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 January 31, 2022

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission File Number: 0-14338

AUTODESK, INC.

(Exact name of registrant as specified in its charter)

Delaware	**94-2819853**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. employer Identification No.)**

111 McInnis Parkway,		
San Rafael,	**California**	**94903**
(Address of principal executive offices)		**(Zip Code)**

Registrant's telephone number, including area code: (415) 507-5000

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.01 Par Value	**ADSK**	**The Nasdaq Global Select Market**

Securities registered pursuant to Section 12(g) of the Act: None

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 ("Exchange 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 Exchange Act during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

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

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

Large accelerated filer	☒	Accelerated filer	☐	Non-accelerated filer	☐	Smaller reporting company	☐	Emerging growth company	☐

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

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

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

As of July 30, 2021, the last business day of the registrant's most recently completed second fiscal quarter, there were approximately 219.7 million shares of the registrant's common stock outstanding that were held by non-affiliates, and the aggregate market value of such shares held by non-affiliates of the registrant (based on the closing sale price of such shares on the Nasdaq Global Select Market on July 30, 2021) was approximately $70.6 billion. Shares of the registrant's common stock held by each executive officer and director have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of March 10, 2022, the registrant had outstanding 217,307,974 shares of common stock.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for registrant's Annual Meeting of Stockholders (the "Proxy Statement"), are incorporated by reference in Part III of this Form 10-K to the extent stated herein. The Proxy Statement will be filed within 120 days of the registrant's fiscal year ended January 31, 2022.

AUTODESK, INC. FORM 10-K

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FORWARD-LOOKING INFORMATION

The discussion in this Annual Report on Form 10-K contains trend analyses and other forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements may appear throughout this Form 10-K, including the following sections: "Business" (Part I, Item 1), "Risk Factors" (Part I, Item 1A), and "Management's Discussion and Analysis of Financial Condition and Results of Operations" (Part II, Item 7). Forward-looking statements are any statements that look to future events and consist of, among other things, our business strategies; future financial results (by product type and geography), operational and key metrics and subscriptions; the effects of global economic and political conditions, including the impact of economic volatility and geopolitical activities in certain countries such as the Russian invasion of Ukraine; the impact of the coronavirus (COVID-19) pandemic on our business and results of operations; the impact of past and planned acquisitions and investment activities; expected market trends and market opportunities; our ability to successfully expand adoption of our products; our ability to gain market acceptance of new businesses and sales initiatives; cybersecurity and privacy issues or incidents; the effect of competition; the effect of unemployment; the availability of credit; the effects of revenue recognition; the effects of newly recently issued accounting standards; expected trends in certain financial metrics, including expenses; expectations regarding our cash needs and expenditures; the effects of fluctuations in exchange rates and our hedging activities on our financial results; the effect of laws and regulations that we are subject to; the timing and amount of purchases under our stock repurchase plan; and the effects of potential non-cash charges on our financial results and the resulting effect on our financial results. In addition, forward-looking statements also consist of statements involving expectations regarding product capability and acceptance, statements regarding our liquidity and short-term and long-term cash requirements, as well as statements involving trend analyses and statements including such words as "may," "believe," "could," "anticipate," "would," "might," "plan," "expect," and similar expressions or the negative of these terms or other comparable terminology. These forward-looking statements speak only as of the date of this Annual Report on Form 10-K and are subject to business and economic risks. As such, our actual results could differ materially from those set forth in the forward-looking statements as a result of a number of factors, including those set forth below in Item 1A, "Risk Factors," and in our other reports filed with the U.S. Securities and Exchange Commission. We assume no obligation to update the forward-looking statements to reflect events that occur or circumstances that exist after the date on which they were made, except as required by law.

PART I

ITEM 1. BUSINESS

Note: A glossary of terms used in this Form 10-K appears at the end of this Item 1.

GENERAL

We are a global leader in 3D design, engineering, and entertainment software and services, offering customers productive business solutions through powerful technology products and services. We serve customers in architecture, engineering, and construction; product design and manufacturing; and digital media and entertainment industries. Our customers design, fabricate, manufacture, and build anything by visualizing, simulating, and analyzing real-world performance early in the design process. These capabilities allow our customers to foster innovation, optimize their designs, streamline their manufacturing and construction processes, save time and money, improve quality, deliver more sustainable outcomes, communicate plans, and collaborate with others. Our professional software products are sold globally, both directly to customers and through a network of resellers and distributors.

Corporate Information

Our internet address is www.autodesk.com. The information posted on our website is not incorporated into this Annual Report on Form 10-K. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to reports filed or furnished pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended, are available free of charge on the Investor Relations portion of our website at www.autodesk.com as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC.

PRODUCTS

Our architecture, engineering, and construction products improve the way building, infrastructure, and industrial projects are designed, built, and operated. Our product development and manufacturing software provides manufacturers in automotive, transportation, industrial machinery, consumer products, and building product industries with comprehensive digital design, engineering, manufacturing, and production solutions. These technologies bring together data from all phases of the product development and production life cycle, creating a digital pipeline that supports greater productivity, accuracy through process automation, and insights that enable more sustainable outcomes. Our digital media and entertainment products provide tools for digital sculpting, modeling, animation, effects, rendering, and compositing for design visualization, visual effects, games production, and enables connection of workflows and data from post-production to pre-production. Our portfolio of products and services enables our customers to foster innovation, optimize and improve their designs, save time and money, improve quality, communicate plans, and collaborate with others. A summary of our revenue by geographic area and product family is found in Note 2, "Revenue Recognition," in the Notes to Consolidated Financial Statements.

Autodesk's product offerings include:

Architecture, Engineering and Construction ("AEC")

- *AutoCAD Civil 3D*

AutoCAD Civil 3D solution provides a surveying, design, analysis, and documentation solution for civil engineering, including land development, transportation, and environmental projects. Using a model-centric approach that automatically updates documentation as design changes are made, AutoCAD Civil 3D enables civil engineers, designers, drafters, and surveyors to significantly boost productivity and deliver higher-quality designs and construction documentation faster. With AutoCAD Civil 3D, the entire project team works from the same consistent, up-to-date model so they stay coordinated throughout all project phases.

- *BIM 360*

BIM 360 construction management cloud-based software enables almost anytime, anywhere access to project data throughout the building construction lifecycle. BIM 360 empowers those in the field to better anticipate and act, and those in the back office to optimize and manage all aspects of construction performance.

- *Architecture, Engineering & Construction Collection*

The AEC Collection, including AutoCAD, AutoCAD Civil3D, and Revit, aims to help our customers design, engineer, and construct higher quality, more predictable building and civil infrastructure projects, commonly used by AEC industry experts.

- *Autodesk Build*

Autodesk Build delivers a connected set of project management and collaboration tools for the construction industry. Autodesk Build provides a toolset for managing, sharing, and accessing project documents that results in streamlined workflows between the office, trailer, and jobsite. In addition, Autodesk Build can be used to track the quality and safety of the project with issues and forms. Team members can use Autodesk Build for requests for information (RFIs), submittals, and meetings to manage the flow of information and track project progress across the construction timeline. The PlanGrid Build mobile app delivers field critical project information and collaboration from Autodesk Build to the jobsite. As part of Autodesk Construction Cloud, Build connects data originating in design and preconstruction to the construction and operations phase, allowing users to identify, manage and de-risk project decisions.

- *Revit*

Revit software is built for Building Information Modeling ("BIM") to help professionals design, build, and maintain higher-quality, more energy-efficient buildings. Using the information-rich models created with Revit, architects, engineers, and construction firms can collaborate to make better-informed decisions earlier in the design process to deliver projects with greater efficiency. Revit includes features for architectural, mechanical, electrical, and plumbing design as well as structural engineering and construction, providing a comprehensive solution for the entire building project team.

AutoCAD and AutoCAD LT

- *AutoCAD*

AutoCAD software is a customizable and extensible CAD application for professional design, drafting, detailing, and visualization. AutoCAD software provides digital tools that can be used independently and in conjunction with other specific applications in fields ranging from construction and civil engineering to manufacturing and plant design.

- *AutoCAD LT*

AutoCAD LT software is purpose built for professional drafting and detailing. AutoCAD LT includes document sharing capability without the need for software customization or certain advanced functionality found in AutoCAD. Users can share all design data with team members who use AutoCAD or other Autodesk products built on AutoCAD.

Manufacturing ("MFG")

- *CAM Solutions*

Our computer-aided manufacturing ("CAM") software offers industry-leading solutions for computer numerical control ("CNC") machining, inspection, and modeling for manufacturing. A comprehensive line-up of expert products, including PowerMill, FeatureCAM, PowerInspect, PowerShare, and others, help our customers manufacture complex, innovative products and components with maximum quality, control, and production efficiency.

- *Fusion 360*

Fusion 360 is the first 3D CAD, CAM, and computer-aided engineering ("CAE") tool of its kind. It connects the entire product development process on a single cloud-based platform.

- *Product Design & Manufacturing Collection*

The Product Design & Manufacturing Collection offers connected, professional-grade tools that help our customers make great products today and compete in the changing manufacturing landscape of the future. The collection offers access to a wide range of our products, including AutoCAD, Fusion 360, Vault, and Inventor.

- *Inventor*

Inventor enables manufacturers to go beyond 3D design to digital prototyping by giving engineers a comprehensive and flexible set of tools for 3D mechanical design, simulation, analysis, tooling, visualization, and documentation. Engineers can integrate AutoCAD drawings and model-based design data into a single digital model, creating a virtual representation of a final product that enables them to validate the form, fit, and function of the product before it is ever built.

- *Vault*

Vault data management software makes it easier to manage data in one central location, accelerate design processes, and streamline internal/external collaboration. Vault integrates with more than 30 Autodesk design applications, provides powerful revisioning and access control capabilities, and enables customers to share product data securely to improve engineering cycle time and reduce manufacturing errors.

Media and Entertainment ("M&E")

- *Media & Entertainment Collection*

The M&E Collection provides end-to-end creative tools for entertainment creation. This collection enables animators, modelers, and visual effects artists to access the tools they need, including Maya and 3ds Max, to create compelling effects, 3D characters, and digital worlds.

- *Maya*

Maya software provides 3D modeling, animation, effects, rendering, and compositing solutions that enable film and video artists, game developers, and design visualization professionals to digitally create engaging, lifelike images, realistic animations and simulations, extraordinary visual effects, and full-length animated feature films.

- *ShotGrid*

ShotGrid is cloud-based software for review and production tracking in the M&E industry. Creative companies use the ShotGrid platform to provide essential business tools for managers and visual collaboration tools for artists and supervisors, who often work globally with distributed teams.

- *3ds Max*

3ds Max software provides 3D modeling, animation, and rendering solutions that enable game developers, design visualization professionals, and visual effects artists to digitally create realistic images, animations, and complex scenes and to digitally communicate abstract or complex mechanical, architectural, engineering, and construction concepts.

PRODUCT DEVELOPMENT AND INTRODUCTION

The technology industry is characterized by rapid technological change in computer hardware, operating systems, and software. In addition, our customers' requirements and preferences rapidly evolve, as do their expectations of the performance of our software and services. To keep pace with these changes, we maintain a vigorous program of new product development to address demands in the marketplace for our products, such as enabling more flexibility and sustainable outcomes.

Autodesk was founded during the platform transition from mainframe computers and engineering workstations to personal computers. We have developed and sustained a compelling value proposition based upon software for the personal computer. Just as the transition from mainframes to personal computers transformed the industry over 30 years ago, the software industry has undergone a transition from developing and selling perpetual licenses and on-premises products to subscriptions and cloud-enabled technologies. Subscription plan offerings are designed to give our customers increased flexibility with how they use our products and service offerings and to attract a broader range of customers such as project-based users and small businesses. Subscription plans represent a combined hybrid offering of desktop software and cloud functionality which provides a device-independent, collaborative design workflow for designers and their stakeholders. In order to offer better service to our customers, we are transitioning our existing customers from serial numbers to named users. We completed the migration of our single-user subscriptions from serial numbers in fiscal 2021 and are transitioning multi-user subscriptions to named users through February 2024.

We dedicate considerable technical and financial resources to research and development to deliver additional automation and insights to our customers through artificial intelligence, machine learning, and generative design, which increase efficiency and sustainability and reduce waste. These investments further enhance our existing products and create new solutions and technologies which connect the workflows and data of our customers across the ecosystem of their projects and expand our market opportunity. Our tools connect and automate the phases of design and creation, enabling greater collaboration and the seamless flow of data for individuals and teams across all phases.

Our software is primarily developed internally; however, we also use independent firms and contractors to perform some of our product development activities. Additionally, we acquire or license products and technologies developed by third parties. We continually review these investments to ensure that we are generating sufficient revenue or gaining a competitive advantage to justify their costs.

The majority of our research and product development is performed in the United States, China, Singapore, Canada, and the United Kingdom. However, we employ experienced software developers in many of our other locations. Translation and localization of our products are performed in several local markets, principally Singapore and Ireland. We generally localize and translate our products into German, French, Italian, Spanish, Russian, Japanese, Korean, and simplified and traditional Chinese.

We plan to continue managing significant product development operations internationally over the next several years. We believe that our ability to conduct research and development at various locations throughout the world allows us to optimize product development, lower costs, and integrate local market knowledge into our development activities. We continually assess the significant costs and challenges, including intellectual property protection, against the benefits of our international development activities.

For further discussion regarding risks from our product development and introduction efforts, see Item 1A, "Risk Factors."

MARKETING AND SALES

We sell our products and services globally, primarily through indirect channels consisting of distributors and resellers. We also transact directly with our enterprise and named account customers and with customers through our online Autodesk branded store. Our indirect channel model includes both a two-tiered distribution structure, where distributors sell to resellers, and a one-tiered structure, where Autodesk sells directly to resellers. We have a network of approximately 1,500 resellers and distributors worldwide. For fiscal 2022, approximately 65% of our revenue was derived from indirect channel sales through distributors and resellers.

We anticipate that our channel mix will continue to change, particularly as we scale our online Autodesk branded store business and our largest accounts shift towards direct-only business models. Importantly, we expect that the majority of our revenue will continue to be derived from indirect channel sales in the near future. We employ a variety of incentive programs and promotions to align our reseller channel with our business strategies. Our ability to effectively distribute our products depends in part upon the financial and business condition of our distributor and reseller networks. The loss of, or a significant reduction in, business with any one of our major distributors or large resellers could harm our business. See Item 1A, "Risk Factors," for further discussion.

Sales through our largest distributor, Tech Data Corporation and its global affiliates (collectively, "Tech Data"), accounted for 36%, 37%, and 35% of our net revenue for the fiscal years ended January 31, 2022, 2021 and 2020, respectively. Ingram Micro Inc. ("Ingram Micro"), our second-largest distributor, accounted for 9% of Autodesk's total net revenue for fiscal year ended January 31, 2022 and 10% of total net revenue for fiscal years ended January 31, 2021 and 2020. We believe our business is not substantially dependent on either Tech Data or Ingram Micro. Should any of the agreements between us and Tech Data or Ingram Micro be terminated for any reason, we believe the resellers and end users who currently purchase our products through Tech Data or Ingram Micro would be able to continue to do so under substantially the same terms from one of our many other distributors without substantial disruption to our revenue. No other distributor, reseller, or direct customer accounted for 10% or more of our revenue.

Our customer-related operations are divided into three geographic regions: the Americas; Europe, Middle East, and Africa ("EMEA"); and Asia Pacific ("APAC"). Each geographic region is supported by global marketing and sales organizations. These organizations develop and manage overall marketing and sales programs and work closely with a network of domestic and international sales offices. We believe that international sales will continue to comprise the majority of our total net revenue. Adverse economic conditions and currency exchange rates in the countries that contribute a significant portion of our net revenue, including emerging economies, may have an adverse effect on our business in those countries and our overall financial performance. Our international operations and sales subject us to a variety of risks. See Item 1A, "Risk Factors," for further discussion.

We also work directly with reseller and distributor sales organizations, computer manufacturers, other software developers, and peripherals manufacturers in cooperative advertising, promotions, and trade-show presentations. We employ mass-marketing techniques such as webcasts, seminars, telemarketing, direct mailings, sponsorships, advertising in business and trade journals, and social media. We have a worldwide user group organization and we have created online user communities dedicated to the exchange of information related to the use of our products and services.

We generate revenue primarily through various offerings that provide recurring revenue. Under our subscription plan, customers can use our software anytime, anywhere, and get access to the latest updates to previous versions through term-based product subscriptions, cloud service offerings, and enterprise business agreements ("EBA"). Historically, we have had increased EBA sale activity in our fourth fiscal quarter. This seasonality may not have an immediate impact on our revenue as we recognize subscription revenue over the term of the contract. This seasonality may also affect the relative value of our billings, RPO, and collections in the fourth and first fiscal quarters.

CUSTOMER AND RESELLER SUPPORT

We provide technical support and training to customers through a multi-tiered support model, augmented by direct programs designed to address certain specific customer needs. Most of our customers receive support and training from the resellers and distributors from which they purchased subscriptions or licenses for our products or services, with Autodesk in turn providing second-tier support to the resellers and distributors. Other customers are supported directly via self-service using the Autodesk Knowledge Network, which guides customers to answers in our online support assets, support forums, or webinars, or to support representatives using different modalities such as social media, phone, email, and webchat. We also support our resellers and distributors through technical product training, sales training classes, webinars, and other knowledge-sharing programs.

ENVIRONMENTAL, SOCIAL, AND GOVERNANCE PROGRAMS

Impact at Autodesk

Autodesk is committed to advancing a more sustainable, resilient, and equitable world. We don't believe in waiting for progress, we believe in making it. We take action as a business and to support our employees, customers, and communities in our collective opportunity to design and make a better world for all.

We focus our efforts to advance positive outcomes across three primary areas: energy and materials, health and resilience, and work and prosperity. These impact opportunity areas are derived from the UN Sustainable Development Goals ("SDGs") and have been focused through a multi-pronged process to align the top needs of our stakeholders, the important issues of our business, and the areas we are best placed to accelerate positive impact at scale.

These opportunities manifest as outcomes through how our customers leverage our technology to design and make net-zero carbon buildings, resilient infrastructure, more sustainable products, and a thriving workforce. We realize these opportunities in our business through our 100% renewable and net-zero greenhouse gas operations and inclusive culture. We advance these opportunities with industry innovators through collaboration, grants, software donations, and training.

Education

Autodesk is committed to helping fuel a lifelong passion for design and making among students of all ages, both within and outside the classroom. We offer free educational licenses of Autodesk's professional software to students, educators, and accredited educational institutions worldwide. We inspire and support beginners with Tinkercad, a simple online 3D design and 3D printing tool. Through Autodesk Design Academy, we provide secondary and post-secondary schools hundreds of standards-aligned class projects to support design-based disciplines in Science, Technology, Engineering, Digital Arts, and

Math (STEAM) using Autodesk's professional-grade design, engineering, and entertainment software. Autodesk Design Academy curricula is also syndicated on iTunes U and Udemy, where millions of students go to learn online. Classes and projects are available on our Instructables website for anyone looking to expand their "making" skills. In November 2020, we launched a credential program, which empowers current and future Autodesk customers to learn in-demand toolsets, skillsets, and mindsets, while earning credentials that demonstrate their job readiness. We offer self-paced, modular learning through a range of skill levels, roles, and career ambitions, helping professionals demonstrate and apply relevant knowledge, step into emerging roles, and stay at the forefront of their industry. Our intention is to make Autodesk software ubiquitous and the design and making software of choice for those poised to become the next generation of professional users.

Sustainability

Climate Change

In addressing the global challenges posed by climate change, we make it possible for our customers to innovate and respond to associated changes in regulation, building code, physical climate parameters, and other climate-related developments. This effort can directly and indirectly create more demand for existing and new Autodesk products and services in the short and long-term. Furthermore, our leadership is committed to taking climate action and that commitment goes hand in hand with our values and reputation in the marketplace. In fiscal 2022, we integrated regular analysis of various climate scenarios into our enterprise strategy and risk processes.

Climate Change Management Actions

To drive continued progress and meet growing demand, we continue to expand the solutions, education, and support we offer, helping customers secure a competitive advantage for a low-carbon future by designing high-performance buildings, resilient cities and infrastructure, and more efficient transportation and products. To continue to grow this market, we provide software and support to early-stage entrepreneurs, nonprofit organizations, and start-up companies who are designing clean technologies. We are expanding these offerings based upon demand and opportunity in response to challenges posed by climate change.

