAC	274	969	1,729
Total	<u>\$ 23,985</u>	<u>\$ 40,694</u>	<u>\$ 30,881</u>

<i>(in thousands)</i>	At December 31,	
	2019	2018
Assets:		
Americas	\$ 263,758	\$ 284,676
EMEA	447,810	433,326
APAC	95,744	107,830
Total	<u>\$ 807,312</u>	<u>\$ 825,832</u>

<i>(in thousands)</i>	At December 31,	
	2019	2018
Cash and cash equivalents:		
Americas	\$ 63,374	\$ 39,316
EMEA	44,283	41,581
APAC	26,008	29,101
Total	<u>\$ 133,665</u>	<u>\$ 109,998</u>

<i>(in thousands)</i>	At December 31,	
	2019	2018
Long-lived assets:		
United States	\$ 64,986	\$ 77,812
Other Americas	958	1,144
EMEA	67,510	82,659
APAC	7,824	9,912
Total	<u>\$ 141,278</u>	<u>\$ 171,527</u>

## **(22) Commitments and Contingencies**

We lease certain of our facilities and equipment under non-cancelable operating and finance leases. See Note 5.

Supply commitments totaled \$53,562 and \$54,972 as of December 31, 2019 and 2018, respectively. Commitments for printer assemblies and inventory items at December 31, 2019 and 2018 were \$34,570 and \$27,851, respectively. Commitments for operating costs and capital expenditures at December 31, 2019 and 2018 were \$18,992 and \$27,121, respectively.

### **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 its 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.

### **Litigation**

#### ***Derivative Litigation***

Nine related derivative complaints were filed by purported Company stockholders against certain of our former executive officers and members of our Board of Directors. We are named as a nominal defendant in all nine actions. The derivative complaints are styled as follows: (1) *Steyn v. Reichental, et al.*, Case No. 2015-CP-46-2225, filed on July 27, 2015 in the Court of Common Pleas for the 16th Judicial Circuit, County of York, South Carolina (“Steyn”); (2) *Piguing v. Reichental, et al.*, Case No. 2015-CP-46-2396, filed on August 7, 2015 in the Court of Common Pleas for the 16th Judicial Circuit, County of York, South Carolina (“Piguing”); (3) *Booth v. Reichental, et al.*, Case No. 15-692-RGA, filed on August 6, 2015 in the United States District Court for the District of Delaware; (4) *Nally v. Reichental, et al.*, Case No. 15-cv-03756-MGL, filed on September 18, 2015 in the United States District Court for the District of South Carolina (“Nally”); (5) *Gee v. Hull, et al.*, Case No. BC-610319, filed on February 17, 2016 in the Superior Court for the State of California, County of Los Angeles (“Gee”); (6) *Foster v. Reichental, et al.*, Case No. 0:16-cv-01016-MGL, filed on April 1, 2016 in the United States District Court for the District of South Carolina (“Foster”); (7) *Lu v. Hull, et al.*, Case No. BC629730, filed on August 5, 2016 in the Superior Court for the State of California, County of Los Angeles (“Lu”); (8) *Howes v. Reichental, et al.*, Case No. 0:16-cv-2810-MGL, filed on August 11, 2016 in the United States District Court for the District of South Carolina (“Howes”); and (9) *Ameduri v. Reichental, et al.*, Case No. 0:16-cv-02995-MGL, filed on September 1, 2016 in the United States District Court for the District of South Carolina (“Ameduri”). Steyn and Piguing were consolidated into one action styled as *In re 3D Systems Corp. Shareholder Derivative Litig.*, Lead Case No. 2015-CP-46-2225 in the Court of Common Pleas for the 16th Judicial Circuit, County of York, South Carolina. Gee and Lu were consolidated into one action styled as *Gee v. Hull, et al.*, Case No. BC610319 in the Superior Court for the State of California, County of Los Angeles. Nally, Foster, Howes, and Ameduri were consolidated into one action in the United States District Court for the District of South Carolina with Nally as the lead consolidated case.

The derivative complaints alleged claims for breach of fiduciary duty, abuse of control, gross mismanagement, waste of corporate assets and unjust enrichment and sought, among other things, monetary damages and certain corporate governance actions.