Internally, we are investing in best practices to mitigate our greenhouse gas emissions ("GHGs") and climate change risk through investments in renewable energy, energy efficiency, and disaster management and recovery strategies. In fiscal year 2022, we deployed a new sustainability financing framework to accelerate new and existing efforts in these areas. Details about this effort can be found in our Sustainability Financing Framework on our website at www.autodesk.com. Information contained on or accessible through our website is not part of or incorporated by reference into this report.

Emissions Performance & Other Key Performance Indicators

In fiscal year 2022, we launched our second science-based GHG reduction target, to reduce Scope 1 and Scope 2 GHGs 50%, and reduce Scope 3 GHGs per dollar of gross profit 25%, by fiscal year 2031, compared to fiscal year 2020.

In fiscal year 2021, we attained our ongoing commitment to being net-zero emissions, and before carbon offsets, were responsible for 126,000 metric tons of carbon dioxide equivalent across our operational, market-based, boundary. This represents a 45% reduction compared to our fiscal year 2020 base line. Our assured results for fiscal year 2022 and our ongoing commitments will be published in our fiscal year 2022 impact report. This change in GHGs largely stemmed from changes in travel during the global pandemic and also continued investment in renewable energy and efficiency across our footprint areas. More information about our sustainability commitment can be found in our annual impact reports, which we have published on our website since 2008. Our fiscal 2022 impact report will be published in the second quarter of fiscal 2023.

Philanthropy

The Autodesk Foundation (the "Foundation"), a privately funded 501(c)(3) charity organization established and solely funded by us, leads our philanthropic efforts. The purpose of the Foundation is twofold: to support employees to create a better world at work, at home, and in the community by matching employees' volunteer time and/or donations to nonprofit organizations; and to support organizations and individuals using design to drive positive social and environmental impact. In the latter case, we use grant funding, software donations, and training to accomplish this goal, selecting the most impactful and innovative organizations around the world, thus leading to a better future for our planet. On our behalf, the Foundation also administers a discounted software donation program to nonprofit organizations, social and environmental entrepreneurs, and others who are developing design solutions that will shape a more sustainable future. During fiscal 2020, Autodesk committed to target 1% of annual operating margin for the long-term support of the Autodesk Foundation.

DEVELOPER PROGRAMS

Our business and our customers benefit from our relationships with an extensive developer network. These developers create and sell their own interoperable products that further enhance the range of integrated solutions available to our customers. One of our key strategies is to maintain an open-architecture design of our software products to facilitate third-party development of complementary products and industry-specific software solutions. This approach enables customers and third parties to customize solutions for a wide variety of highly specific uses. We offer several programs that provide strategic investment funding, technological platforms, user communities, technical support, forums, and events to developers who develop add-on applications for our products. For example, we created a web services platform, Autodesk Forge, which includes web services that enable software developers to rapidly develop the next generation of applications and experiences that will power the future of making things. Forge facilitates the development of a single connected ecosystem for integrating Autodesk applications with other enterprise, web, and mobile solutions.

COMPETITION

The markets for our products are highly competitive, are subject to rapid change, and can have complex interdependencies between many of the larger businesses. We strive to increase our competitive separation by investing in research and development, allowing us to bring new products to market and create exciting new versions of existing products that offer compelling efficiencies for our customers. We also compete through investments in marketing and sales to more effectively reach new customers and better serve existing customers.

Our competitors include large, global, publicly traded companies; small, geographically focused firms; startup firms; and solutions produced in-house by their users. Our primary global competitors include Adobe Systems Incorporated, AVEVA Group plc, Bentley Systems, Inc., Dassault Systèmes S.A. and its subsidiary Dassault Systèmes SolidWorks Corp., Intergraph Corporation, a wholly owned subsidiary of Hexagon AB, MSC Software Corporation, Nemetschek AG, Oracle Corporation, Procore Technologies, Inc., PTC Inc., 3D Systems Corporation, Siemens PLM, and Trimble Navigation Limited, among others.

The software industry has limited barriers to entry, and the availability of computing power with continually expanding performance at progressively lower prices contributes to the ease of market entry. The industry continues to undergo a platform shift from the personal computer to cloud and mobile computing. This shift further lowers barriers to entry and poses a disruptive challenge to established software companies. The design software market is characterized by vigorous competition in each of the vertical markets in which we compete, both from existing competitors and by entry of new competitors with innovative technologies. Competition is increasingly enhanced by consolidation of companies with complementary products and technologies and the possibility that competitors in one vertical segment may enter other vertical segments that we serve. In addition, some of our competitors in certain markets have greater financial, technical, sales and marketing, and other resources than we do. Because of these and other factors, competitive conditions in these industries are likely to continue to intensify in the future. Increased competition could result in price reductions, reduced net revenue and profit margins, and loss of market share, any of which could harm our business. See Item 1A, “Risk Factors,” for further discussion of risks regarding competition.

We believe that our future results depend largely upon our ability to better serve customers by offering new products, including cloud and mobile computing products, whether by internal development or acquisition, and to continue to provide existing product offerings that compete favorably with respect to ease of use, reliability, performance, range of useful features, continuing product enhancements, reputation, price, and training.

INTELLECTUAL PROPERTY AND LICENSES

We maintain an active program to legally protect our investment in technology through intellectual property rights. We protect our intellectual property through a combination of patent, copyright, trademark, and trade secret protections, confidentiality procedures, and contractual provisions. The nature and extent of legal protection associated with each such intellectual property right depends on, among other things, the type of intellectual property right and the given jurisdiction in which such right arises. We believe that our intellectual property rights are valuable and important to our business.

Nonetheless, our intellectual property rights may not be successfully asserted in the future or may be invalidated, circumvented, or challenged. In addition, the laws and enforcement of the laws of various foreign countries where our products are distributed do not protect our intellectual property rights to the same extent as U.S. laws. Enforcement of intellectual property rights against alleged infringers can sometimes lead to costly litigation and counterclaims. Our inability to protect our proprietary information could harm our business.

From time to time, we receive claims alleging infringement of a third party's intellectual property rights, including patents. Disputes involving our intellectual property rights or those of another party have in the past and may in the future lead to, among other things, costly litigation or product shipment delays, which could harm our business.

We retain ownership of software we develop. Our combined hybrid offerings include both desktop software and cloud functionality. Desktop software is licensed to users pursuant to 'click through' or signed license agreements containing restrictions on duplication, disclosure, and transfer. Cloud software and associated services are provided to users pursuant to online or signed terms of service agreements containing restrictions on access and use.

We believe that because of the limitations of laws protecting our intellectual property and the rapid, ongoing technological changes in both the computer hardware and software industries, we must rely principally upon software engineering and marketing skills to continually maintain and enhance our competitive market position.

While we have recovered some revenue resulting from the unauthorized use of our software solutions, we are unable to measure the full extent to which unauthorized use of our software products exists. We believe, however, that unauthorized use of our software is and can be expected to be a persistent problem that negatively impacts our revenue and financial results. We believe that our transition from perpetual use software licenses to a subscription-based business model combined with the change from desktop to cloud-based computing will shift the incentives and means by which software is used without authorization.

In addition, through various licensing arrangements, we receive certain rights to intellectual property of others. We expect to maintain current licensing arrangements and to secure licensing arrangements in the future, as needed and to the extent available on reasonable terms and conditions, to support continued development and sales of our products and services. Some of these licensing arrangements require or may require royalty payments and other licensing fees. The amount of these payments and fees may depend on various factors, including but not limited to: the structure of royalty payments, offsetting considerations, if any, and the degree of use of the licensed technology.

See Item 1A, "Risk Factors," for further discussion of risks related to protecting our intellectual property.

PRODUCTION AND SUPPLIERS

The production of our software products and services involves duplication or hosting of software media. The way that we deliver software has evolved during our business model transition. For certain cloud-based products, we use a combination of co-located hosting facilities and increasingly Amazon Web Services and to a lesser degree other infrastructure-as-a-service providers. We offer customers an electronic software download option for both initial product fulfillment and subsequent product updates. Customers who choose electronic fulfillment receive the latest version of the software from our vendor's secure servers. Customers may also obtain our software through media such as DVDs and USB flash drives available from multiple sources. The purchase of media and the transfer of the software programs onto media for distribution to customers are performed by us and by licensed subcontractors. Packaging materials are produced to our specifications by outside sources. Production is performed in leased facilities operated by independent third-party contractors. To date, we have not experienced any material difficulties or delays in the production of our software and documentation.

TALENT AND HUMAN CAPITAL MANAGEMENT

Our employees play a central role in the success of our long-term strategy. Autodesk's Culture Code defines values and behaviors that support our commitment to being a customer company, where each employee takes responsibility for understanding our customers' needs, expectations, and experiences. As of January 31, 2022, we employed approximately 12,600 people, an increase from approximately 11,500 employees as of the end of fiscal year 2021. None of our employees in the United States are represented by a labor union. In certain foreign countries, our employees are represented by trade unions or work councils. We have never experienced any work stoppages and believe our employee relations are strong. Reliance upon employees in other countries entails various risks and changes in these foreign countries, such as government instability or regulation unfavorable to foreign-owned businesses, which could negatively impact our business in the future.

Diversity and Belonging

Autodesk is committed to building and maintaining a diverse workforce and a culture of belonging that welcomes people from all backgrounds, perspectives, and beliefs. We have developed and embedded a holistic global Diversity and Belonging ("D&B") strategy into all that we do. Our D&B strategy includes a variety of activities, such as inclusive leadership training for all people managers and senior employees, hiring manager and interview classes that include training on mitigating bias and inclusive practices, Culture Sprints for all employees to foster belonging, and a D&B speaker series featuring leaders from a range of disciplines.

To help us build a more diverse workforce, we have continued to invest in our diversity partnerships. We partner with educational institutions such as Hispanic-Serving Institutions and Historically Black Colleges and Universities, and professional organizations around the globe supporting underrepresented groups in technology. We provide a variety of scholarships, internship programs, mentoring and development partnerships, and program support to organizations focused on women and underrepresented groups.

We also have an Emerging Leaders Program which is focused on developing a diverse cohort of leaders through professional development, mentoring, and networking opportunities. In addition, we provide ongoing development opportunities, such as the Autodesk Mentorship Program, which provides one-on-one mentorship relationships. Autodesk has seven employee resource groups ("ERGs"), which are employee-led groups that bring employees together based on common backgrounds or diversity characteristics, to foster a sense of belonging and connection.

Additional information on our D&B program, initiatives, and metrics can be found on our website at https://www.autodesk.com/company/diversity-and-inclusion. Information contained on or accessible through our website is not part of or incorporated by reference into this report.

Professional Development and Employee Impact

We believe career development plays an important role in keeping our employees engaged and to provide additional opportunities to grow and build their careers. Autodesk offers extensive professional and technical development opportunities for our employees. These include self-service online modules and personalized learning paths, professional and management development programs, and a tuition reimbursement program.

We also encourage our employees to advance our vision for a better world and support their professional development by participating in our pro bono consulting program, using paid time to volunteer, and have their charitable giving matched by the Autodesk Foundation.

Total Rewards

To attract, retain, and support our highly qualified employees, we offer competitive compensation and benefits, which include an element of choice to meet the needs of our diverse and global population. In addition to base pay and opportunities to receive short- and long-term incentives, we have an employee stock purchase plan, and retirement and other financial support. In addition to comprehensive health insurance and wellness benefits, we have a generous time off program, including sabbatical, financial tools and education, and an employee assistance program. In fiscal 2021, we made changes to our equity strategy, expanding our grant program eligibility for new hires and existing employees. As part of this strategy, we made a one-time equity grant to all regular employees with no unvested equity to align all employees to the long-term success of the company and encourage an owner mindset.

COVID-19

In response to the COVID-19 pandemic, we supported our employees by adopting remote work and providing reimbursements to employees to equip their home offices, unlimited videoconferencing access to gather virtually with friends and family, and additional company holidays in recognition of the unusual demands of the working environment during the pandemic.

ACQUISITIONS

We acquired new technology or supplemented our existing technology by purchasing businesses or technology related assets focused in specific markets or industries. For the fiscal years ended January 31, 2022 and 2021, we acquired companies accounted for as business combinations. Autodesk did not complete any business combinations during fiscal year 2020. The following were significant acquisitions for fiscal years 2022 and 2021:

Date of closing	Company	Details
May 2021	Upchain Inc. (“Upchain”)	Autodesk integrated Upchain’s unified cloud platform in Autodesk solutions to centralize data management and process management.
March 2021	Storm UK Holdco Limited, the parent of Innovyze, Inc. (“Innovyze”)	Innovyze provided comprehensive water modeling solutions that augment Autodesk’s BIM offerings in civil engineering, and extended Autodesk’s presence into operations and maintenance of water infrastructure assets
November 2020	Spacemaker AS ("Spacemaker")	The acquisition of Spacemaker strengthened and enabled Autodesk’s early-stage design and outcome-based design capabilities.

We acquire technology-related assets that are complementary to or otherwise enhance our existing technologies. We also make investments in privately held companies that develop technology that is complementary to or provide strategic value and expand opportunities for our technologies.

REGULATION

We are subject to various regulations, particularly those involving privacy and import/export controls. See Item 1A, “Risk Factors—Risks Relating to Laws and Regulations,” for further discussion.

GLOSSARY OF TERMS

Billings: Total revenue plus the net change in deferred revenue from the beginning to the end of the period.

Cloud Service Offerings: Represents individual term-based offerings deployed through web browser technologies or in a hybrid software and cloud configuration. Cloud service offerings that are bundled with other product offerings are not captured as a separate cloud service offering.

Constant Currency (CC) Growth Rates: We attempt to represent the changes in the underlying business operations by eliminating fluctuations caused by changes in foreign currency exchange rates as well as eliminating hedge gains or losses recorded within the current and comparative periods. We calculate constant currency growth rates by (i) applying the applicable prior period exchange rates to current period results and (ii) excluding any gains or losses from foreign currency hedge contracts that are reported in the current and comparative periods.

Design Business: Represents the combination of maintenance, product subscriptions, and all EBAs. Main products include, but are not limited to, AutoCAD, AutoCAD LT, Industry Collections, Revit, Inventor, Maya, and 3ds Max. Certain products, such as our computer aided manufacturing solutions, incorporate both Design and Make functionality and are classified as Design.

Enterprise Business Agreements (EBAs): Represents programs providing enterprise customers with token-based access to a broad pool of Autodesk products over a defined contract term.

Free Cash Flow: Cash flow from operating activities minus capital expenditures.

Industry Collections: Autodesk Industry Collections are a combination of products and services that target a specific user objective and support a set of workflows for that objective. Our Industry Collections consist of: Autodesk Architecture, Engineering and Construction Collection, Autodesk Product Design and Manufacturing Collection, and Autodesk Media and Entertainment Collection.

Maintenance Plan: Our maintenance plans provide our customers with a cost effective and predictable budgetary option to obtain the productivity benefits of our new releases and enhancements when and if released during the term of their contracts. Under our maintenance plans, customers are eligible to receive unspecified upgrades when and if available, and technical support. We recognize maintenance revenue over the term of the agreements, generally one year.

Make Business: Represents certain cloud-based product subscriptions. Main products include, but are not limited to, Assemble, Autodesk Build, BuildingConnected, Fusion 360, and ShotGrid. Certain products, such as Fusion 360, incorporate both Design and Make functionality and are classified as Make.

Net Revenue Retention Rate (NR3): Measures the year-over-year change in subscription and maintenance revenue for the population of customers that existed one year ago ("base customers"). Net revenue retention rate is calculated by dividing the current quarter subscription and maintenance revenue related to base customers by the total corresponding quarter subscription and maintenance revenue from one year ago. Subscription and maintenance revenue is based on USD reported revenue, and fluctuations caused by changes in foreign currency exchange rates and hedge gains or losses have not been eliminated. Subscription and maintenance revenue related to acquired companies, one year after acquisition, has been captured as existing customers until such data conforms to the calculation methodology. This may cause variability in the comparison.

Other Revenue: Consists of revenue from consulting, training and other products and services, and is recognized as the products are delivered and services are performed.

Product Subscription: Provides customers a flexible, cost-effective way to access and manage 3D design, engineering, and entertainment software tools. Our product subscriptions currently represent a hybrid of desktop and cloud functionality, which provides a device-independent, collaborative design workflow for designers and their stakeholders.

Recurring Revenue: Consists of the revenue for the period from our traditional maintenance plans and revenue from our subscription plan offerings. It excludes subscription revenue related to consumer product offerings, select Creative Finishing product offerings, and third-party products. Recurring revenue acquired with the acquisition of a business is captured when total subscriptions are captured in our systems and may cause variability in the comparison of this calculation.

Remaining Performance Obligations (RPO): The sum of total short-term, long-term, and unbilled deferred revenue. Current remaining performance obligations is the amount of revenue we expect to recognize in the next twelve months.

Spend: The sum of cost of revenue and operating expenses.

Subscription Plan: Comprises our term-based product subscriptions, cloud service offerings, and EBAs. Subscriptions represent a combined hybrid offering of desktop software and cloud functionality which provides a device-independent, collaborative design workflow for designers and their stakeholders. With subscription, customers can use our software anytime, anywhere, and get access to the latest updates to previous versions.

Subscription Revenue: Includes our term-based product subscriptions, cloud service offerings, and flexible EBAs.

Unbilled Deferred Revenue: Unbilled deferred revenue represents contractually stated or committed orders under early renewal and multi-year billing plans for subscription, services, and maintenance for which the associated deferred revenue has not been recognized. Under FASB Accounting Standards Codification ("ASC") Topic 606, unbilled deferred revenue is not included as a receivable or deferred revenue on our Condensed Consolidated Balance Sheet.

ITEM 1A. RISK FACTORS

We operate in a rapidly changing environment that involves significant risks, a number of which are beyond our control. In addition to the other information contained in this Form 10-K, the following discussion highlights some of these risks and the possible impact of these factors on our business, financial condition, and future results of operations. If any of the following risks actually occur, our business, financial condition, or results of operations may be adversely impacted, causing the trading price of our common stock to decline. In addition, these risks and uncertainties may impact the forward-looking statements described elsewhere in this Form 10-K and in the documents incorporated herein by reference. They could affect our actual results of operations, causing them to differ materially from those expressed in forward-looking statements.

Summary of Risk Factors

Our business is subject to numerous risks and uncertainties that you should consider before investing in our securities. These risks are described more fully below and include, but are not limited to, risks relating to the following:

- Our strategy to develop and introduce new products and services, exposing us to risks such as limited customer acceptance, costs related to product defects, and large expenditures.
- The effects of the COVID-19 pandemic and related public health measures.
- Global economic and political conditions.
- Costs and challenges associated with strategic acquisitions and investments.
- Dependency on international revenue and operations, exposing us to significant international regulatory, economic, intellectual property, collections, currency exchange rate, taxation, political, and other risks.
- Inability to predict subscription renewal rates and their impact on our future revenue and operating results.
- Existing and increased competition and rapidly evolving technological changes.
- Fluctuation of our financial results, key metrics and other operating metrics.
- Deriving a substantial portion of our net revenue from a small number of solutions, including our AutoCAD-based software products and collections.
- Any failure to successfully execute and manage initiatives to realign or introduce new business and sales initiatives.
- Net revenue, billings, earnings, cash flow, or subscriptions shortfalls or volatility of the market causing the market price of our stock to decline.
- Social and ethical issues relating to the use of artificial intelligence in our offerings.
- Security incidents compromising the integrity of our or our customers' offerings, services, data, or intellectual property.
- Reliance on third parties to provide us with a number of operational and technical services as well as software.
- Our highly complex software, which may contain undetected errors, defects, or vulnerabilities.
- Increasing regulatory focus on privacy issues and expanding laws.
- Governmental export and import controls that could impair our ability to compete in international markets or subject us to liability if we violate the controls.
- Protection of our intellectual property rights and intellectual property infringement claims from others.
- The government procurement process.
- Fluctuations in currency exchange rates.
- Our debt service obligations.
- Our investment portfolio consisting of a variety of investment vehicles that are subject to interest rate trends, market volatility, and other economic factors.

Risks Relating to Our Business and Strategy

Our strategy to develop and introduce new products and services exposes us to risks such as limited customer acceptance, costs related to product defects, and large expenditures, each of which may result in no additional net revenue or decreased net revenue.

The software industry is characterized by rapid technological changes as well as changes in customer requirements and preferences. In recent years, the industry has undergone a transition from developing and selling perpetual licenses and on-premises products to subscriptions and cloud-enabled technologies. Customers are also reconsidering how they purchase software products, which requires us to constantly evaluate our business model and strategy. In response, we are focused on providing solutions to enable our customers to be more agile and collaborative on their projects. We devote significant resources to the development of new technologies. In addition, we frequently introduce new business models or methods that require a considerable investment of technical and financial resources, such as our introduction of flexible subscription and service offerings and our transition of multi-subscription plans to named-user plans. It is uncertain whether these strategies, including our product and pricing changes, will accurately reflect customer demand or be successful, or whether we will be able to develop the necessary infrastructure and business models more quickly than our competitors. We make such investments through further development and enhancement of our existing products and services, as well as through acquisitions. Such investments may not result in sufficient revenue generation to justify their costs and could result in decreased net revenue or profitability. If we are not able to meet customer requirements, either with respect to our software or the manner in which we provide such products, or if we are not able to adapt our business model to meet our customers’ requirements, our business, financial condition, or results of operations may be adversely impacted.

In particular, a critical component of our growth strategy is to have customers of our AutoCAD and AutoCAD LT products, as well as other individual Autodesk products, expand their portfolios to include our other offerings and cloud-based functionality, and we are taking steps to accelerate this migration. At times, sales of our AutoCAD and AutoCAD LT or individual Autodesk flagship products have decreased without a corresponding increase in Industry Collections or cloud-based functionality revenue, or without purchases of customer seats to our Industry Collections. Should this continue, our results of operations will be adversely affected.

Our executive management team must continuously act quickly and with vision, given the rapidly changing customer expectations and technology advancements inherent in the software industry, the extensive and complex efforts required to create useful and widely accepted products, and the rapid evolution of cloud computing, mobile devices, new computing platforms, and other technologies, such as consumer products. Although we have articulated a strategy that we believe will fulfill these challenges, if we fail to execute properly on that strategy or adapt the strategy as market conditions evolve, we may fail to meet our customers’ expectations, be unable to compete with our competitors' products and technology, and lose the confidence of our channel partners and employees. This in turn could adversely affect our business and financial performance.

The effects of the COVID-19 pandemic and related public health measures have affected how we and our customers are operating our respective businesses, and the extent of the impact on our business and results of operations remains uncertain.

We are continuing to conduct business during the COVID-19 pandemic with substantial modifications to employee travel and work locations, as well as virtualization, postponement, or cancellation of certain sales and marketing events, among other changes. We have observed other companies as well as governments taking precautionary measures to address COVID-19. While government authorities in some geographies are removing COVID-19 related business operations restrictions, we continue to actively monitor the situation and may take further actions to alter our business operations as may be required by federal, state, or local authorities, or that we determine are in the best interests of our employees, customers, partners, suppliers, and stockholders, including in response to outbreaks and variants. The extent of the impact of any such modifications on our business, including the effects on our customers and prospects, and on our financial results, remains uncertain.

We will continue to invest in critical areas such as research and development, construction, and digitizing the company to support our future success as we come out of the pandemic. If we are not able to successfully manage our spending and investment, it could have a material adverse effect on our cash balances, business, and results of operations.

Although recent vaccine approvals and rollouts have raised hopes of a turnaround in the COVID-19 pandemic, renewed waves and new variants as well as delays in vaccinations pose risks to recovery and our outlook. In addition, supply chain disruption and resulting inflationary pressures, a global labor shortage, and the ebb and flow of COVID-19, including in specific geographies, are currently impacting the pace of our recovery and our outlook. Growth may slow if virus outbreaks (including from new variants) prove difficult to contain, infections and deaths mount rapidly before vaccines are widely available, and social distancing measures and/or lockdowns return and are more stringent than anticipated. Moreover, if economic policy support is insufficient or withdrawn before full economic recovery, bankruptcies of viable but illiquid companies could mount, leading to further or renewed employment and income losses and a more protracted recovery. Together, these uncertainties and risks could have a material adverse impact on our financial condition, business and results of operations.

Global economic and political conditions may further impact our industries, business, and financial results.

Our overall performance depends largely upon domestic and worldwide economic and political conditions. The United States and other countries' economies have experienced cyclical downturns, in which economic activity was impacted by falling demand for a variety of goods and services, restricted credit, poor liquidity, decreased government spending, reduced corporate profitability, volatility in credit, equity, and foreign exchange markets, bankruptcies, and overall uncertainty. These economic conditions can occur abruptly. For example, the coronavirus (COVID-19) pandemic has caused additional uncertainty in the global economy, and an economic downturn or recession in the United States or in other countries may occur or has already occurred and may continue. The extent to which COVID-19 will impact our financial condition or results of operations is still uncertain and will continue to depend on developments such as the impact on our customers, vendors, distributors, and resellers, such as the supply chain disruption and resulting inflationary pressures and global labor shortage that we have seen recently, as well as other factors, including the full duration and the extent of the pandemic, including as a result of outbreaks and variants; actions taken by governments, businesses, and consumers in response to the pandemic; speed and timing of economic recovery, including in specific geographies; speed of rollout of COVID-19 vaccines, lifting of restrictions on movement, and normalization of full-time return to work and social events; our billings and renewal rates, including new business close rates, rate of multi-year contracts, pace of closing larger transactions, and new unit volume growth; and effect of the pandemic on margins and cash flow. All of these factors continue to evolve and remain uncertain at this time, and some of these factors are not within our control. Due to our subscription-based business model, the effect of COVID-19 may not be fully reflected in our results of operations until future periods, if at all. If economic growth in countries where we do business slows or if such countries experience further economic recessions, customers may delay or reduce technology purchases, which we have seen recently in certain countries including China. Our customers include government entities, including the U.S. federal government, and if spending cuts impede the ability of governments to purchase our products and services, our revenue could decline. In addition, a number of our customers rely, directly and indirectly, on government spending.

As described elsewhere in these risk factors, we are dependent on international revenue and operations and are subject to related risks of conducting business globally. Trends toward nationalism and protectionism and the weakening or dissolution of international trade pacts may increase the cost of, or otherwise interfere with, conducting business. These trends have increased political and economic unpredictability globally and may increase the volatility of global financial markets, and the impact of such developments on the global economy remains uncertain. Political instability or adverse political developments in any of the countries in which we do business could harm our business, results of operations, and financial condition. A financial sector credit crisis could impair credit availability and the financial stability of our customers, including our distribution partners and channels. A disruption in the financial markets may also have an effect on our derivative counter-parties and could also impair our banking partners, on which we rely for operating cash management. War, including the significant military action against Ukraine launched by Russia and any related political or economic responses and counter-responses or otherwise by various global actors or the general effect on the global economy, could also affect our business. Any of these events could harm our business, results of operations, and financial condition.

Our business could be adversely impacted by the costs and challenges associated with strategic acquisitions and investments.

We regularly acquire or invest in businesses, software solutions, and technologies that are complementary to our business through acquisitions, strategic alliances, or equity or debt investments, including several transactions in fiscal 2022. The risks associated with such acquisitions include the difficulty of integrating solutions, operations, and personnel; inheriting liabilities such as intellectual property infringement claims; failure to realize anticipated revenue and cost projections and expected synergies; the requirement to test and assimilate the internal control processes of the acquired business in accordance with the requirements of Section 404 of the Sarbanes-Oxley Act of 2002; and diversion of management's time and attention. In addition, such acquisitions and investments involve other risks such as:

- the inability to retain customers, key employees, vendors, distributors, business partners, and other entities associated with the acquired business;
- the potential that due diligence of the acquired business or solution does not identify significant problems;
- exposure to litigation or other claims in connection with, or inheritance of claims or litigation risk as a result of, an acquisition, including claims from terminated employees, customers, or other third parties;

- the potential for incompatible business cultures;
- significantly higher than anticipated transaction or integration-related costs;
- potential additional exposure to economic, tax, currency, political, legal, and regulatory risks associated with specific countries; and
- the potential impact on relationships with existing customers, vendors, and distributors as business partners as a result of acquiring another business.

We may not be successful in overcoming such risks, and such acquisitions and investments may negatively impact our business. In addition, if we do not complete an announced acquisition transaction or integrate an acquired business successfully and in a timely manner, we may not realize the benefits of the acquisition to the extent anticipated. Acquisitions and investments have in the past and may in the future contribute to fluctuations in our quarterly financial results. These fluctuations could arise from transaction-related costs and charges associated with eliminating redundant expenses or write-offs of impaired assets recorded in connection with acquisitions and investments, and could negatively impact our financial results.

We are dependent on international revenue and operations, exposing us to significant international regulatory, economic, intellectual property, collections, currency exchange rate, taxation, political, and other risks, which could adversely impact our financial results.

International net revenue represented 67% and 66% of our net revenue for fiscal 2022 and 2021, respectively. Our international revenue, some of which comes from emerging economies, is subject to economic and political conditions in foreign markets, including those resulting from economic and political conditions in the United States, as well as country-specific conditions related to COVID-19, such as varied speed of recovery in different geographies. For example, we have recently seen a deceleration in growth in certain geographies including China. Our total revenue is also impacted by the relative geographical and country mix of our revenue over time. Our dependency on international revenue makes us much more exposed to global economic and political trends, which can negatively impact our financial results even if our results in the United States are strong for a particular period.

We anticipate that our international operations will continue to account for a significant portion of our net revenue and, as we expand our international development, sales, and marketing expertise, will provide significant support to our overall efforts in countries outside of the United States. Risks inherent in our international operations include:

- economic volatility;
- tariffs, quotas, and other trade barriers and restrictions , including any political or economic responses and counter-responses or otherwise by various global actors to the significant military action against Ukraine launched by Russia;
- fluctuating currency exchange rates, including devaluations, currency controls, and inflation, and risks related to any hedging activities we undertake;
- changes in regulatory requirements and practices;
- delays resulting from difficulty in obtaining export licenses for certain technology;
- different purchase patterns as compared to the developed world;
- operating in locations with a higher incidence of corruption and fraudulent business practices, particularly in emerging economies;
- compliance with the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act, and other anti-corruption laws;
- difficulties in staffing and managing foreign sales and development operations;
- local competition;
- longer collection cycles for accounts receivable;
- U.S. and foreign tax law changes and the complexities of tax reporting;
- laws regarding the free flow of data across international borders and management of and access to data and public networks;
- possible future limitations upon foreign-owned businesses;
- increased financial accounting and reporting burdens and complexities;

- inadequate local infrastructure;
- greater difficulty in protecting intellectual property;
- software piracy; and
- other factors beyond our control, including popular uprisings, terrorism, war (including the significant military action against Ukraine launched by Russia and any related political or economic responses and counter-responses or otherwise by various global actors or the general effect on the global economy), natural disasters, and diseases and pandemics, such as COVID-19.

Some of our business partners also have international operations and are subject to the risks described above.

The application of the Trade and Cooperation Agreement between the European Union, the European Atomic Energy Community, and the United Kingdom signed in December 2020 (the "TCA"), which took effect January 1, 2021, could have adverse tax, tax treaty, banking, operational, legal, regulatory, or other impacts on our businesses in the region. The withdrawal could also, among other potential outcomes, create currency volatility; disrupt the free movement of goods, services, and people between the United Kingdom and the European Union; and significantly disrupt trade between the United Kingdom and the European Union and other parties. Uncertainty around these and related issues could lead to adverse effects on the United Kingdom economy, the European Union economies, and the other economies in which we operate.

In addition, in recent years, the United States has instituted or proposed changes to foreign trade policy, including the negotiation or termination of trade agreements, the imposition of tariffs on products imported from certain countries, economic sanctions on individuals, corporations, or countries, and other government regulations affecting trade between the United States and other countries in which we do business. More recently, the United States and other global actors have imposed sanctions as a result of the significant military action against Ukraine launched by Russia. New or increased tariffs and other changes in U.S. trade policy, including sanctions, could trigger retaliatory actions by affected countries, including Russia, and certain foreign governments, including the Chinese government, have instituted or considered imposing trade sanctions on certain U.S.-manufactured goods. The escalation of protectionist or retaliatory trade measures in either the United States or any other countries in which we do business, such as announcing sanctions, a change in tariff structures, export compliance, or other trade policies, may increase the cost of, or otherwise interfere with, the conduct of our business. Broad-based sanctions against Russia, should they be implemented, could have a material adverse effect on our operations and business outlook.

Furthermore, in response to the Russian invasion of Ukraine, effective early March 2022 we have suspended all new business in Russia. Our revenue in fiscal 2022 generated in Russia was less than 2% of total revenue. We continue to evaluate our business operations there, including whether and how to support existing customers.

Even if we are able to successfully manage the risks of international operations, our business may be adversely affected if our business partners are not able to successfully manage these risks.

We may not be able to predict subscription renewal rates and their impact on our future revenue and operating results.

Our customers are not obligated to renew their subscriptions for our offerings, and they may elect not to renew, upgrade, or expand their subscriptions. We cannot assure renewal rates or the mix of subscriptions renewals. Customer renewal rates may decline or fluctuate due to a number of factors, including offering pricing; competitive offerings; customer satisfaction; and reductions in customer spending levels, customer activity, or number of users due to economic downturns, including as a result of the current COVID-19 pandemic, or financial markets uncertainty. If our customers do not renew their subscriptions or if they renew on less favorable terms, our revenues may decline.

Existing and increased competition and rapidly evolving technological changes may reduce our revenue and profits.

The software industry has limited barriers to entry, and the availability of computing devices with continually expanding performance at progressively lower prices contributes to the ease of market entry. The industry has undergone a transition from developing and selling perpetual licenses and on-premises products to subscriptions and cloud-enabled technologies. This shift further lowers barriers to entry and poses a disruptive challenge to established software companies. The markets in which we operate are characterized by vigorous competition, both by entrants with innovative technologies and by consolidation of companies with complementary offerings and technologies. Some of our competitors have greater financial, technical, sales and marketing, and other resources. Furthermore, a reduction in the number and availability of compatible third-party applications or our inability to rapidly adapt to technological and customer preference changes, including those related to cloud computing, mobile devices, and new computing platforms, may adversely affect the sale of our solutions. Because of these and other factors, competitive conditions in the industry are likely to intensify in the future. Increased competition could result in price reductions, reduced net revenue and profit margins, and loss of market share, any of which would likely harm our business.

Our financial results, key metrics, and other operating metrics fluctuate within each quarter and from quarter to quarter, making our future revenue and financial results difficult to predict.

Our quarterly financial results, key metrics, and other operating metrics have fluctuated in the past and will continue to do so in the future. These fluctuations could cause our stock price to change significantly or experience declines. We also provide investors with quarterly and annual financial forward-looking guidance that could prove to be inaccurate as a result of these fluctuations. In addition to the other risks described in these risk factors, some of the factors that could cause our financial results, key metrics, and other operating metrics to fluctuate include:

- general market, economic, business, and political conditions in Europe, APAC, and emerging economies, including from an economic downturn or recession in the United States or other countries;
- failure to produce sufficient revenue, billings, subscription, profitability, and cash flow growth, including as a result of the COVID-19 pandemic;
- failure to accurately predict the impact of acquired businesses or to identify and realize the anticipated benefits of acquisitions, and successfully integrate such acquired businesses and technologies;
- potential goodwill impairment charges related to prior acquisitions;
- failure to manage spend;
- changes in billings linearity;
- changes in subscription mix, pricing pressure, or changes in subscription pricing;
- weak or negative growth in one or more of the industries we serve, including AEC, manufacturing, and digital media and entertainment markets;
- the success of new business or sales initiatives;
- security breaches, related reputational harm, and potential financial penalties to customers and government entities;
- restructuring or other accounting charges and unexpected costs or other operating expenses;
- timing of additional investments in our technologies or deployment of our services;
- changes in revenue recognition or other accounting guidelines employed by us and/or established by the Financial Accounting Standards Board, Securities and Exchange Commission, or other rulemaking bodies;
- fluctuations in foreign currency exchange rates and the effectiveness of our hedging activity;
- dependence on and timing of large transactions;
- adjustments arising from ongoing or future tax examinations;
- the ability of governments around the world to adopt fiscal policies, meet their financial and debt obligations, and finance infrastructure projects;
- failure to expand our AutoCAD and AutoCAD LT customer base to related design products and services;
- our ability to rapidly adapt to technological and customer preference changes, including those related to cloud computing, mobile devices, and new computing platforms;
- timing of the introduction of new products by us or our competitors;
- the financial and business condition of our reseller and distribution channels;
- perceived or actual technical or other problems with a product or combination of subscriptions;
- unexpected or negative outcomes of matters and expenses relating to litigation or regulatory inquiries;
- increases in cloud functionality-related expenses;
- timing of releases and retirements of offerings;
- changes in tax laws or tax or accounting rules and regulations, such as increased use of fair value measures;

- changes in sales compensation practices;
- failure to effectively implement and maintain our copyright legalization programs, especially in developing countries;
- renegotiation or termination of royalty or intellectual property arrangements;
- interruptions or terminations in the business of our consultants or third-party developers;
- timing and degree of expected investments in growth and efficiency opportunities;
- failure to achieve continued success in technology advancements;
- catastrophic events, natural disasters, or public health events, such as pandemics and epidemics, including COVID-19;
- regulatory compliance costs; and
- failure to appropriately estimate the scope of services under consulting arrangements.

We have also experienced fluctuations in financial results in interim periods in certain geographic regions due to seasonality or regional economic or political conditions. In particular, our financial results in Europe during our third quarter are usually affected by a slower summer period, and our APAC operations typically experience seasonal slowing in our third and fourth quarters. War, including the significant military action against Ukraine launched by Russia and any related political or economic responses and counter-responses or otherwise by various global actors or the general effect on the global economy, could also affect our business.

Our operating expenses are based in part on our expectations for future revenue and are relatively fixed in the short term. Accordingly, any revenue shortfall below expectations has had, and in the future could have, an immediate and significant adverse effect on our profitability. Greater than anticipated expenses or a failure to maintain rigorous cost controls would also negatively affect profitability.

We derive a substantial portion of our net revenue from a small number of solutions, including our AutoCAD-based software products and collections, and if these offerings are not successful, our revenue would be adversely affected.

We derive a substantial portion of our net revenue from sales of subscriptions of a limited number of our offerings, including AutoCAD software, solutions based on AutoCAD, which include our collections that serve specific markets, and products that are interoperable with AutoCAD. Any factor adversely affecting sales of these subscriptions, including the product release cycle, market acceptance, product competition, performance and reliability, reputation, price competition, economic and market conditions, and the availability of third-party applications, would likely harm our financial results. During both fiscal 2022 and 2021, combined revenue from our AutoCAD and AutoCAD LT family products, not including collections having AutoCAD or AutoCAD LT as a component, represented 29% of our total net revenue.

From time to time we realign or introduce new business and sales initiatives; if we fail to successfully execute and manage these initiatives, our results of operations could be negatively impacted.

As part of our effort to accommodate our customers' needs and demands and the rapid evolution of technology, from time to time we evolve our business and sales initiatives, such as realigning our development and marketing organizations, offering software as a service, and realigning our internal resources in an effort to improve efficiency. We may take such actions without clear indications that they will prove successful and, at times, we have been met with short-term challenges in the execution of such initiatives. Market acceptance of any new business or sales initiative is dependent on our ability to match our customers' needs at the right time and price. Often, we have limited prior experience and operating history in these new areas of emphasis. If any of our assumptions about expenses, revenue, or revenue recognition principles from these initiatives proves incorrect, or our attempts to improve efficiency are not successful, our actual results may vary materially from those anticipated, and our financial results will be negatively impacted.

Net revenue, billings, earnings, cash flow, or subscriptions shortfalls or volatility of the market generally may cause the market price of our stock to decline.