Following negotiations with the assistance of a mediator, the parties to the nine derivative actions listed above reached a global agreement to resolve all of the actions for a monetary amount equal to \$2,150 in fees paid to plaintiffs’ counsel, which amount was fully insured by our insurance carriers, and on September 19, 2019 executed a Stipulation and Agreement of Settlement. On September 20, 2019, the plaintiffs filed a motion to seek approval of the global settlement in the derivative action captioned *Nally v. Reichental, et al.*, Case No. 15-cv-03756-MGL (D.S.C. Sept. 18, 2015), pending before Hon. Mary Geiger Lewis of the U.S. District Court for the District of South Carolina (the “Court”). On October 2, 2019, the Court entered an Order Preliminarily Approving Settlement that, among other things, approved the form and manner of notice of the settlement and scheduled a final settlement hearing. On December 19, 2019, the Court held the final settlement hearing to determine whether the terms of the settlement were fair, reasonable, and adequate and whether judgment should be entered dismissing the actions before the Court with prejudice. The same day, the Court entered a Final Order and Judgment fully and finally approving the global settlement, which became effective on January 21, 2020. Pursuant to the terms of the Stipulation and Agreement of Settlement, the parties to the remaining derivative actions pending in Court of Common Pleas for the 16th Judicial Circuit, County of York, South

Carolina, the Superior Court for the State of California, County of Los Angeles, and the United States District Court for the District of Delaware have filed stipulations of voluntary dismissal with prejudice in each respective court. On January 27, 2020, the United States District Court for the District of Delaware, on February 3, 2020, the Supreme Court for the State of California, County of Los Angeles and on February 19, 2020, the court of Common Pleas for the 16th Judicial Circuit County of York, South Carolina entered the Stipulation and Order of Dismissal with prejudice.

***Ronald Barranco and Print3D Corporation v. 3D Systems Corporation, et. al.***

On August 23, 2013, Ronald Barranco, a former Company employee, filed two lawsuits against us and certain of our officers in the United States District Court for the District of Hawaii. The first lawsuit (“Barranco I”) is captioned Ronald Barranco and Print3D Corporation v. 3D Systems Corporation, 3D Systems, Inc., and Damon Gregoire, Case No. CV 13-411 LEK RLP, and alleges seven causes of action relating to our acquisition of Print3D Corporation (of which Mr. Barranco was a 50% shareholder) and our subsequent employment of Mr. Barranco. The second lawsuit (“Barranco II”) is captioned Ronald Barranco v. 3D Systems Corporation, 3D Systems, Inc., Abraham Reichental, and Damon Gregoire, Case No. CV 13-412 LEK RLP, and alleges the same seven causes of action relating to our acquisition of certain website domains from Mr. Barranco and our subsequent employment of Mr. Barranco. Both Barranco I and Barranco II allege we breached certain purchase agreements in order to avoid paying Mr. Barranco additional monies pursuant to royalty and earn out provisions in the agreements.

With regard to Barranco I, the Hawaii district court, on February 28, 2014, denied our motion to dismiss and our motion to transfer venue to South Carolina for the convenience of the parties. However, the Hawaii court recognized that Barranco’s claims were all subject to mandatory and binding arbitration in Charlotte, North Carolina. The parties selected an arbitrator and arbitration took place in September 2015 in Charlotte, North Carolina.

On September 28, 2015, the arbitrator issued a final award in favor of Barranco with respect to two alleged breaches of contract and implied covenants arising out of the contract. The arbitrator found that we did not commit fraud or make any negligent misrepresentations to Barranco. Pursuant to the award, we were directed to pay approximately \$11,282, which includes alleged actual damages of \$7,254, fees and expenses of \$2,318 and prejudgment interest of \$1,710.

On August 3, 2018, following an unsuccessful appeal to the federal court in the Western District of North Carolina and the United States Court of Appeals for the Fourth Circuit, we paid \$9,127 of the Barranco I judgment, net setoff. On September 28, 2018, the parties filed a Consent Stipulation Resolving Motion for Setoff of Judgment, stipulating that subject only to vacatur or amendment reducing the Barranco II judgment in Barranco’s appeal to the Ninth Circuit related to the Barranco II action discussed below, the Barranco II judgment in the amount of \$2,182 was setoff against the Barranco I judgment (“Stipulated Setoff”). We paid Barranco the \$101 balance remaining due after the Stipulated Setoff.