The market price for our common stock has experienced significant fluctuations and may continue to fluctuate significantly. The market price for our common stock may be affected by a number of factors, including the other risks described in these risk factors and the following:

- shortfalls in our expected financial results, including net revenue, billings, earnings, and cash flow or key performance metrics, such as subscriptions, including as a result of the current COVID-19 pandemic, and how those results compare to securities analyst expectations, including whether those results fail to meet, exceed, or significantly exceed securities analyst expectations;
- quarterly variations in our or our competitors' results of operations;
- general socioeconomic, political, or market conditions, including from an economic downturn or recession in the United States or in other countries;
- changes in forward-looking estimates of future results, how those estimates compare to securities analyst expectations, or changes in recommendations or confusion on the part of analysts and investors about the short- and long-term impact to our business;
- uncertainty about certain governments' abilities to repay debt or effect fiscal policy;
- announcements of new offerings or enhancements by us or our competitors;
- unusual events such as significant acquisitions, divestitures, regulatory actions, and litigation;
- changes in laws, rules, or regulations applicable to our business;
- outstanding debt service obligations; and
- other factors, including factors unrelated to our operating performance, such as instability affecting the economy or the operating performance of our competitors.

Significant changes in the price of our common stock could expose us to costly and time-consuming litigation. Historically, after periods of volatility in the market price of a company's securities, a company becomes more susceptible to securities class action litigation. This type of litigation is often expensive and diverts management's attention and resources.

As a result of our strategy of partnering with other companies for product development, our product delivery schedules could be adversely affected if we experience difficulties with our product development partners.

We partner with certain independent firms and contractors to perform some of our product development activities. We believe our partnering strategy allows us to achieve efficiencies in developing new products and maintaining and enhancing existing product offerings. This strategy creates a dependency on independent developers. Independent developers, including those who currently develop solutions for us in the United States and throughout the world, may not be able or willing to provide development support to us in the future. In addition, use of development resources through consulting relationships, particularly in non-U.S. jurisdictions with developing legal systems, may be adversely impacted by, and expose us to risks relating to, evolving employment, export, and intellectual property laws. These risks could, among other things, expose our intellectual property to misappropriation and result in disruptions to product delivery schedules.

Social and ethical issues relating to the use of artificial intelligence in our offerings may result in reputational harm or liability.

Social and ethical issues relating to the use of new and evolving technologies such as artificial intelligence ("AI") in our offerings, may result in reputational harm and liability, and may cause us to incur additional research and development costs to resolve such issues. We are increasingly building AI into many of our offerings. As with many innovations, AI presents risks and challenges that could affect its adoption, and therefore our business. AI presents emerging ethical issues and if we enable or offer solutions that draw controversy due to their perceived or actual impact on society, we may experience brand or reputational harm, competitive harm, or legal liability. Potential government regulation in the space of AI ethics may also increase the burden and cost of research and development in this area, subjecting us to brand or reputational harm, competitive harm, or legal liability. Failure to address AI ethics issues by us or others in our industry could undermine public confidence in AI and slow adoption of AI in our products and services.

<u>*Risks Relating to Our Operations*</u>

Security incidents may compromise the integrity of our or our customers' systems, solutions, offerings, services, applications, data, or intellectual property, harm our reputation, damage our competitiveness, create additional liability, and adversely impact our financial results.

As we digitize Autodesk and use cloud- and web-based technologies to leverage customer data to deliver the total customer experience, we are exposed to increased security risks and the potential for unauthorized access to, or improper use of, our and our customers' information. Like other software offerings and systems, ours are vulnerable to security incidents, including those from acquired companies. Also, our ability to mitigate the security incident risk may be impacted by our limited control over our customers or third-party technology providers and vendors, or the processing of data by third-party technology providers and vendors, which may not allow us to maintain the integrity or security of such transmissions or processing. We devote significant resources in an effort to maintain the security and integrity of our systems, offerings, services, and applications (online, mobile, and desktop), including by enhancing security features, conducting penetration tests, code hardening, releasing security vulnerability updates, and accelerating our incident response time. We also provide annual information security training to our employees. Despite these efforts, we may not prevent security incidents, and we may face delays or other difficulties in identifying, responding to, or remediating security incidents.

Hackers regularly have targeted our systems, offerings, services, and applications, and we expect them to do so in the future. To date, such identified security events have not been material or significant to us or our customers, including to our reputation or business operations, or had a material financial impact, but there can be no assurance that future cyberattacks will not be material or significant. Security incidents could disrupt the proper functioning of our systems, solutions, offerings, applications, or services; cause errors in the output of our customers' work; allow unauthorized access to or unauthorized use, disclosure, modification, loss, or destruction of, sensitive data or intellectual property, including proprietary or confidential information of ours or our customers; or cause other destructive outcomes. The risk of a security incident, particularly through cyber-attack or cyber intrusion, including by computer hackers, foreign governments, and cyber terrorists, has increased as the number, intensity, and sophistication of attempted attacks and intrusions from around the world have increased. These threats include identity theft, unauthorized access, DNS attacks, wireless network attacks, viruses and worms, malware, bugs, vulnerabilities, advanced persistent threats (APT), application-centric attacks, peer-to-peer attacks, social engineering, phishing, credential stuffing, malicious file uploads, backdoor trojans, supply chain attacks, ransomware attacks, and distributed denial of service (DDoS) attacks. In addition, third parties may attempt to fraudulently induce our employees, vendors, partners, customers, or users to disclose information to gain access to our data or our customers' or users' data and there is the risk of employee, contractor, or vendor error or malfeasance. These existing risks are compounded given the COVID-19 pandemic and the resulting shift to work-from-home arrangements for a large population of employees and contractors, as well as employees and contractors of our third-party technology providers and vendors, and the risks could also be elevated in connection with the Russian invasion of Ukraine. Despite our significant efforts to create security barriers to such threats, we cannot entirely mitigate these risks, and there is no guarantee that inadvertent or unauthorized use or disclosure of such information will not occur or that third parties will not gain unauthorized access to such information.

Many governments have enacted laws requiring companies to provide notice of security incidents involving certain types of personal data and personal information. We are also contractually required to notify certain customers of certain security incidents. If any of the foregoing security incidents were to occur or to be perceived to have occurred, our reputation may suffer, our competitive position may be diminished, customers may stop paying for our solutions and services, we could be required to expend significant capital and other resources to evaluate and alleviate the security incident and to try to prevent further or additional incidents, and we could face regulatory inquiry, lawsuits, and potential liability. We could incur significant costs and liabilities, including due to litigation, indemnity obligations, damages for contract breach, penalties for violation of applicable laws or regulations, and costs for remediation and other incentives offered to customers or other business partners in an effort to maintain business relationships after a security incident, and our financial performance could be negatively impacted.

We cannot assure you that any limitations of liability provisions in our contracts would be enforceable or adequate or would otherwise protect us from any liabilities or damages with respect to any particular claim relating to a security incident. We also cannot be sure that our existing insurance coverage will continue to be available on acceptable terms or will be available in sufficient amounts to cover one or more large claims related to a security incident, or that the insurer will not deny coverage as to any future claim. The successful assertion of one or more large claims against us that exceed available insurance coverage, or the occurrence of changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, could have a material adverse effect on our business, including our financial condition, operating results, and reputation.

Our use of third-party open source software could negatively affect our ability to sell subscriptions to access our products and subject us to possible litigation and greater security risks.

We use third-party open source software. From time to time, companies that use third-party open source software have faced claims challenging the use of such open source software and compliance with the open source software license terms. Accordingly, we may be subject to suits by parties claiming ownership of what we believe to be open source software or claiming non-compliance with the applicable open source licensing terms. Some open source software licenses require end-users, who distribute or make available across a network software and services that include open source software, to make publicly available or to license all or part of such software (which in some circumstances could include valuable proprietary code, such as modifications or derivative works created, based upon, incorporating, or using the open source software) under the terms of the particular open source license. While we employ practices designed to monitor our compliance with the licenses of third-party open source software and protect our valuable proprietary source code, we may inadvertently use third-party open source software in a manner that exposes us to claims of non-compliance with the terms of the applicable license, including claims of intellectual property rights infringement or for breach of contract. Furthermore, there exists today an increasing number of types of open source software licenses, almost none of which have been tested in courts of law to provide clarity on their proper legal interpretation. If we were to receive a claim of non-compliance with the terms of any of these open source licenses, we may be required to publicly release certain portions of our proprietary source code. We could also be required to expend substantial time and resources to re-engineer some or all of our software. Any of the foregoing could materially adversely affect our business, financial condition, results of operations, and prospects.

In addition, the use of third-party open source software typically exposes us to greater risks than the use of third-party commercial software because open source licensors generally do not provide warranties or controls on the functionality or origin of the software. Use of open source software may also present additional security risks because the public availability of such software may make it easier for hackers and other third parties to determine how to compromise our platform. Any of the foregoing could materially adversely affect our business, financial condition, results of operations, and prospects and could help our competitors develop products and services that are similar to or better than ours.

We rely on third parties to provide us with a number of operational and technical services; third-party security incidents could result in the loss of our or our customers' data, expose us to liability, harm our reputation, damage our competitiveness, and adversely impact our financial results.

We rely on third parties, such as Amazon Web Services, to provide us with operational and technical services. These third parties may have access to our systems, provide hosting services, or otherwise process data about us or our customers, employees, or partners. Our ability to monitor such third parties' security measures is limited. There have been and may continue to be significant supply chain attacks, and we cannot guarantee that our or our such third parties' systems have not been breached or that they do not contain exploitable defects, bugs, or vulnerabilities that could result in an incident, breach, or other disruption to, our or these third parties' systems. Any security incident involving such third parties could compromise the integrity or availability of, or result in the theft of, our and our customers' data. In addition, our operations or the operations of our customers or partners could be negatively affected in the event of a security incident and could be subject to the loss or theft of confidential or proprietary information, including source code. Unauthorized access to data and other confidential or proprietary information may be obtained through break-ins, network breaches by unauthorized parties, employee theft or misuse, or other misconduct. If any of the foregoing were to occur or to be perceived to occur, our reputation may suffer, our competitive position may be diminished, customers may buy fewer of our offerings and services, we could face lawsuits, regulatory investigation, fines, and potential liability, and our financial results could be negatively impacted.

Delays in service from third-party service providers could expose us to liability, harm our reputation, damage our competitiveness, and adversely impact our financial results.

From time to time, we may rely on a single or limited number of suppliers, or upon suppliers in a single country, for the provision of services and materials that we use in the operation of our business and production of our solutions. Inability of such third parties to satisfy our requirements could disrupt our operations or make it more difficult for us to implement our strategy. If any of these situations were to occur, our reputation could be harmed, we could be subject to third-party liability, including under data protection and privacy laws in certain jurisdictions, and our financial results could be negatively impacted.

We are investing in resources to update and improve our information technology systems to digitize Autodesk and support our customers. Should our investments not succeed, or if delays or other issues with new or existing information technology systems disrupt our operations, our business could be harmed.

We rely on our network and data center infrastructure, technology systems, and websites for our development, marketing, operational, support, sales, accounting, and financial reporting activities. We continually invest resources to update and improve these systems to meet the evolving requirements of our business and customers. In particular, our transition to cloud-based products and a subscription-only business model involves considerable investment in the development of technologies, as well as back-office systems for technical, financial, compliance, and sales resources. Such improvements are often complex, costly, and time consuming. In addition, such improvements can be challenging to integrate with our existing technology systems, or may uncover problems with those systems. Unsuccessful implementation of hardware or software updates and improvements could result in disruption in our business operations, loss of customers, loss of revenue, errors in our accounting and financial reporting, or damage to our reputation, all of which could harm our business.

Our software is highly complex and may contain undetected errors, defects, or vulnerabilities, each of which could harm our business and financial performance.

The software solutions that we offer are complex and, despite extensive testing and quality control, may contain errors, defects, or vulnerabilities. Some errors, defects, or vulnerabilities in our software solutions may only be discovered after they have been released. Any errors, defects, or vulnerabilities could result in the need for corrective releases to our software solutions, damage to our reputation, loss of revenue, an increase in subscription cancellations, or lack of market acceptance of our offerings, any of which would likely harm our business and financial performance.

If we do not maintain good relationships with the members of our distribution channel, or if our distribution channel suffers financial losses, becomes financially unstable or insolvent, or is not provided the right mix of incentives to sell our subscriptions, our ability to generate revenue will be adversely affected.

We sell our software products both directly to end users and through a network of distributors and resellers. For fiscal 2022 and 2021, approximately 65% and 69%, respectively, of our revenue was derived from indirect channel sales through distributors and resellers, and we expect that the majority of our revenue will continue to be derived from indirect channel sales in the near future. Our ability to effectively distribute our solutions depends in part upon the financial and business condition of our distributor and reseller network. Computer software distributors and resellers typically are not highly capitalized, and have previously experienced difficulties during times of economic contraction as well as during the past several years. We have processes to ensure that we assess the creditworthiness of distributors and resellers prior to our sales to them. In the past we have taken steps to support them, and may take additional steps in the future, such as extending credit terms and adjusting our incentives. These steps, if taken, could harm our financial results. If our distributors and resellers were to become insolvent, they would not be able to maintain their business and sales or provide customer support services, which would negatively impact our business and revenue.

We rely significantly upon major distributors and resellers in both the U.S. and international regions, including the distributors Tech Data and Ingram Micro. Tech Data accounted for 36% and 37% of our total net revenue for fiscal 2022 and 2021, respectively, and Ingram Micro accounted for 9% and 10% of our total net revenue for fiscal 2022 and 2021, respectively. Should any of our agreements with Tech Data or Ingram Micro be terminated, we believe the resellers and end users who currently purchase our products through Tech Data or Ingram Micro would be able to continue to do so under substantially the same terms from one of our many other distributors without substantial disruption to our revenue. Consequently, we believe our business is not substantially dependent on either Tech Data or Ingram Micro. However, if either distributor were to experience a significant business disruption or if our relationship with either were to significantly deteriorate, it is possible that our ability to sell to end users would, at least temporarily, be negatively impacted. This could, in turn, negatively impact our financial results. For example, in June 2020, an affiliate of funds managed by affiliates of Apollo Global Management, a global alternative investment manager, acquired Tech Data, and in July 2021, Platinum Equity, a global investment firm, acquired Ingram Micro from HNA Technology Co., Ltd. If there is any reseller or end user uncertainty caused by either acquisition, our ability to sell to these resellers and end users could, at least temporarily, be negatively impacted.

Over time, we have modified and will continue to modify aspects of our relationship with our distributors and resellers, such as their incentive programs, pricing to them, and our distribution model to motivate and reward them for aligning their businesses with our strategy and business objectives. Changes in these relationships and underlying programs could negatively impact their business and harm our business. Further, our distributors and resellers may lose confidence in our business, move to competitive products, or not have the skills or ability to support customers. The loss of or a significant reduction in business with those distributors or resellers could harm our business. In particular, if one or more of such distributors or resellers were unable to meet their obligations with respect to accounts payable to us, we could be forced to write off such accounts and may be required to delay the recognition of revenue on future sales to these customers. These events could have a material adverse effect on our financial results.

We rely on software from third parties, and a failure to properly manage our use of third-party software could result in increased costs or loss of revenue.

Many of our products are designed to include software licensed from third parties. Such third-party software includes software licensed from commercial suppliers and under public open source licenses. While we have internal processes to manage our use of such third-party software, if such processes are inadequate, we may be subject to copyright infringement or other third-party claims. If we are non-compliant with a license for commercial software, we may be required to pay penalties or undergo costly audits pursuant to the license agreement. In the case of open-source software licensed under certain “copyleft” licenses, the license itself, or a court-imposed remedy for non-compliant use of the open source software, may require that proprietary portions of our own software be publicly disclosed or licensed. This could result in a loss of intellectual property rights, increased costs, re-engineering of our software, damage to our reputation, or loss of revenue.

In addition to risks related to license requirements, usage of open source software can lead to greater risks than use of third-party commercial software, as open source licensors generally do not provide warranties, support, indemnities, assurances of title or controls on origin of the software, or other contractual protections regarding infringement claims or the quality of the code. Likewise, some open source projects have known security and other vulnerabilities and architectural instabilities, or are otherwise subject to security attacks due to their wide availability, and are provided on an “as-is” basis.

Our business could be adversely affected if we are unable to attract and retain key personnel.

Our success and ability to invest and grow depend largely on our ability to attract and retain highly skilled technical, professional, managerial, sales, and marketing personnel. Historically, competition for these key personnel has been intense. The loss of services of any of our key personnel, including key personnel joining our company through acquisitions, inability to retain and attract qualified employees in the future, or delays in hiring required personnel, particularly engineering and sales personnel, could make it difficult to meet key objectives, such as timely and effective product introductions and financial goals.

We rely on third-party technologies and if we are unable to use or integrate these technologies, our solutions and service development may be delayed and our financial results negatively impacted.

We rely on certain software that we license from third parties, including software that is integrated with internally developed software and used in our offerings to perform key functions. These third-party software licenses may not continue to be available on commercially reasonable terms, and the software may not be appropriately supported, maintained, or enhanced by the licensors. The loss of licenses to, or inability to support, maintain, and enhance any such software could result in increased costs or delays until equivalent software can be developed, identified, licensed, and integrated, which would likely harm our business.

Disruptions in licensing relationships and with third-party developers could adversely impact our business.

We license certain key technologies from third parties. Licenses may be restricted in the term or the use of such technology in ways that negatively affect our business. Similarly, we may not be able to obtain or renew license agreements for key technology on favorable terms, if at all, and any failure to do so could harm our business. Our business strategy has historically depended in part on our relationships with third-party developers who provide products that expand the functionality of our design software. Some developers may elect to support other products or may experience disruption in product development and delivery cycles or financial pressure during periods of economic downturn. In particular markets, such disruptions have in the past, and would likely in the future, negatively impact these third-party developers and end users, which could harm our business.

Technology created by outsourced product development, whether outsourced to third parties or developed externally and transferred to us through business or technology acquisitions, involves additional risks such as effective integration into existing products, adequate transfer of technology know-how, and ownership and protection of transferred intellectual property.

Risks Relating to Laws and Regulations

Increasing regulatory focus on privacy, data protection, and information security issues and new and expanding laws may impact our business and expose us to increased liability.

Our strategy to digitize Autodesk involves increasing our use of cloud- and web-based technologies and applications to leverage customer data to improve our offerings for the benefit of our customers. To accomplish this strategy, we must collect and otherwise process customer data, which may include personal data and personal information of users from different jurisdictions globally. We also collect and otherwise process personal data and personal information of our employees and contractors. As a result, federal, state, and global laws relating to privacy, data protection, and information security apply to Autodesk’s personal data and personal information processing activities. The scope of these laws and regulations is rapidly evolving, subject to differing interpretations, may be inconsistent among jurisdictions, or conflict with other rules and is likely to remain uncertain for the foreseeable future. We also expect that there will continue to be new laws, regulations, and industry standards concerning privacy, data protection, and information security proposed and enacted in various jurisdictions. Globally, laws such as the General Data Protection Regulation (EU) 2016/679 (“GDPR”) in the European Union (“EU”) and the Personal Information Protection Law (“PIPL”) in China have been enacted. In addition, new and emerging state laws in the United States governing privacy, data protection, and information security, such as the California Consumer Privacy Act (“CCPA”), the California Privacy Rights Act (“CPRA”), the Virginia Consumer Data Protection Act (“VCDPA”), and the Colorado Privacy Act (“CPA”) have been enacted. These laws and regulations, as well as industry self-regulatory codes, create new compliance obligations and substantially expand the scope of potential liability and provide greater penalties for non-compliance. For example, the GDPR provides for penalties of up to €20 million or 4% of a company’s annual global revenue, whichever is greater, the PIPL provides for penalties of up to 50 million renminbi or 5% of a company's annual revenue and disgorgement of all illegal gains, whichever is greater, and the CCPA provides for penalties of up to $7,500 per violation. These laws, regulations and codes may also impact our innovation and business drivers in developing new and emerging technologies (e.g., artificial intelligence and machine learning). These requirements, among others, may impact demand for our offerings and force us to bear the burden of expanded obligations in our contracts.

In addition, there is continued instability of international personal data transfer legal mechanisms that are complex, uncertain, and subject to active litigation and enforcement actions in a number of jurisdictions around the world. For example, on June 4, 2021, the European Commission published a new set of modular standard contractual clause (“SCCs”), providing for an 18-month implementation period, which became effective on June 29, 2021, and imposes on companies obligations relating to personal data transfers, including the obligation to conduct a transfer impact assessment and, depending on a party’s role in the transfer, to implement additional security measures and to update internal privacy practices. If we elect to rely on the new SCCs for personal data transfers, we may be required to expend significant time and resources to update our contractual arrangements and to comply with new obligations. If we are unable to implement a valid mechanism for personal data transfers from the EU, we will face increased exposure to regulatory actions, substantial fines and injunctions against processing personal data from the EU.

In addition, the United Kingdom’s (“UK”) exit from the EU, and ongoing developments in the UK, have created uncertainty with regard to data protection regulation in the UK. Data processing in the UK is now governed by the UK General Data Protection Regulation and supplemented by other domestic data protection laws, such as the UK Data Protection Act 2018, which authorizes fines of up to £17.5 million or 4% of annual global revenue, whichever is higher. We are also exposed to potentially divergent enforcement actions for certain violations. Furthermore, the new SCCs apply only to the transfer of personal data outside the EU and not the UK. Although the European Commission adopted an adequacy decision for the UK on June 28, 2021, allowing the continued flow of personal data from the EU to the UK, this decision will be regularly reviewed going forward and may be revoked if the UK diverges from its current adequate data protection laws following its exit from the EU. On February 2, 2022, the UK’s Information Commissioner’s Office issued new standard contractual clauses to support personal data transfers out of the UK (“UK SCCs”). If approved by the UK Parliament, the UK SCCs will become effective March 21, 2022, and we may, in addition to other impacts, experience additional costs associated with increased compliance burdens and be required to engage in new contract negotiations with third parties that aid in processing personal data on our behalf or localize certain personal data.

Several other countries, including China, Australia, New Zealand, Brazil, and Japan, have also established specific legal requirements for cross-border data transfers. There is also an increasing trend towards data localization policies. For example, in 2015, Russia introduced data localization laws. In 2021, China introduced localization requirements for certain data. There are also other countries, such as India, that are considering data localization requirements. If this trend continues, and countries implement more restrictive regulations for cross-border personal data transfers (or do not permit personal data to leave the country of origin), our business, financial condition, and results of operations in those jurisdictions could be impacted.

In addition, the new state laws – the CPRA and the VCDPA – that become effective on January 1, 2023, and the CPA that becomes effective on July 1, 2023, introduce additional obligations such as data minimization and storage limitations, granting additional rights to consumers such as correction of personal information and additional opt-out rights. The CPRA also creates a new agency to implement and enforce the law. These new state laws will require us to modify our data processing practices and policies and may cause us to incur substantial costs and expenses in order to comply. Laws in all 50 states, and some of our contracts, require us to provide notice under certain circumstances to customers whose personal information has been disclosed as a result of a data breach. Also, if third parties we work with, such as suppliers, violate applicable data protection laws or regulations, such violations may also put our users’ information at risk and could materially adversely affect our business, financial condition, results of operations, and prospects. Additionally, in addition to government activity, privacy advocacy groups and technology and other industries are considering various new, additional or different self-regulatory standards that may place additional burdens on us. Evolving legislation and the interplay of federal and state laws may be subject to varying interpretations by courts and government agencies, creating complex compliance issues and have and may cause variation in requirements, increase restrictions and potential legal risk and impact strategies and the availability of previously useful data, potentially exposing us to additional expense, adverse publicity, and liability.

In the EU and the UK, regulators are increasingly focusing on compliance with requirements in the online behavioral advertising ecosystem, and current national laws that implement the ePrivacy Directive are highly likely to be replaced by an EU regulation known as the ePrivacy Regulation, which is expected to significantly increase fines for non-compliance. While the text of the ePrivacy Regulation is under development, recent European case law and regulators' recent guidance are driving increased attention to cookies and tracking technologies. This could lead to substantial costs, require significant system changes, limit the effectiveness of our marketing activities, divert the attention of our technology personnel, adversely affect our margins, increase costs, and subject us to additional liabilities. Regulation of cookies and similar technologies, and any decline of cookies or similar online tracking technologies as a means to identify and potentially target users, may lead to broader restrictions and impairments on our marketing and personalization activities and may negatively impact our efforts to understand our customers.

Governments, regulators, plaintiffs' attorneys, privacy advocates have increased their focus on how companies collect, process, use, store, share, and transmit personal data and personal information. Any perception of our practices, products, offerings, or services as a violation of individual privacy or data protection rights may subject us to public criticism, lawsuits, reputational harm, or investigations or claims by regulators, industry groups or other third parties, all of which could disrupt or adversely impact our business and expose us to increased liability. Moreover, because the interpretation and application of many laws and regulations relating to privacy, data protection, and information security are uncertain, it is possible that these laws and regulations may be interpreted and applied in a manner that is inconsistent with our existing data management practices or the features of our products, offerings, and services. We could be required to fundamentally change our business activities and practices or modify our offerings and services, any of which could require significant additional expense and adversely affect our business, including impacting our ability to innovate, delaying our development roadmap and adversely affecting our relationships with customers and our ability to compete. If we are obligated to fundamentally change our business activities and practices or modify our products, offerings, or services, we may be unable to make such changes and modifications in a commercially reasonable manner, or at all, and our ability to develop new products, offerings, and services could be limited.

We are subject to governmental export and import controls that could impair our ability to compete in international markets or subject us to liability if we violate the controls.

Our offerings are subject to export controls and economic sanctions laws and regulations that prohibit the delivery of certain solutions and services without the required export authorizations or export to locations, governments, and persons targeted by applicable sanctions. While we have processes to prevent our offerings from being exported in violation of these laws, including obtaining authorizations as appropriate and screening against U.S. government and international lists of restricted and prohibited persons, we cannot guarantee that these processes will prevent all violations of export control and sanctions laws.

If our channel partners fail to obtain appropriate import, export, or re-export licenses or permits, we may also be adversely affected, through reputational harm as well as other negative consequences including government investigations and penalties. We presently incorporate export control and sanctions compliance requirements in our channel partner agreements. Complying with export control and sanctions regulations for a particular sale may be time-consuming and may result in the delay or loss of sales opportunities. Violations of applicable sanctions or export control laws can result in fines or penalties.

For additional risks regarding sanctions and trade protectionism, please see the risk factor entitled "We are dependent on international revenue and operations . . ." earlier in this section.

If we are not able to adequately protect our proprietary rights, our business could be harmed.

We rely on a combination of patent, copyright, and trademark laws, trade secret protections, confidentiality procedures, and contractual provisions to protect our proprietary rights. However, the steps we take to protect our intellectual property rights may be inadequate. While we have patent applications pending in the United States and throughout the world, we may be unable to obtain patent protection for the technology covered in our patent applications. In addition, any patents issued to us in the future may not provide us with competitive advantages or may be successfully challenged by third parties. Furthermore, legal standards relating to the validity, enforceability, and scope of protection of intellectual property rights are uncertain. Despite our efforts to protect our proprietary rights, unauthorized parties from time to time have copied or reverse engineered aspects of our software or have obtained and used information that we regard as proprietary. Policing unauthorized use of our software is time-consuming and costly. We are unable to measure the extent to which unauthorized use of our software exists and we expect that unauthorized use of software will remain a persistent problem, particularly in emerging economies.

Additionally, we actively protect the secrecy of our confidential information and trade secrets, including our source code. If unauthorized disclosure of our source code occurs, we could potentially lose future trade secret protection for that source code. Unauthorized disclosure of our source code could make it easier for third parties to compete with our offerings by copying functionality, which could adversely affect our financial performance and our reputation. We also seek to protect our confidential information and trade secrets through the use of non-disclosure agreements with our employees, customers, contractors, vendors, and partners. However, it is possible that our confidential information and trade secrets may be disclosed or published without our authorization. If this were to occur, it may be difficult and/or costly for us to enforce our rights, and our financial performance and reputation could be negatively impacted.

We may face intellectual property infringement claims that could be costly to defend and result in the loss of significant rights.

Our competitors, as well as a number of other entities and individuals, may own or claim to own intellectual property relating to our business. Third parties may claim that we are infringing upon or misappropriating their intellectual property rights, and we may be found to be infringing upon such rights, even if we are unaware of the intellectual property rights claimed against us. As more software patents are granted worldwide, the number of offerings and competitors in our industries grows, and the functionality of products in different industries overlaps, we expect that software developers will be increasingly subject to infringement claims. Additionally, certain patent assertion entities have become more aggressive in threatening and pursuing litigation in attempts to obtain fees for licensing the right to use patents.

Any claims or threats of infringement or misappropriation, whether with or without merit, have been and could in the future be time-consuming to defend, result in costly litigation and diversion of resources, cause product delays, require us to change our products or business practices, prevent us from offering our software and services, or require us to enter into royalty or licensing agreements. In addition, such royalty or license agreements, if required, may not be available on acceptable terms, if at all, which would likely harm our business. We may also be obligated to indemnify our customers or business partners or pay substantial settlement costs, including royalty payments, in connection with any such claim or litigation and to obtain licenses, modify applications, or refund fees, which could be costly. Furthermore, from time to time we may introduce or acquire new products, including in areas where we historically have not competed, which could increase our exposure to patent and other intellectual property claims.

Contracting with government entities exposes us to additional risks inherent in the government procurement process.

We provide products and services, directly and indirectly, to a variety of government entities. Risks associated with licensing and selling products and services to government entities include extended sales and collection cycles, varying governmental budgeting processes, and adherence to complex procurement regulations and other government-specific contractual requirements. We may be subject to audits and investigations relating to our government contracts and any violations could result in civil and criminal penalties and administrative sanctions, including termination of contracts, payment of fines, and suspension or debarment from future government business, as well as harm to our reputation and financial results.

Risks Relating to Financial Developments

We are exposed to fluctuations in currency exchange rates that could negatively impact our financial results and cash flows.

Because we conduct a substantial portion of our business outside the United States, we face exposure to adverse movements in foreign currency exchange rates, which could have a material adverse impact on our financial results and cash flows. These exposures may change over time as business practices evolve and economic conditions change. We use derivative instruments to manage a portion of our cash flow, revenue and expense exposure to fluctuations in foreign currency exchange rates. As part of our risk management strategy, we use foreign currency contracts to manage a portion of our exposures of underlying assets, liabilities, and other obligations, which exist as part of our ongoing business operations. These foreign currency instruments may have maturities that extend for one to 18 months in the future and provide us with some protection against currency exposures. However, our attempts to hedge against these risks may not be completely successful, resulting in an adverse impact on our financial results.

The fluctuations of currencies in which we conduct business can both increase and decrease our overall revenue and expenses for any given period. Although our foreign currency cash flow hedge program extends beyond the current quarter in order to reduce our exposure to foreign currency volatility, we do not attempt to completely mitigate this risk, and in any case, will incur transaction fees in adopting such hedging programs. Such volatility, even when it increases our revenues or decreases our expenses, impacts our ability to accurately predict our future results and earnings.

In addition, global events, including the sudden and unexpected effects of the COVID-19 pandemic as well as geopolitical developments, may contribute to volatility in foreign exchange markets, which we may not be able to effectively manage, and our financial results could be adversely impacted. Additionally, countries in which we operate may be classified as highly inflationary economies, requiring special accounting and financial reporting treatment for such operations, or such countries' currencies may be devalued, or both, which may adversely impact our business operations and financial results.

Our debt service obligations may adversely affect our financial condition and cash flows from operations.

We have $2.65 billion of principal debt, consisting of notes due at various times from December 2022 to December 2031, as described in Part 2, Item 8. We also entered into a credit agreement that provides for an unsecured revolving loan facility in the aggregate principal amount of $1.5 billion, with an option to be increased up to $2.0 billion, as described in Part 2, Item 8. Maintenance of our indebtedness, contractual restrictions, and additional issuances of indebtedness could:

- cause us to dedicate a substantial portion of our cash flows from operations towards debt service obligations and principal repayments;
- increase our vulnerability to adverse changes in general economic, industry, and competitive conditions;
- limit our flexibility in planning for, or reacting to, changes in our business and our industry;
- impair our ability to obtain future financing for working capital, capital expenditures, acquisitions, general corporate, or other purposes; and
- due to limitations within the debt instruments, restrict our ability to grant liens on property, enter into certain mergers, dispose of all or substantially all of the assets of Autodesk and its subsidiaries, taken as a whole, materially change our business, and incur subsidiary indebtedness, subject to customary exceptions.

We are required to comply with the covenants set forth in our credit agreement. If we breach any of the covenants and do not obtain a waiver from the note holders or lenders, then, subject to applicable cure periods, we would not be able to incur additional indebtedness under the credit agreement described in Part 2, Item 8, and any outstanding indebtedness under the credit agreement may be declared immediately due and payable. In addition, changes by any rating agency to our credit rating may negatively impact the value and liquidity of our securities. Under certain circumstances, if our credit ratings are downgraded or other negative action is taken, the interest rate payable by us under our credit agreement could increase. Downgrades in our credit ratings could also restrict our ability to obtain additional financing in the future and could affect the terms of any such financing.

Our investment portfolio consists of a variety of investment vehicles that are subject to interest rate trends, market volatility, and other economic factors. If general economic conditions decline, this could cause the credit ratings of our investments to deteriorate and illiquidity in the financial marketplace, and we may experience a decline in interest income and an inability to sell our investments, leading to impairment in the value of our investments.

It is our policy to invest our cash, cash equivalents, and marketable securities in highly liquid instruments with, and in the custody of, financial institutions with high credit ratings and to limit the amounts invested with any one institution, type of security, or issuer. However, we are subject to general economic conditions, interest rate trends, and volatility in the financial marketplace that can affect the income that we receive from our investments, the net realizable value of our investments (including our cash, cash equivalents, and marketable securities), and our ability to sell them. Any one of these factors could reduce our investment income or result in material charges, which in turn could impact our overall net income (loss) and earnings (loss) per share.

From time to time we make direct investments in privately held companies. Investments in privately held companies are considered inherently risky. The technologies and products these companies have under development are typically in the early stages and may never materialize, which could result in a loss of all or a substantial part of our initial investment in these companies. The evaluation of privately held companies is based on information that we request from these companies, which is not subject to the same disclosure regulations as U.S. publicly traded companies and, as such, the basis for these evaluations is subject to the timing and accuracy of the data received from these companies.

A loss on any of our investments may cause us to record an other-than-temporary impairment charge. The effect of this charge could impact our overall net income (loss) and earnings (loss) per share. In any of these scenarios, our liquidity may be negatively impacted, which in turn may prohibit us from making investments in our business, taking advantage of opportunities, and potentially meeting our financial obligations as they come due.

Changes in tax rules and regulations, and uncertainties in interpretation and application, could materially affect our tax obligations and effective tax rate.

We are a U.S.-based multinational company subject to tax in multiple U.S. and foreign tax jurisdictions. Our effective tax rate is primarily based on our geographic mix of earnings; statutory rates; intercompany arrangements, including the manner we develop, value, and license our intellectual property; and enacted tax rules. Significant judgment is required in determining our effective tax rate and in evaluating our tax positions on a worldwide basis. While we believe our tax positions, including intercompany transfer pricing policies, are consistent with the tax laws in the jurisdictions in which we conduct our business, it is possible that these positions may be challenged by tax authorities and may have a significant impact on our effective tax rate and cash taxes.

Tax laws in the United States and in foreign tax jurisdictions are dynamic and subject to change as new laws are passed and new interpretations of the law are issued or applied. For example, the U.S. government enacted significant tax law changes in December 2017, the U.S. Tax Cuts and Jobs Act (“TCJA”), which impacted our tax obligations and effective tax rate beginning in our fiscal 2018 tax year, and significant tax legislation was included in the March 2020 CARES Act and subsequent Consolidated Appropriations Act in December 2020. Due to the complexity and varying interpretations of the TCJA and the CARES Act, the U.S. Department of Treasury and other standard-setting bodies have been issuing and will continue to issue regulations and interpretative guidance that could significantly impact how we will apply the law and the ultimate effect on our results of operations from both the TCJA and the CARES Act, including for our prior tax years. In addition, increases in corporate tax rates, could increase our effective tax rate, cash taxes and have an adverse effect on our results from operations.

Increasingly, tax authorities are reviewing existing corporate tax regulatory and legal regimes. Many countries in the European Union as well as other countries and organizations such as the Organization for Economic Cooperation and Development are actively considering new taxing regimes and changes to existing tax laws. If U.S. or foreign tax authorities change applicable tax laws or successfully challenge how or where our profits are currently recognized, our overall taxes could increase, and our business, financial condition, or results of operations may be adversely impacted.

If we were required to record an impairment charge related to the value of our long-lived assets or an additional valuation allowance against our deferred tax assets, our results of operations would be adversely affected.

Our long-lived assets are tested for impairment if indicators of impairment exist. If impairment testing shows that the carrying value of our long-lived assets exceeds their estimated fair values, we would be required to record a non-cash impairment charge, which would decrease the carrying value of our long-lived assets, adversely affecting our results of operations. Our deferred tax assets include net operating loss, amortizable tax assets, and tax credit carryforwards that can be used to offset taxable income and reduce income taxes payable in future periods. Each quarter, we assess the need for a valuation allowance, considering both positive and negative evidence to determine whether all or a portion of the deferred tax assets are more likely than not to be realized. We continue to have a full valuation allowance against certain U.S. and foreign deferred tax assets. Changes in the amount of the U.S. and foreign jurisdictions valuation allowance could also result in a material non-cash expense or benefit in the period in which the valuation allowance is adjusted, and our results of operations could be materially affected. We will continue to perform these tests on our worldwide deferred tax assets, and any future adjustments to the realizability of our deferred tax assets may have a material effect on our financial condition and results of operations.

General Risk Factors

Our business may be significantly disrupted upon the occurrence of a catastrophic event.

Our business is highly automated and relies extensively on the availability of our network and data center infrastructure, our internal technology systems, and our websites. We also rely on hosted computer services from third parties for services that we provide to our customers and computer operations for our internal use. The failure of our systems or hosted computer services due to a catastrophic event, such as an earthquake, fire, flood, tsunami, weather event, telecommunications failure, power failure, cyber attack, terrorism or war (including the significant military action against Ukraine launched by Russia and any related political or economic responses and counter-responses or otherwise by various global actors or the general effect on the global economy), or business interruption from epidemics or pandemics, or the fear of such events, could adversely impact our business, financial results, and financial condition. For example, our corporate headquarters and executive offices are located near major seismic faults in the San Francisco Bay Area and face annual periods of wildfire danger, which increase the probability of power outages and may impact employees' abilities to commute to work or to work from home. We have developed disaster recovery plans and maintain backup systems in order to reduce the potential impact of a catastrophic event; however, there can be no assurance that these plans and systems would enable us to return to normal business operations. In addition, any such event could negatively impact a country or region in which we sell our products. This could in turn decrease that country's or region's demand for our products, negatively impacting our financial results.

We are subject to legal proceedings and regulatory inquiries, and we may be named in additional legal proceedings or become involved in regulatory inquiries in the future, all of which are costly, distracting to our core business, and could result in an unfavorable outcome or a material adverse effect on our business, financial condition, results of operations, cash flows, or the trading prices for our securities.

We are involved in legal proceedings and receive inquiries from regulatory agencies. As the global economy has changed and our business has evolved, we have seen an increase in litigation activity and regulatory inquiries. Like many other technology companies, the number and frequency of inquiries from U.S. and foreign regulatory agencies we have received regarding our business and our business practices, as well as the business practices of others in our industry, have increased in recent years. In the event we are involved in significant disputes or are the subject of a formal action by a regulatory agency, we could be exposed to costly and time-consuming legal proceedings that could result in any number of outcomes. Any claims or regulatory actions initiated by or against us, whether successful or not, could result in high defense costs, damage awards, injunctive relief, increased costs of business, fines or orders to change certain business practices, significant dedication of management time, diversion of operational resources, or otherwise harm our business. In any such event, our financial results, results of operations, cash flows, or trading prices for our securities could be negatively impacted.

Changes in existing financial accounting standards or practices, or taxation rules or practices may adversely affect our results of operations.