With regard to Barranco II, the case was tried to a jury in Hawaii district court in May 2016, and on May 27, 2016 the jury found that we were not liable for either breach of contract or breach of the implied covenant of good faith and fair dealing. Additionally, the jury found in our favor on our counterclaim against Barranco and determined that Barranco violated his non-competition covenant with us. On March 30, 2018, the court entered Findings of Fact and Conclusions of Law and Order requiring Barranco to disgorge, and us recover, \$523, representing all but four months of the full amount paid to Barranco as salary during his employment with us as well as a portion of the up front and buyout payments made to Barranco in connection with the purchase of certain web domains. In addition, the court ordered Barranco to pay pre-judgment interest to us to be calculated beginning as of his first breach of the non-competition covenant in August 2011. Judgment was entered thereafter on April 2, 2018.

On September 13, 2018, the Hawaii district court entered its Amended Judgment in a Civil Case, awarding us a final amended judgment of \$2,182. On September 19, 2018, Barranco filed an Amended Notice of Appeal. On January 13, 2019, Barranco filed Appellant’s Opening Brief in the Ninth Circuit. On March 15, 2019, we filed our Answering Brief. On April 14, 2019, Barranco filed his Reply Brief. Oral Arguments took place on October 24, 2019. We intend to defend the appeal.

**Export Controls and Government Contracts Compliance Matter**

In October 2017, we received an administrative subpoena from the Bureau of Industry and Security of the Department of Commerce (“BIS”) requesting the production of records in connection with possible violations of U.S. export control laws, including with regard to our Quickparts.com, Inc. subsidiary. In addition, while collecting information responsive to the above-referenced subpoena, our internal investigation identified potential violations of the International Traffic in Arms Regulations (“ITAR”) administered by the Directorate of Defense Trade Controls of the Department of State (“DDTC”) and potential violations of the Export Administration Regulations administered by the BIS.

On June 8, 2018 and thereafter, we submitted voluntary disclosures to BIS and DDTC identifying numerous potentially unauthorized exports of technical data. As part of our ongoing review of trade compliance risks and our cooperation with the government, on November 20, 2019, we submitted to the U.S. Treasury Department's Office of Foreign Assets Control ("OFAC") an initial notice of voluntary disclosure regarding potential violations of economic sanctions related to Iran. We are continuing to investigate this issue and will file a final disclosure with OFAC when our review is complete. We have and will continue to implement compliance enhancements to our export controls, trade sanctions, and government contracting compliance program to address the issues identified through our ongoing internal investigation and will cooperate with DDTC and BIS, as well as the U.S. Departments of Justice, Defense, Homeland Security and Treasury in their ongoing reviews of these matters.

In addition, on July 19, 2019, we received a notice of immediate suspension of federal contracting from the United States Air Force, pending the outcome of an ongoing investigation. The suspension applied to 3D Systems, its subsidiaries and affiliates, and was related to the potential export controls violations involving our On Demand manufacturing business described above. Under the suspension, we were generally prohibited from receiving new federal government contracts or subcontracts from any executive branch agency as described in the provisions of 48 C.F.R Subpart 9.4 of the Federal Acquisition Regulation. The suspension allowed us to continue to perform current federal contracts, and also to receive awards of new subcontracts for items under \$35 and for items considered commercially available off-the-shelf items. The Air Force lifted the suspension on September 6, 2019 following the execution of a two-year Administrative Agreement with us. We are now eligible to obtain and perform U.S. government contracts and subcontracts without restrictions. Under the Administrative Agreement, we will be monitored and evaluated by independent monitors who will report to the Air Force on our compliance with the terms of the Company's Ethics & Compliance Program, including its overall culture, government contracting compliance program, and export controls compliance program.

Although we cannot predict the ultimate resolution of these matters, we have incurred and expect to continue to incur significant legal costs and other expenses in connection with responding to the U.S. government agencies.