Changes in existing accounting or taxation rules or practices, new accounting pronouncements or taxation rules, or varying interpretations of current accounting pronouncements or taxation practices could have a significant adverse effect on our results of operations or the way we conduct our business. Further, such changes could potentially affect our reporting of transactions completed before such changes are effective.

We are required to evaluate our internal control over financial reporting under Section 404 of the Sarbanes-Oxley Act of 2002 and any adverse results from such evaluation could result in a loss of investor confidence in our financial reports and have an adverse effect on our stock price.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, we are required to furnish a report by our management on our internal control over financial reporting, including an assessment of the effectiveness of our internal control over financial reporting as of the end of our fiscal year. This assessment must include a statement as to whether or not our internal control over financial reporting is effective and disclosure of any material weaknesses in our internal control over financial reporting identified by management. If our management or independent registered public accounting firm identifies one or more material weaknesses in our internal control over financial reporting, we are unable to assert that our internal control over financial reporting is effective, or our independent registered public accounting firm is unable to express an opinion that our internal controls are effective, investors could lose confidence in the accuracy and completeness of our financial reports, which could have an adverse effect on our business and stock price.

In preparing our financial statements we make certain assumptions, judgments, and estimates that affect amounts reported in our consolidated financial statements which, if not accurate, may significantly impact our financial results.

We make assumptions, judgments, and estimates for a number of items, including revenue recognition for product subscriptions and enterprise business arrangements ("EBAs"), the determination of the fair value of acquired assets and liabilities, goodwill, financial instruments including strategic investments, long-lived assets, and intangible assets, the realizability of deferred tax assets, and the fair value of stock awards. We also make assumptions, judgments, and estimates in determining the accruals for uncertain tax positions, variable compensation, partner incentive programs, product returns reserves, allowances for credit losses, asset retirement obligations, legal contingencies, and operating lease liabilities. These assumptions, judgments, and estimates are drawn from historical experience and various other factors that we believe are reasonable under the circumstances as of the date of the consolidated financial statements. Actual results could differ materially from our estimates, and such differences could significantly impact our financial results.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

We lease approximately 1,830,000 square feet of office space in 101 locations in the United States and internationally through our foreign subsidiaries. Our executive offices are in leased office space in San Francisco, California, and our corporate headquarters are in leased office space in San Rafael, California. Our San Rafael facilities consist of approximately 116,000 square feet under leases that expire in December 2024. Our San Francisco facilities consist of approximately 284,000 square feet under leases that have expiration dates ranging from December 2022 to June 2026. We and our foreign subsidiaries lease additional space in various locations throughout the world for local sales, product development, and technical support personnel.

All facilities are in good condition. The COVID-19 pandemic has spurred changes in the way we work as we move to a more hybrid workforce resulting in an evaluation of our office space needs. Accordingly, we are reducing the square footage of our facilities portfolio by approximately 20 percent worldwide and incurred impairments to assets associated with our operating leases for real estate in the fiscal year ended January 31, 2022, and expect to incur impairments over the next several quarters. See Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" and Note 9, "Leases," in the Notes to Consolidated Financial Statements for more information. We believe that our existing facilities and offices are adequate to meet our requirements for the foreseeable future.

ITEM 3. LEGAL PROCEEDINGS

We are involved in a variety of claims, suits, investigations, inquiries, and proceedings in the normal course of business activities including claims of alleged infringement of intellectual property rights, commercial, employment, tax, prosecution of unauthorized use, business practices, and other matters. In our opinion, resolution of pending matters is not expected to have a material adverse impact on our consolidated results of operations, cash flows, or financial position. Given the unpredictable nature of legal proceedings, there is a reasonable possibility that an unfavorable resolution of one or more such proceedings could in the future materially affect our results of operations, cash flows, or financial position in a particular period, however, based on the information known by us as of the date of this filing and the rules and regulations applicable to the preparation of our financial statements, any such amount is either immaterial or it is not possible to provide an estimated amount of any such potential loss.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

MARKET INFORMATION FOR COMMON STOCK

Our common stock is traded on the Nasdaq Global Select Market under the symbol ADSK.

DIVIDEND POLICY

We anticipate that, for the foreseeable future, we will not pay any cash or stock dividends.

STOCKHOLDERS

As of January 31, 2022, the number of common stockholders of record was 316. Because many of our shares of common stock are held by brokers or other institutions on behalf of stockholders, we are unable to estimate the total number of stockholders represented by the record holders.

ISSUER PURCHASES OF EQUITY SECURITIES

Autodesk's stock repurchase program provides Autodesk with the ability to offset the dilution from the issuance of stock under our employee stock plans and reduce shares outstanding over time, and has the effect of returning excess cash generated from our business to stockholders. Under the share repurchase program, Autodesk may repurchase shares from time to time in open market transactions, privately negotiated transactions, accelerated share repurchase programs, tender offers, or by other means. The share repurchase program does not have an expiration date and the pace and timing of repurchases will depend on factors such as cash generation from operations, available surplus, the volume of employee stock plan activity, remaining shares available in the authorized pool, cash requirements for acquisitions, economic and market conditions, stock price, and legal and regulatory requirements.

The following table provides information about the repurchase of common stock in open-market transactions during the quarter ended January 31, 2022:

(Shares in millions)	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs(1)	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs(2)
November 1 - November 30	0.3	$ 279.82	0.3	10.1
December 1 - December 31	1.3	272.30	1.3	8.8
January 1 - January 31	0.7	251.00	0.7	8.1
Total	2.3	$ 267.22	2.3	

(1) Represents shares purchased in open-market transactions under the stock repurchase program approved by the Board of Directors.
(2) These amounts correspond to the plan publicly announced and approved by the Board of Directors in September 2016 that authorizes the repurchase of 30.0 million shares. The plan does not have a fixed expiration date.

SALES OF UNREGISTERED SECURITIES

In connection with acquisitions completed in the fourth fiscal quarter of 2022, we issued and entered into agreements to issue up to an estimated 52,000 shares of our common stock (based on the volume weighted average closing price of our common stock as of January 31, 2022) as part of the consideration for the acquisition, contingent upon the achievement of certain events expected in fiscal years 2023, 2024 and 2025. The exact number of shares will be determined and issued following these events. The issuance of shares of our common stock in these acquisitions will not be registered under the Securities Act of 1933, as amended (the "Securities Act"). Such shares will be issued in private placements exempt from the registration requirements of the Securities Act in reliance on the exemptions set forth in Section 4(a)(2) of the Securities Act and Rule 506 under Regulation D.

COMPANY STOCK PERFORMANCE

The following graph shows a five-year comparison of cumulative total return (equal to dividends plus stock appreciation) for our common stock, the Standard & Poor's 500 Stock Index, and the Dow Jones U.S. Software Index. The following graph and related information will not be deemed to be "soliciting material" or to be "filed" with the SEC, nor will such information be incorporated by reference into any filing pursuant to the Securities Act of 1933 or the Securities Exchange Act of 1934, except to the extent that we specifically incorporate it by reference into such filing.

Comparison of Five Year Cumulative Total Stockholder Return (1)

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(1) Assumes $100 invested on January 31, 2017, in Autodesk's stock, the Standard & Poor's 500 Stock Index, and the Dow Jones U.S. Software Index, with reinvestment of all dividends. Total stockholder returns for prior periods are not an indication of future investment returns.

ITEM 6. [RESERVED]

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and related notes appearing in Part II, Item 8 of this Annual Report on Form 10-K. This discussion contains forward-looking statements based upon current expectations that involve risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of several factors, including those set forth above in Part I, Item 1A, "Risk Factors," and elsewhere in this report. See "Forward-Looking Information" immediately preceding Part I.

STRATEGY

Autodesk is changing how the world is designed and made. Our technology spans architecture, engineering, construction, product design, manufacturing, media and entertainment, empowering innovators everywhere to solve challenges big and small. From greener buildings to smarter products to more mesmerizing blockbusters, Autodesk technology helps our customers to design and make a better world for all.

Our strategy is to build enduring relationships with customers, delivering innovative technology that provides valuable automation and insight into their design and make process. To drive execution of our strategy, we are focused on three strategic priorities: delivering on the promise of subscription, digitizing the company, and reimagining construction, manufacturing, and production.

We equip and inspire our users with the tailored tools, services, and access they need for success today and tomorrow. At every step, we help users harness the power of data to build upon their ideas and explore new ways of imagining, collaborating, and creating to achieve better outcomes for their customers, for society, and for the world. And because creativity can't flourish in silos, we connect what matters - from steps in a project to collaborators on a unified platform.

Autodesk was founded during the platform transition from mainframe computers and engineering workstations to personal computers. We have developed and sustained a compelling value proposition based upon software for the personal computer. Just as the transition from mainframes to personal computers transformed the industry, the software industry has undergone a transition from developing and selling perpetual licenses and on-premises products to subscriptions and cloud-enabled technologies.

Product Evolution

We offer subscriptions for individual products and Industry Collections, enterprise business arrangements ("EBAs"), and cloud service offerings (collectively referred to as "subscription plan"). Subscription plans are designed to give our customers more flexibility with how they use our offerings and to attract a broader range of customers, such as project-based users and small businesses.

Our subscription plans currently represent a hybrid of desktop software and cloud functionality, which provides a device-independent, collaborative design workflow for designers and their stakeholders. Our cloud offerings, for example, BIM 360, Fusion 360, ShotGrid, AutoCAD web app, and AutoCAD mobile app, provide tools, including mobile and collaboration capabilities, to streamline design, collaboration, building and manufacturing, and data management processes. We believe that customer adoption of these latest offerings will continue to grow as customers across a range of industries begin to take advantage of the scalable computing power and flexibility provided through these services.

Industry Collections provide our customers with access to a broader selection of Autodesk solutions and services, simplifying the customers' ability to benefit from a complete set of tools for their industry.

To support our strategic priority of re-imagining Architecture, Engineering, and Construction ("AEC"), we are strengthening the foundation of our AEC solutions with both organic and inorganic investments. In fiscal 2022, we acquired Storm UK Holdco Limited, the parent of Innovyze, Inc. ("Innovyze"), which provides water infrastructure software. Combining Innovyze's hydraulic modeling, simulation, asset performance management and operational analytics solutions with Autodesk's design and analysis solutions (including Autodesk Civil 3D, Autodesk InfraWorks, and the Autodesk Construction Cloud) enables us to deliver end-to-end, cloud-based solutions for our water infrastructure customers that drive efficiency and sustainability. Other acquisitions in fiscal 2022 include a cloud-based estimating solution that enables construction teams to create estimates, perform digital takeoffs, generate detailed reports and proposals and manage bid-day processes. In fiscal 2021, we acquired Spacemaker which uses cloud-based, artificial intelligence (AI), and generative design to help architects, urban designers, and real estate developers make faster and more informed early-stage design decisions which can help maximize the long-term sustainability and return from property investments. Other acquisitions in fiscal 2021 included solutions that use artificial intelligence and machine learning to extract and process data from project plans and specifications allowing general contractors, subcontractors, and owners to automate workflows such as submittals and project closeout.

In manufacturing, our strategy is to combine organic and acquired software in existing and adjacent verticals to create end-to-end, cloud-based solutions for our customers that drive efficiency and sustainability. We continue to attract both global manufacturing leaders and disruptive startups with our generative design and cloud-based Fusion 360 that converges the process of design with manufacturing. A fiscal 2021 acquisition included a leading provider of post-processing and machine simulation solutions. In fiscal 2022, we acquired Upchain, an instant-on, cloud-based data management technology that allows product design and manufacturing customers to collaborate in the cloud across their value chains and bring products to market faster.

Our strategy includes improving our product functionality and expanding our product offerings through internal development as well as through the acquisition of products, technology, and businesses. Acquisitions often increase the speed at which we can deliver product functionality to our customers; however, they entail cost and integration challenges and may, in certain instances, negatively impact our operating margins. We continually review these factors in making decisions regarding acquisitions. We currently anticipate that we will continue to acquire products, technology, and businesses as compelling opportunities become available.

Global Reach

We sell our products and services globally, through a combination of indirect and direct channels. Our indirect channels include value added resellers, direct market resellers, distributors, computer manufacturers, and other software developers. Our direct channels include internal sales resources dedicated to selling in our largest accounts, our highly specialized solutions, and business transacted through our online Autodesk branded store. See Note 2, "Revenue Recognition" in the Notes to the Consolidated Financial Statements for further detail on the results of our indirect and direct channel sales for the fiscal years ended January 31, 2022, 2021, and 2020.

We anticipate that our channel mix will continue to change as we scale our online Autodesk branded store business and our largest accounts shift towards direct-only business models. However, we expect our indirect channel will continue to transact and support the majority of our customers and revenue. We employ a variety of incentive programs and promotions to align our direct and indirect channels with our business strategies. In addition, we have a worldwide user group organization and we have created online user communities dedicated to the exchange of information related to the use of our products.

One of our key strategies is to maintain an open-architecture design of our software products to facilitate third-party development of complementary products and industry-specific software solutions. This approach enables customers and third parties to customize solutions for a wide variety of highly specific uses. We offer several programs that provide strategic investment funding, technological platforms, user communities, technical support, forums, and events to developers who develop add-on applications for our products. For example, we have established the Autodesk Forge developer platform to support innovators that build solutions to facilitate the development of a single connected ecosystem for the future of how things are designed, made, and used as well as support ideas that push the boundaries of 3D printing.

In addition to the competitive advantages afforded by our technology, our large global network of distributors, resellers, third-party developers, customers, educators, educational institutions, learning partners, and students is a key competitive advantage which has been cultivated over an extensive period. This network of partners and relationships provides us with a broad and deep reach into volume markets around the world. Our distributor and reseller network is extensive and provides our customers with the resources to purchase, deploy, learn, and support our solutions quickly and easily. We have a significant number of registered third-party developers who create products that work well with our solutions and extend them for a variety of specialized applications.

Impact at Autodesk

Autodesk is committed to advancing a more sustainable, resilient, and equitable world. We don’t believe in waiting for progress, we believe in making it. We take action as a business and to support our employees, customers, and communities in our collective opportunity to design and make a better world for all.

We focus our efforts to advance positive outcomes across three primary areas: energy and materials, health and resilience, and work and prosperity. These impact opportunity areas are derived from the UN Sustainable Development Goals (“SDGs”) and have been focused through a multi-pronged process to align the top needs of our stakeholders, the important issues of our business, and the areas we are best placed to accelerate positive impact at scale.

These opportunities manifest as outcomes through how our customers leverage our technology to design and make net-zero carbon buildings, resilient infrastructure, more sustainable products, and a thriving workforce. We realize these opportunities in our business through our 100% renewable and net-zero greenhouse gas operations and inclusive culture. We advance these opportunities with industry innovators through collaboration, grants, software donations, and training.

The Autodesk Foundation (the "Foundation"), a privately funded 501(c)(3) charity organization established and solely funded by us, leads our philanthropic efforts. The purpose of the Foundation is twofold: to support employees to make a better world by matching employees' volunteer time and/or donations to nonprofit organizations; and to support organizations and individuals using design to drive positive social and environmental impact. On our behalf, the Foundation also administers a discounted software donation program to nonprofit organizations, social and environmental entrepreneurs, and others who are developing design solutions that will shape a more sustainable future.

Additional information about our environmental, social, and governance program are available in our annual impact report on our website at www.autodesk.com. Information contained on or accessible through our website is not part of or incorporated by reference into this report.

Assumptions Behind Our Strategy

Our strategy depends upon a number of assumptions, including: making our technology available to mainstream markets; leveraging our large global network of distributors, resellers, third-party developers, customers, educators, educational institutions, learning partners, and students; improving the performance and functionality of our products; and adequately protecting our intellectual property. If the outcome of any of these assumptions differs from our expectations, we may not be able to implement our strategy, which could potentially adversely affect our business. For further discussion regarding these and related risks, see Part I, Item 1A, "Risk Factors."

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Our Consolidated Financial Statements are prepared in accordance with U.S. generally accepted accounting principles. In preparing our Consolidated Financial Statements, we make assumptions, judgments, and estimates that can have a significant impact on amounts reported in our Consolidated Financial Statements. We evaluate our estimates and assumptions on an ongoing basis. We base our assumptions, judgments, and estimates on historical experience and various other factors that we believe to be reasonable under the circumstances. Actual results could differ materially from these estimates under different assumptions or conditions.

Our significant accounting policies are described in Part II, Item 8, Note 1, "Business and Summary of Significant Accounting Policies," in the Notes to Consolidated Financial Statements. An accounting policy is deemed to be critical if it requires an accounting estimate to be made based on assumptions about matters that are highly uncertain at the time the estimate is made, if different estimates reasonably could have been used, or if changes in the estimate that are reasonably possible could materially impact the financial statements. We believe that of all our significant accounting policies, the following accounting policies and specific estimates involve a greater degree of judgment and complexity. Accordingly, these are the accounting policies we believe are the most critical to aid in fully understanding and evaluating our financial condition and results of operations.

Revenue Recognition - Judgments with Multiple Performance Obligations. Our contracts with customers may include promises to transfer multiple products and services to a customer. A performance obligation is a promise in a contract with a customer to transfer products or services that are distinct. Determining whether products and services are distinct performance obligations that should be accounted for separately or combined as a single performance obligation may require significant judgment that requires us to assess the nature of the promise and value delivered to the customer and the interaction of the desktop applications and cloud functionalities.

For our product subscriptions, cloud service offerings, and flexible enterprise business arrangements, the functional nature of the promise, as well as the customers' value expectations, led us to conclude desktop applications and cloud functionalities are not distinct in the context of the contract and should be accounted for as a single performance obligation. There is a high degree of interaction of the desktop applications and cloud functionalities, which is not available with the desktop applications alone or in conjunction with third-party cloud service providers. Furthermore, customers are not able to use the desktop applications for its intended purpose without our cloud functionalities.

For contracts with more than one performance obligation, the transaction price is allocated among the performance obligations in an amount that depicts the relative standalone selling price ("SSP") of each obligation. Judgment is required to determine the SSP for each distinct performance obligation. 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 that should be allocated based on the relative SSP of the various products and services.

In instances where SSP is not directly observable, such as when we do not sell the product or service separately, we determine the SSP using information that includes market conditions and other observable inputs. We typically have more than one SSP for individual products and services due to the stratification of those products and services by customer and circumstance. In these instances, we use relevant information such as the sales channel to determine the SSP.

Strategic Investments. Strategic investment debt and equity securities are valued using significant unobservable inputs or data in an inactive market and the valuation requires our judgment due to the absence of market prices and inherent lack of liquidity. The carrying value is adjusted for our strategic investment equity securities if there are observable price changes in a same or similar security from the same issuer or if there are identified events or changes in circumstances that may indicate impairment, as discussed below. The determination of whether an orderly transaction is for a same or similar investment requires significant management judgment including the nature of rights and obligations of the investments, the extent to which differences in those rights and obligations would affect the fair values of those investments, and the impact of any differences based on the stage of operational development of the investee.

These assumptions are inherently subjective and involve significant management judgment. Whenever possible, we use observable market data and rely on unobservable inputs only when observable market data is not available when determining fair value.

We assess our strategic investment debt and equity securities portfolio quarterly for impairment. Strategic investment equity securities are assessed based on available information such as current cash positions, earnings and cash flow forecasts, recent operational performance, and any other readily available market data. For any available-for-sale debt securities, if Autodesk does not intend to sell and it is not more likely than not that Autodesk will be required to sell the available-for-sale debt security prior to recovery of its amortized cost basis, Autodesk will determine whether a decline in fair value below the amortized cost basis is due to credit-related factors. The credit loss is measured as the amount by which the debt security's amortized cost basis exceeds the estimate of the present value of cash flows expected to be collected, up to the difference between the amortized cost basis and the fair value. Impairment will be assessed at the individual security level. Credit-related impairment is recognized as an allowance on the Consolidated Balance Sheets with a corresponding adjustment to "Interest and other expense, net" on the Company's Consolidated Statements of Operations. Any impairment that is not credit-related is recognized in "Accumulated other comprehensive loss" on the Consolidated Balance Sheets.

For our quarterly impairment assessment of privately held debt and equity securities, the analysis encompasses an assessment of the severity and duration of the impairment and qualitative and quantitative analysis of other key factors including: the investee's financial metrics, the investee's products and technologies meeting or exceeding predefined milestones, market acceptance of the product or technology, other competitive products or technology in the market, general market conditions, management and governance structure of the investee, the investee's liquidity, debt ratios, and the rate at which the investee is using its cash.

Business Combinations. The assets acquired and liabilities assumed in a business combination are recorded based on their estimated fair values at the acquisition date, with the exception of contract assets and contract liabilities (i.e., deferred revenue) which are recognized and measured on the acquisition date in accordance with Autodesk's "Revenue Recognition" policy in Note 1 "Business and Summary of Significant Accounting Policies". Any residual purchase price is recorded as goodwill. Accounting for business combinations requires us to make significant estimates and assumptions, especially at the acquisition date with respect to intangible assets and deferred revenue obligations.

Although we believe the assumptions and estimates we have made are reasonable, they are based in part on historical experience and information obtained from the management of the acquired companies and are inherently uncertain and unpredictable. Unanticipated events and circumstances may occur which may affect the accuracy or validity of such assumptions, estimates, or actual results. Examples of critical estimates used in valuing certain of the intangible assets and in determining the assets' useful lives for the assets we have acquired or may acquire in the future include but are not limited to:

- future expected cash flows from subscriptions and maintenance agreements, sales, and acquired developed technologies;

- the acquired company's trade name and patents, as well as assumptions about the period of time the acquired trade name and patents will continue to be used in our product portfolio;
- expected growth in revenue from the acquired company's existing customer relationships;
- expected costs to develop the in-process research and development into commercially viable products and estimated cash flows from the projects when completed;
- uncertain tax positions and tax related valuation allowances assumed; and
- discount rates used to determine the present value of estimated future cash flows.

Realizability of Long-Lived Assets. We assess the realizability of our long-lived assets and related intangible assets, other than goodwill, quarterly, or sooner should events or changes in circumstances indicate the carrying values of such assets may not be recoverable. We consider the following factors important in determining when to perform an impairment review: significant under-performance of a business or product line relative to budget, shifts in business strategies which affect the continued uses of the assets, significant negative industry or economic trends, and the results of past impairment reviews. When such events or changes in circumstances occur, we assess recoverability of these assets.

We assess recoverability of these assets by comparing the carrying amounts to the future undiscounted cash flows the assets are expected to generate. If impairment indicators were present based on our undiscounted cash flow models, which include assumptions regarding projected cash flows, we would perform a discounted cash flow analysis to assess impairments on long-lived assets.

The key assumptions that we use in our discounted cash flow model include the amount and timing of estimated future cash flows to be generated by the asset group over an extended period of time and a rate of return that considers the relative risk of achieving the cash flows and the time value of money. Significant judgment is required to estimate the amount and timing of future cash flows and the relative risk of achieving those cash flows. We also make judgments about the remaining useful lives of acquired intangible assets and other long-lived assets that have finite lives.

Variances in these assumptions could have a significant impact on our conclusion as to whether an asset is impaired or the amount of any impairment charge. Impairment charges, if any, result in situations where any fair values of these assets are less than their carrying values.

Income Taxes. We account for income taxes under the asset and liability approach. Under this method, deferred tax assets, including those related to tax loss carryforwards and credits, and deferred tax liabilities are determined based on the differences between the financial statement and tax bases of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. We recognize the tax benefit for an uncertain tax position when it meets the more likely than not threshold for recognition. We recognize potential accrued interest and penalties related to unrecognized tax benefits as income tax expense.

A valuation allowance is recorded to reduce deferred tax assets when management cannot conclude that it is more likely than not that the deferred tax asset will be recovered. The valuation allowance is determined by assessing both positive and negative evidence to determine whether it is more likely than not that deferred tax assets are recoverable; such assessment is required on a jurisdiction-by-jurisdiction basis. Significant judgment is required in determining whether the valuation allowance should be recorded against deferred tax assets. In assessing the need for or release of a valuation allowance, we consider all available evidence including past operating results and estimates of future taxable income.

As we continually strive to optimize our overall business model, tax planning strategies may become feasible and prudent whereby management may determine that it is more likely than not that the Netherlands, Canada, Australia, California, Michigan and U.S. capital loss deferred tax assets will be realized. Each quarter we will continue to evaluate the positive and negative evidence of our ability to utilize our global deferred tax assets.

Loss Contingencies. As described in Part I, Item 3, “Legal Proceedings” and Part II, Item 8, Note 10, “Commitments and Contingencies,” in the Notes to Consolidated Financial Statements, we are periodically involved in various legal claims and proceedings. We routinely review the status of each significant matter and assess our potential financial exposure. If the potential loss from any matter is considered probable and the amount can be reasonably estimated, we record a liability for the estimated loss. Significant judgment is required to determine both the likelihood of there being, and the estimated amount of, a loss related to such matters. Due to inherent uncertainties related to these matters, we base our loss accruals on the best information available at the time. Until the final resolution of such matters, there may be an exposure to loss in excess of the amount recorded. As additional information becomes available, we reassess our potential liability and may revise our estimates. Such revisions could have a material impact on future quarterly or annual results of operations.

RECENTLY ISSUED ACCOUNTING STANDARDS

See Part II, Item 8, Note 1, "Business and Summary of Significant Accounting Policies," in the Notes to Consolidated Financial Statements for a full description of recent accounting pronouncements, including the expected dates of adoption and estimated effects on results of operations and financial condition.

OVERVIEW OF FISCAL 2022

- Total net revenue was $4.39 billion during fiscal 2022, an increase of 16% compared to the prior fiscal year.
- Recurring revenue as a percentage of net revenue was 96% for the fiscal year ending January 31, 2022, compared to 97% for the same period in the prior fiscal year.
- Net revenue retention rate ("NR3") was within the range of 100% and 110% as of both January 31, 2022 and 2021.
- Deferred revenue was $3.79 billion, an increase of 13% compared to the prior fiscal year.
- Remaining performance obligations (short-term and long-term deferred revenue plus unbilled deferred revenue) ("RPO") was $4.74 billion, an increase of 12% compared to the fourth quarter in the prior fiscal year.
- Current remaining performance obligations were $3.14 billion, an increase of 15% compared to the prior fiscal year.

Revenue Analysis

During fiscal 2022, net revenue increased 16%, as compared to the prior fiscal year, primarily due to a 19% increase in subscription revenue, partially offset by a 58% decrease in maintenance revenue.

Further discussion of the drivers of these results are discussed below under the heading "Results of Operations."

We rely significantly upon major distributors and resellers in both the United States and international regions, including Tech Data Corporation and its global affiliates (collectively, "Tech Data") and Ingram Micro Inc. ("Ingram Micro"). Total sales to Tech Data accounted for 36%, 37% and 35% of Autodesk's total net revenue during fiscal 2022, 2021 and 2020, respectively. Ingram Micro accounted for 9% of Autodesk's total net revenue during fiscal 2022 and 10% of Autodesk's total net revenue during both fiscal 2021 and 2020. Our customers through Tech Data and Ingram Micro are the resellers and end users who purchase our software subscriptions and services. Should any of our agreements with Tech Data or Ingram Micro be terminated for any reason, we believe the resellers and end users who currently purchase our products through Tech Data or Ingram Micro would be able to continue to do so under substantially the same terms from one of our many other distributors without substantial disruption to our revenue. Consequently, we believe our business is not substantially dependent on Tech Data or Ingram Micro.

Recurring Revenue and Net Revenue Retention Rate

In order to help better understand our financial performance we use several key performance metrics, including recurring revenue and NR3. These metrics are key performance metrics and should be viewed independently of revenue and deferred revenue as these metrics are not intended to be combined with those items. We use these metrics to monitor the strength of our recurring business. We believe these metrics are useful to investors because they can help in monitoring the long-term health of our business. Our determination and presentation of these metrics may differ from that of other companies. The presentation of these metrics is meant to be considered in addition to, not as a substitute for or in isolation from, our financial measures prepared in accordance with GAAP. Please refer to the "Glossary of Terms" for the definitions of these metrics in Part I, Item 1 Business.

The following table outlines our recurring revenue metric for the fiscal years ended January 31, 2022, 2021, and 2020:

	Fiscal Year Ended January 31, 2022	Change compared to prior fiscal year end		Fiscal Year Ended January 31, 2021	Change compared to prior fiscal year end		Fiscal Year Ended January 31, 2020
		$	%		$	%	
Recurring Revenue *(in millions)* (1)	$4,232.7	$ 570.5	16 %	$ 3,662.2	$ 523.7	17 %	$ 3,138.5
As a percentage of net revenue	96 %	N/A	N/A	97 %	N/A	N/A	96 %

(1) The acquisition of a business may cause variability in the comparison of recurring revenue in this table above and recurring revenue derived from the revenue reported in the Consolidated Statements of Operations.

NR3 was within the range of 100% and 110% as of both January 31, 2022 and 2021.

Foreign Currency Analysis

We generate a significant amount of our revenue in the United States, Japan, Germany, the United Kingdom, and Finland.

The following table shows the impact of foreign exchange rate changes on our net revenue and total spend:

	Fiscal Year Ended January 31, 2022		
	Percent change compared to prior fiscal year (as reported)	Constant currency percent change compared to prior fiscal year (1)	Positive/negative/neutral impact from foreign exchange rate changes
Net revenue	16 %	14 %	Positive
Total spend	19 %	18 %	Negative

(1) Please refer to the "Glossary of Terms" in Part I, Item 1 Business for the definitions of our constant currency growth rates.

Changes in the value of the U.S. dollar may have a significant effect on net revenue, total spend, and income from operations in future periods. We use foreign currency contracts to reduce the exchange rate effect on a portion of the net revenue of certain anticipated transactions but do not attempt to completely mitigate the impact of fluctuations of such foreign currency against the U.S. dollar.

Remaining Performance Obligations

RPO represents deferred revenue and contractually stated or committed orders under early renewal and multi-year billing plans for subscription, services, license, and maintenance for which the associated deferred revenue has not yet been recognized. Unbilled deferred revenue is not included as a receivable or deferred revenue on our Consolidated Balance Sheets. See Part II, Item 8, Note 2, "Revenue Recognition" for more details on Autodesk's performance obligations.

(in millions)	January 31, 2022	January 31, 2021
Deferred revenue	$ 3,789.8	$ 3,360.2
Unbilled deferred revenue	949.2	880.5
RPO	$ 4,739.0	$ 4,240.7

RPO consisted of the following:

(in millions)	January 31, 2022	January 31, 2021
Current RPO	$ 3,140.5	$ 2,738.0
Non-current RPO	1,598.5	1,502.7
RPO	$ 4,739.0	$ 4,240.7

We expect that the amount of RPO will change from quarter to quarter for several reasons, including the specific timing, duration, and size of customer subscription and support agreements, varying billing cycles of such agreements, the specific timing of customer renewals, and foreign currency fluctuations. Historically, we have had increased EBA sales activity in our fourth fiscal quarter and this seasonality may affect the relative value of our billings, RPO, and collections in the fourth and first fiscal quarters.

Balance Sheet and Cash Flow Items

At January 31, 2022, we had $1.81 billion in cash, cash equivalents, and marketable securities. Our cash flow from operations increased to $1.53 billion for the fiscal year ended January 31, 2022, from $1.44 billion for the fiscal year ended January 31, 2021. We repurchased 4.0 million shares of our common stock for $1.09 billion during fiscal 2022. Comparatively, we repurchased 2.6 million shares of our common stock for $549.4 million during fiscal 2021. Further discussion regarding the balance sheet and cash flow activities are discussed below under the heading "Liquidity and Capital Resources."

RESULTS OF OPERATIONS

Impacts of COVID-19 to Autodesk's Business

We are continuing to conduct business during the COVID-19 pandemic with substantial modifications to employee travel, employee work locations, and virtualization, postponement or cancellation of certain sales and marketing events, among other modifications. We will continue to invest in critical areas such as research and development, construction, and digitizing the company to ensure our future success as we come out of the pandemic. We have observed other companies, as well as many governments continuing to take precautionary measures to address COVID-19, and they may take further actions that alter their normal business operations. While government authorities in some geographies are removing or adding COVID-19 related business operations restrictions, we continue to actively monitor the situation and may take further actions that alter our business operations as may be required by federal, state, or local authorities, or that we determine are in the best interests of our employees, customers, partners, suppliers, and stockholders, including in response to outbreaks and variants.

Additionally, the COVID-19 pandemic has spurred changes in the way we work as we move to a more hybrid workforce resulting in an evaluation of our office space needs. Accordingly, we are reducing our facilities portfolio worldwide and incurred impairment and accelerated depreciation charges of $103.7 million to assets associated with our operating leases for real estate during the fiscal year ended January 31, 2022, and expect to incur additional impairments over the next several quarters which we currently estimate could result in impairment charges that would range up to approximately $25.0 million depending on the then-current market conditions. See Note 9, "Leases," in the Notes to Consolidated Financial Statements for more information. Optimizing our facilities costs will allow us to better deploy capital to further our strategy and drive growth. However, there is no guarantee that we will realize any anticipated benefits to our business, including any cost savings or operational efficiencies, or that our impairment charges would be limited to that amount.

We believe our investment in cloud products and a subscription business model, backed by a strong balance sheet, give us a robust foundation to successfully navigate the economic challenges of COVID-19. However, supply chain disruption and resulting inflationary pressures, a global labor shortage, and the ebb and flow of COVID-19, including in specific geographies, are currently impacting the pace of our recovery and our outlook. The extent of the impact on our business in fiscal 2023 and beyond will depend on several factors, including the full duration and the extent of the pandemic, including as a result of outbreaks and variants; actions taken by governments, businesses, and consumers in response to the pandemic; speed and timing of economic recovery, including in specific geographies; speed of continued rollout of COVID-19 vaccines, lifting of restrictions on movement, and normalization of full-time return to work and social events; our billings and renewal rates, including new business close rates, rate of multi-year contracts, pace of closing larger transactions, and new unit volume growth; and effect of the pandemic on margins and cash flow. All of these factors continue to evolve and remain uncertain at this time, and some of these factors are not within our control. Further discussion of the potential impacts of COVID-19 on our business can be found in Part I, Item 1A, "Risk Factors."

Net Revenue by Income Statement Presentation

Subscription revenue consists of our term-based product subscriptions, cloud service offerings, and flexible EBAs. Revenue from these arrangements is predominately recognized ratably over the contract term commencing with the date our service is made available to customers and when all other revenue recognition criteria have been satisfied.

Maintenance revenue consists of renewal fees for existing maintenance plan agreements that were initially purchased with a perpetual software license. Under our maintenance plan, customers are eligible to receive unspecified upgrades, when and if available, and technical support. We recognize maintenance revenue ratably over the term of the agreements, which is generally one year.

Other revenue consists of revenue from consulting, training, and other products and services, and is recognized as the products are delivered and services are performed.

(in millions, except percentages)	Fiscal Year Ended January 31, 2022	Change compared to prior fiscal year $	Change compared to prior fiscal year %	Fiscal Year Ended January 31, 2021	Management Comments
Net revenue:					
Subscription	$ 4,156.4	$ 677.5	19 %	$ 3,478.9	Increase due to growth across subscription types, led by subscription renewal revenue as a result of growth in the subscription base. Also contributing to the growth was an increase in revenue from EBA offerings.
Maintenance	76.3	(107.0)	(58)%	183.3	
Total subscription and maintenance revenue	4,232.7	570.5	16 %	3,662.2	
Other	153.7	25.5	20 %	128.2	
	$ 4,386.4	$ 596.0	16 %	$ 3,790.4	

(in millions, except percentages)	Fiscal Year Ended January 31, 2021	Change compared to prior fiscal year $	Change compared to prior fiscal year %	Fiscal Year Ended January 31, 2020	Management Comments
Net revenue:					
Subscription	$ 3,478.9	$ 727.0	26 %	$ 2,751.9	Increase due to growth across subscription types, led by product subscription renewal revenue. Also contributing to the growth was an increase in revenue from EBA offerings.
Maintenance	183.3	(203.3)	(53)%	386.6	
Total subscription and maintenance revenue	3,662.2	523.7	17 %	3,138.5	
Other	128.2	(7.6)	(6)%	135.8	
	$ 3,790.4	$ 516.1	16 %	$ 3,274.3	

Net Revenue by Product Family

Our product offerings are focused in four primary product families: Architecture, Engineering and Construction ("AEC"), AutoCAD and AutoCAD LT, Manufacturing ("MFG"), and Media and Entertainment ("M&E").

(in millions, except percentages)	Fiscal Year Ended January 31, 2022	Change compared to prior fiscal year $	Change compared to prior fiscal year %	Fiscal Year Ended January 31, 2021	Management Comments
Net revenue by product family:					
AEC	$ 1,959.9	$ 311.3	19 %	$ 1,648.6	Increase due to growth in revenue from AEC collections, EBAs, Innovyze and Revit.
AutoCAD and AutoCAD LT	1,253.0	153.6	14 %	1,099.4	Increase due to growth in revenue from both AutoCAD and AutoCAD LT.
MFG	876.0	77.4	10 %	798.6	Increase due to growth in revenue from Fusion360, EBAs, and MFG Collections.
M&E	258.9	39.5	18 %	219.4	Increase due to growth in revenue from EBAs, Maya, and M&E Collections.
Other	38.6	14.2	58 %	24.4	
	$ 4,386.4	$ 596.0	16 %	$ 3,790.4	

(in millions, except percentages)	Fiscal Year Ended January 31, 2021	Change compared to prior fiscal year $	Change compared to prior fiscal year %	Fiscal Year Ended January 31, 2020	Management Comments
Net revenue by product family:					
AEC	$ 1,648.6	$ 271.5	20 %	$ 1,377.1	Increase due to growth in revenue from AEC collections, EBAs, BIM360 and PlanGrid.
AutoCAD and AutoCAD LT	1,099.4	151.2	16 %	948.2	Increase due to growth in revenue from both AutoCAD and AutoCAD LT.
MFG	798.6	72.5	10 %	726.1	Increase due to growth in revenue from MFG Collections, EBAs, and Fusion360.
M&E	219.4	20.2	10 %	199.2	Increase due to growth in revenue from EBAs, M&E Collections, Maya, and 3DS Max.
Other	24.4	0.7	3 %	23.7	
	$ 3,790.4	$ 516.1	16 %	$ 3,274.3	

Net Revenue by Geographic Area

(in millions, except percentages)	Fiscal Year Ended January 31, 2022	Change compared to prior fiscal year $	Change compared to prior fiscal year %	Constant currency change compared to prior fiscal year %	Fiscal Year Ended January 31, 2021	Change compared to prior fiscal year $	Change compared to prior fiscal year %	Constant currency change compared to prior fiscal year %	Fiscal Year Ended January 31, 2020
Net revenue:									
Americas									
U.S.	$ 1,456.5	$ 174.7	14 %	*	$ 1,281.8	$ 172.9	16 %	*	$ 1,108.9
Other Americas	308.6	48.0	18 %	*	260.6	33.7	15 %	*	226.9
Total Americas	1,765.1	222.7	14 %	14 %	1,542.4	206.6	15 %	16 %	1,335.8
EMEA	1,700.4	227.8	15 %	12 %	1,472.6	169.1	13 %	15 %	1,303.5
APAC	920.9	145.5	19 %	17 %	775.4	140.4	22 %	22 %	635.0
Total net revenue	$ 4,386.4	$ 596.0	16 %	14 %	$ 3,790.4	$ 516.1	16 %	17 %	$ 3,274.3
Emerging economies	$ 546.4	$ 83.2	18 %	17 %	$ 463.2	$ 67.0	17 %	17 %	$ 396.2

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* Constant currency data not provided at this level.

We believe that international revenue will continue to comprise a majority of our net revenue. Unfavorable economic conditions in the countries that contribute a significant portion of our net revenue, including in emerging economies such as Brazil, Russia, India, and China, and including as a result of the COVID-19 pandemic or in connection with the
significant military action against Ukraine launched by Russia (or any related political or economic responses and counter-responses or otherwise by various global actors or the general effect on the global economy), may have an adverse effect on our business in those countries and our overall financial performance. Changes in the value of the U.S. dollar relative to other currencies have significantly affected, and could continue to significantly affect, our financial results for a given period even though we hedge a portion of our current and projected revenue. Increases to the levels of political and economic unpredictability or protectionism in the global market may impact our future financial results.