## 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 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.

### (23) Accumulated Other Comprehensive Loss

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

<i>(in thousands)</i>	Foreign currency translation adjustment	Defined benefit pension plan	Derivative financial instruments	Liquidation of non-US entity and purchase of non-controlling interests	Total
Balance at December 31, 2017	\$ (19,319)	\$ (2,555)	\$ —	\$ 338	\$ (21,536)
Other comprehensive income (loss)	(18,751)	(92)	—	—	(18,843)
Amounts reclassified from accumulated other comprehensive	1,401	—	—	—	1,401
Balance at December 31, 2018	(36,669)	(2,647)	—	338	(38,978)
Other comprehensive income (loss)	3,053	(1,060)	(318)	256	1,931
Balance at December 31, 2019	<u>\$ (33,616)</u>	<u>\$ (3,707)</u>	<u>\$ (318)</u>	<u>\$ 594</u>	<u>\$ (37,047)</u>

Amounts reclassified out of accumulated other comprehensive loss are as follows:

<i>(in thousands)</i>	2019	2018	Statement of Operations Caption
Currency translation adjustments:			
Gain on dissolution	<u>\$ —</u>	<u>\$ 1,401</u>	Interest and other expense, net

The amounts presented in the table above are in other comprehensive loss and are net of taxes. For additional information about foreign currency translation, see Note 13. For additional information about the pension plan, see Note 16.



**(24) Selected Quarterly Financial Data (unaudited)**

The following tables set forth unaudited selected quarterly financial data:

	2019			
	Quarter Ended			
	December 31	September 30	June 30	March 31
<i>(in thousands, except per share amounts)</i>				
Consolidated revenue	\$ 164,570	\$ 155,272	\$ 157,272	\$ 151,980
Gross profit	71,756	67,281	73,299	65,705
Total operating expenses	76,455	79,215	92,465	87,010
Loss from operations	(4,699)	(11,934)	(19,166)	(21,305)
Benefit (provision) for income taxes	1,260	(2,010)	(1,938)	(1,844)
Net loss attributable to 3D Systems	(4,714)	(16,843)	(23,929)	(24,394)
Basic and diluted net loss per share	\$ (0.04)	\$ (0.15)	\$ (0.21)	\$ (0.22)
	2018			
	Quarter Ended			
	December 31	September 30	June 30	March 31
<i>(in thousands, except per share amounts)</i>				
Consolidated revenue	\$ 180,712	\$ 164,511	\$ 176,568	\$ 165,869
Gross profit	82,553	77,810	86,162	77,869
Total operating expenses	89,572	88,794	93,884	95,335
Loss from operations	(7,019)	(10,984)	(7,722)	(17,466)
Benefit (provision) for income taxes	4,051	(1,593)	(2,539)	(1,954)
Net loss attributable to 3D Systems	(4,136)	(11,550)	(8,862)	(20,957)
Basic and diluted net income (loss) per share	\$ (0.04)	\$ (0.10)	\$ (0.08)	\$ (0.19)
	2017			
	Quarter Ended			
	December 31	September 30	June 30	March 31
<i>(in thousands, except per share amounts)</i>				
Consolidated revenue	\$ 177,264	\$ 152,907	\$ 159,467	\$ 156,431
Gross profit	85,458	58,522	80,673	80,186
Total operating expenses	91,161	90,857	87,537	89,257
Income (loss) from operations	(5,703)	(32,335)	(6,864)	(9,071)
Provision for income taxes	(971)	(3,723)	(2,067)	(1,041)
Net income (loss) attributable to 3D Systems	(10,134)	(37,670)	(8,416)	(9,971)
Basic and diluted net income (loss) per share	\$ (0.08)	\$ (0.34)	\$ (0.08)	\$ (0.09)

The sum of per share amounts for each of the quarterly periods presented does not necessarily equal the total presented for the year because each quarterly amount is independently calculated at the end of each period based on the net income (loss) available to common stockholders for such period and the weighted average shares of outstanding common stock for such period.

**(25) Subsequent Events**

There are no subsequent events except as disclosed within Note 18.

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