Net Revenue by Sales Channel

(in millions, except percentages)	Fiscal Year Ended January 31, 2022	Change compared to prior fiscal year $	Change compared to prior fiscal year %	Fiscal Year Ended January 31, 2021	Management Comments
Net revenue by sales channel:					
Indirect	$ 2,849.4	$ 249.4	10 %	$ 2,600.0	Increase due to growth in subscription revenue.
Direct	1,537.0	346.6	29 %	1,190.4	Increase due to an increase in EBAs and our online Autodesk branded store.
Total net revenue	$ 4,386.4	$ 596.0	16 %	$ 3,790.4	

(in millions, except percentages)	Fiscal Year Ended January 31, 2021	Change compared to prior fiscal year $	Change compared to prior fiscal year %	Fiscal Year Ended January 31, 2020	Management Comments
Net revenue by sales channel:					
Indirect	$ 2,600.0	$ 317.8	14 %	$ 2,282.2	Increase due to growth in subscription revenue offset by lower maintenance plan subscriptions.
Direct	1,190.4	198.3	20 %	992.1	Increase due to growth in EBAs and our online Autodesk branded store.
Total net revenue	$ 3,790.4	$ 516.1	16 %	$ 3,274.3	

Net Revenue by Product Type

(In millions, except percentages)	Fiscal Year Ended January 31, 2022	Change compared to prior fiscal year $	Change compared to prior fiscal year %	Fiscal Year Ended January 31, 2021	Management Comments
Net Revenue by Product Type:					
Design	$ 3,868.8	$ 503	15 %	$ 3,365.8	Increase is due to growth in AEC & MFG collections, AutoCAD Family, AutoCAD LT, and EBA offerings.
Make	363.9	67.5	23 %	296.4	Increase primarily due to growth in revenue from BIM Family, PlanGrid, and Fusion products.
Other	153.7	25.5	20 %	128.2	
Total Net Revenue	$ 4,386.4	$ 596	16 %	$ 3,790.4	

(In millions, except percentages)	Fiscal Year Ended January 31, 2021	Change compared to prior fiscal year $	Change compared to prior fiscal year %	Fiscal Year Ended January 31, 2020	Management Comments
Net Revenue by Product Type:					
Design	$ 3,365.8	$ 445.7	15 %	$ 2,920.1	Increase is due to growth in AEC & MFG collections, AutoCAD Family, AutoCAD LT, and EBA offerings.
Make	296.4	78.0	36 %	218.4	Increase primarily due to growth in revenue from BIM Family, PlanGrid, and Fusion products.
Other	128.2	(7.6)	(6)%	135.8	
Total Net Revenue	$ 3,790.4	$ 516.1	16 %	$ 3,274.3	

Cost of Revenue and Operating Expenses

Cost of subscription and maintenance revenue includes the labor costs of providing product support to our subscription and maintenance customers, SaaS vendor costs and allocated IT costs, facilities costs, professional services fees related to operating our network and cloud infrastructure, royalties, depreciation expense and operating lease payments associated with computer equipment, data center costs, salaries, related expenses of network operations, stock-based compensation expense, and gains and losses on our operating expense cash flow hedges.

Cost of other revenue includes labor costs associated with product setup, costs of consulting and training services contracts, and collaborative project management services contracts. Cost of other revenue also includes stock-based compensation expense, overhead charges, allocated IT and facilities costs, professional services fees, and gains and losses on our operating expense cash flow hedges.

Cost of revenue, at least over the near term, is affected by labor costs, hosting costs for our cloud offerings, the volume and mix of product sales, fluctuations in consulting costs, amortization of developed technology, new customer support offerings, royalty rates for licensed technology embedded in our products, stock-based compensation expense, and gains and losses on our operating expense cash flow hedges.

Marketing and sales expenses include salaries, bonuses, benefits, and stock-based compensation expense for our marketing and sales employees, the expense of travel, entertainment, and training for such personnel, sales and dealer commissions, and the costs of programs aimed at increasing revenue, such as advertising, trade shows and expositions, and various sales and promotional programs. Marketing and sales expenses also include SaaS vendor costs and allocated IT costs, payment processing fees, the cost of supplies and equipment, gains and losses on our operating expense cash flow hedges, facilities costs, and labor costs associated with sales and order management.

Research and development expenses, which are expensed as incurred, consist primarily of salaries, bonuses, benefits, and stock-based compensation expense for research and development employees, the expense of travel, entertainment, and training for such personnel, professional services such as fees paid to software development firms and independent contractors, SaaS vendor costs and allocated IT costs, gains and losses on our operating expense cash flow hedges, and facilities costs.

General and administrative expenses include salaries, bonuses, benefits, and stock-based compensation expense for our CEO, finance, human resources, and legal employees, as well as professional fees for legal and accounting services, SaaS vendor costs and net IT costs, certain foreign business taxes, gains and losses on our operating expense cash flow hedges, expense of travel, entertainment, and training, facilities costs, acquisition-related costs, and the cost of supplies and equipment.

(In millions, except percentages)	Fiscal Year Ended January 31, 2022	Change compared to prior fiscal year $	Change compared to prior fiscal year %	Fiscal Year Ended January 31, 2021	Management Comments
Cost of revenue:					
Subscription and maintenance	$ 299.1	$ 57.0	24 %	$ 242.1	Increase primarily due to an increase in cloud hosting costs and employee-related costs driven by higher headcount as well as an increase in stock-based compensation expense.
Other	66.6	2.5	4 %	64.1	Increase primarily due to an increase in stock-based compensation expense.
Amortization of developed technologies	52.8	21.9	71 %	30.9	Increase due to growth in amortization expense from acquired developed technologies as a result of our acquisitions in the fourth quarter of fiscal 2021 and in fiscal 2022.
Total cost of revenue	$ 418.5	$ 81.4	24 %	$ 337.1	
Operating expenses:					
Marketing and sales	$ 1,623.1	$ 182.8	13 %	$ 1,440.3	Increase primarily due to an increase in employee-related costs driven by higher headcount, an increase in stock-based compensation expense, an increase in advertisement and promotion costs due to new company branding campaign, as well as an increase in cloud hosting costs and professional fees.
Research and development	1,114.8	182.3	20 %	932.5	Increase primarily due to an increase in stock-based compensation expense, an increase in employee-related costs driven by higher headcount, as well as an increase in professional fees.
General and administrative	571.7	157.8	38 %	413.9	Increase primarily due to lease-related asset impairment and other charges in fiscal 2022, an increase in stock-based compensation expense, an increase in employee related costs driven by higher headcount, as well as an increase in cloud hosting costs.
Amortization of purchased intangibles	40.7	3.2	9 %	37.5	Increase due to growth in amortization expense from acquired intangibles as a result of our acquisitions in the fourth quarter of fiscal 2021 and in fiscal 2022.
Total operating expenses	$ 3,350.3	$ 526.1	19 %	$ 2,824.2	

(In millions, except percentages)	Fiscal Year Ended January 31, 2021	Change compared to prior fiscal year $	Change compared to prior fiscal year %	Fiscal Year Ended January 31, 2020	Management comments
Cost of revenue:					
Subscription and maintenance	$ 242.1	$ 18.2	8 %	$ 223.9	Increase primarily due to an increase in cloud hosting costs as well as an increase in stock-based compensation expense.
Other	64.1	(2.4)	(4)%	66.5	Decrease primarily due to lower travel and entertainment expense partially offset by an increase in employee-related costs driven by higher headcount.
Amortization of developed technologies	30.9	(3.6)	(10)%	34.5	Decrease primarily due to previously acquired developed technologies continuing to become fully amortized partially offset by amortization from recently acquired developed technologies.
Total cost of revenue	$ 337.1	$ 12.2	4 %	$ 324.9	
Operating expenses:					
Marketing and sales	$ 1,440.3	$ 130.0	10 %	$ 1,310.3	Increase primarily due to increased employee-related costs driven by higher headcount, an increase in stock-based compensation expense, as well as an increase in SaaS vendor costs and allocated IT costs partially offset by a decrease in travel and entertainment expenses.
Research and development	932.5	81.4	10 %	851.1	Increase primarily due to increased employee-related costs driven by higher headcount, an increase in stock-based compensation expense, as well as an increase in SaaS vendor costs and allocated IT costs partially offset by a decrease in travel and entertainment expenses.
General and administrative	413.9	8.3	2 %	405.6	Increase primarily due to increase in employee related costs driven by higher headcount, as well as an increase in net SaaS vendor costs partially offset by a decrease in stock-based compensation expense.
Amortization of purchased intangibles	37.5	(1.4)	(4)%	38.9	Decrease as previously acquired purchased intangibles continue to become fully amortized partially offset by amortization from recently acquired purchased intangibles.
Restructuring and other exit costs, net	—	(0.5)	(100)%	0.5	
Total operating expenses	$ 2,824.2	$ 217.8	8 %	$ 2,606.4	

The following table highlights our expectation for the absolute dollar change and percent of revenue change for fiscal 2023 as compared to fiscal 2022:

	Absolute dollar impact	Percent of net revenue impact
Cost of revenue	Increase	Flat
Marketing and sales	Decrease	Decrease
Research and development	Increase	Decrease
General and administrative	Increase	Increase
Amortization of purchased intangibles	Flat	Flat

Interest and Other Expense, Net

The following table sets forth the components of interest and other expense, net:

	Fiscal year ended January 31,		
	2022	2021	2020
	(in millions)		
Interest and investment expense, net	$ (65.0)	$ (51.1)	$ (54.0)
Gain on foreign currency	0.4	3.5	3.9
Gain (loss) on strategic investments	4.0	(41.7)	(3.3)
Other income	7.7	6.9	5.2
Interest and other expense, net	$ (52.9)	$ (82.4)	$ (48.2)

Interest and other expense, net, decreased by $29.5 million during fiscal 2022, as compared to fiscal 2021. The decrease was primarily due to gains on dispositions, mark-to-market gains, and a decrease in impairments of strategic investment equity securities in the current period as compared to the prior period offset in part by an increase in interest expense as a result of the issuance of debt in fiscal 2022 and a decrease in mark-to market gains on debt and equity securities held in a rabbi trust under non-qualified deferred compensation plans.

Interest and other expense, net, increased by $34.2 million during fiscal 2021, as compared to fiscal 2020. The increase was primarily due to an increase in impairments and negative measurement alternative adjustments on our strategic investment equity securities and a decrease in interest income offset by a decrease in interest expense as result of the payment in full of our term loan, and an increase in mark-to-market gains on marketable securities.

Interest expense and investment income fluctuates based on average cash, marketable securities and debt balances, average maturities, and interest rates.

Gains and losses on foreign currency are primarily due to the impact of re-measuring foreign currency transactions and net monetary assets into the functional currency of the corresponding entity. The amount of the gain or loss on foreign currency is driven by the volume of foreign currency transactions and the foreign currency exchange rates for the year.

Provision for Income Taxes

We account for income taxes and the related accounts under the liability method. Deferred tax liabilities and assets are determined based on the difference between the financial statement and tax bases of assets and liabilities, using enacted rates expected to be in effect during the year in which the basis differences reverse. Furthermore, on January 22, 2018, the FASB released guidance on the accounting for tax on the global intangible low-taxed income ("GILTI") provisions of the TCJA. The GILTI provisions impose a tax on foreign income in excess of a deemed return on tangible assets of foreign corporations. The Company has elected to recognize any potential GILTI obligations as an expense in the period it is incurred.

Income tax expense was $67.7 million and tax benefit was $661.5 million for fiscal 2022 and 2021, relative to pre-tax income of $564.7 million and $546.7 million, respectively, for the same periods. The tax expense for fiscal 2022 consists primarily of the U.S. and foreign tax expense, including withholding tax, offset by shared-based compensation deductions, India withholding tax refunds and generation of federal tax credits. Tax benefit for fiscal 2021 consisted primarily of the U.S. valuation allowance release, U.S. foreign derived intangible income permanent benefit, share-based compensation deductions and generation of federal tax credits, offset by foreign tax expense, including withholding tax.

A valuation allowance is recorded to reduce deferred tax assets when management cannot conclude that it is more likely than not that the net deferred tax asset will be recovered. The valuation allowance is determined by assessing both positive and negative evidence to determine whether it is more likely than not that deferred tax assets are recoverable; such assessment is required on a jurisdiction-by-jurisdiction basis. Significant judgment is required in determining whether the valuation allowance should be recorded against deferred tax assets. In assessing the need for a valuation allowance, we consider all available evidence including past operating results and estimates of future taxable income.

In fiscal 2016, we considered cumulative losses in the United States from our business model transition as a significant source of negative evidence. Considering this negative evidence, we determined that it was more likely than not that we would not realize the U.S. deferred tax assets and recorded a full valuation allowance against our deferred tax assets. Similarly, in fiscal 2018 we recorded a valuation allowance against our Singapore deferred tax assets due to significant negative evidence in the form of cumulative losses. Foreign operations in the Netherlands and Canada that generated interest expense, future creditable research in excess of earnings, respectively, also resulted in the historic recording of a full valuation under the more likely than not realizability criteria.

We released our Singapore valuation allowance in fiscal 2020 due to positive evidence in the form of cumulative earnings, resulting in a $42.0 million non-cash benefit to earnings. In the fourth quarter of fiscal 2021, we released the valuation allowance against our deferred tax assets in the U.S., resulting in a $679.0 million non-cash benefit to earnings. We released the U.S. valuation allowance in fiscal 2021 due to the following positive evidence:

- Recent history of worldwide pre-tax earnings, including cumulative earnings on a worldwide basis as of fiscal 2021
- Recent history of U.S. taxable income
- Forecast of worldwide and U.S. pre-tax earnings, including a forecast of cumulative earnings in the U.S. jurisdiction
- Forecast of U.S. taxable income
- Reversal of deferred tax liabilities

We have retained a valuation allowance against California and Michigan deferred tax assets as well as deferred tax assets that will convert into a capital loss upon reversal as we do not have sufficient income of the appropriate character to benefit these deferred tax assets.

As we continually strive to optimize our overall business model, tax planning strategies may become feasible whereby management may determine, based on all available evidence, both positive and negative, that it is more likely than not that the Netherlands, Canada, Australia, California, Michigan, and U.S. capital loss deferred tax assets will be realized.

As of January 31, 2022, we had $206.7 million of gross unrecognized tax benefits, of which $33.6 million would reduce our valuation allowance, if recognized. The remaining $173.1 million would impact the effective tax rate. It is possible that the amount of unrecognized tax benefits will change in the next 12 months for an audit settlement of approximately $7.8 million.

Our future effective annual tax rate may be materially impacted by the amount of benefits and charges from tax amounts associated with our foreign earnings that are taxed at rates different from the federal statutory rate, changes in valuation allowances, level of profit before tax, accounting for uncertain tax positions, business combinations, closure of statute of limitations or settlement of tax audits, and changes in tax laws. A significant amount of our earnings is generated by our European and Asia Pacific subsidiaries. Our future effective tax rates may be adversely affected to the extent earnings are lower than anticipated in countries where we have lower statutory tax rates.

OTHER FINANCIAL INFORMATION

In addition to our results determined under U.S. generally accepted accounting principles ("GAAP") discussed above, we believe the following non-GAAP measures are useful to investors in evaluating our operating performance. For the fiscal years ended January 31, 2022, 2021, and 2020, our gross profit, income from operations, operating margin, net income, and diluted net income per share on a GAAP and non-GAAP basis were as follows (in millions except for operating margin and per share data):

	Fiscal Year Ended January 31,		
	2022	2021	2020
		(Unaudited)	
Gross profit	$ 3,967.9	$ 3,453.3	$ 2,949.4
Non-GAAP gross profit	$ 4,054.3	$ 3,508.5	$ 3,004.0
Income from operations	$ 617.6	$ 629.1	$ 343.0
Non-GAAP income from operations	$ 1,397.4	$ 1,111.9	$ 802.6
Operating margin	14 %	17 %	10 %
Non-GAAP operating margin	32 %	29 %	25 %
Net income	$ 497.0	$ 1,208.2	$ 214.5
Non-GAAP net income	$ 1,126.1	$ 899.8	$ 621.2
Diluted net income per share	$ 2.24	$ 5.44	$ 0.96
Non-GAAP diluted net income per share	$ 5.07	$ 4.05	$ 2.79

For our internal budgeting and resource allocation process and as a means to provide consistency in period-to-period comparisons, we use non-GAAP measures to supplement our consolidated financial statements presented on a GAAP basis. These non-GAAP measures do not include certain items that may have a material impact upon our reported financial results. We also use non-GAAP measures in making operating decisions because we believe those measures provide meaningful supplemental information regarding our earning potential and performance for management by excluding certain benefits, credits, expenses, and charges that may not be indicative of our core business operating results. For the reasons set forth below, we believe these non-GAAP financial measures are useful to investors both because (1) they allow for greater transparency with respect to key metrics used by management in its financial and operational decision-making and (2) they are used by our institutional investors and the analyst community to analyze the health of our business. This allows investors and others to better understand and evaluate our operating results and future prospects in the same manner as management, compare financial results across accounting periods and to those of peer companies, and to better understand the long-term performance of our core business. We also use some of these measures for purposes of determining company-wide incentive compensation.

There are limitations in using non-GAAP financial measures because non-GAAP financial measures are not prepared in accordance with GAAP and may be different from non-GAAP financial measures used by other companies. The non-GAAP financial measures included above are limited in value because they exclude certain items that may have a material impact upon our reported financial results. In addition, they are subject to inherent limitations as they reflect the exercise of judgments by management about which charges are excluded from the non-GAAP financial measures. We compensate for these limitations by analyzing current and future results on a GAAP basis as well as a non-GAAP basis and also by providing GAAP measures in our public disclosures. The presentation of non-GAAP financial information is meant to be considered in addition to, not as a substitute for or in isolation from, the directly comparable financial measures prepared in accordance with GAAP. We urge investors to review the reconciliation of our non-GAAP financial measures to the comparable GAAP financial measures included below, and not to rely on any single financial measure to evaluate our business.

RECONCILIATION OF GAAP FINANCIAL MEASURES TO NON-GAAP FINANCIAL MEASURES

(In millions except for operating margin, and per share data):

	Fiscal Year Ended January 31,		
	2022	2021	2020
		(Unaudited)	
Gross profit	$ 3,967.9	$ 3,453.3	$ 2,949.4
Stock-based compensation expense	34.5	23.6	19.6
Acquisition-related costs	0.7	0.7	0.5
Amortization of developed technologies	51.2	30.9	34.5
Non-GAAP gross profit	$ 4,054.3	$ 3,508.5	$ 3,004.0
Income from operations	$ 617.6	$ 629.1	$ 343.0
Stock-based compensation expense	558.5	399.8	362.4
Amortization of developed technologies	51.2	30.9	34.5
Amortization of purchased intangibles	40.4	37.5	38.9
Acquisition-related costs	26.0	14.6	23.3
Lease-related asset impairments and other charges	103.7	—	—
Restructuring and other exit costs, net	—	—	0.5
Non-GAAP income from operations	$ 1,397.4	$ 1,111.9	$ 802.6
Operating margin	14 %	17 %	10 %
Stock-based compensation expense	13 %	11 %	11 %
Amortization of developed technologies	1 %	1 %	1 %
Amortization of purchased intangibles	1 %	1 %	1 %
Acquisition-related costs	1 %	—%	1 %
Lease-related asset impairments and other charges	2 %	—%	—%
Non-GAAP operating margin (1)	32 %	29 %	25 %
Net income	$ 497.0	$ 1,208.2	$ 214.5
Stock-based compensation expense	558.5	399.8	362.4
Amortization of developed technologies	51.2	30.9	34.5
Amortization of purchased intangibles	40.4	37.5	38.9
Acquisition-related costs	26.0	14.6	23.3
Lease-related asset impairments and other charges	103.7	—	—

	Fiscal Year Ended January 31,		
	2022	2021	2020
		(Unaudited)	
Restructuring and other exit costs, net	—	—	0.5
(Gain) loss on strategic investments	(4.0)	41.7	3.2
Release of valuation allowance on deferred tax assets	—	(679.0)	(40.4)
Discrete tax benefit provision items	(72.3)	(43.9)	2.1
Income tax effect of non-GAAP adjustments	(74.4)	(110.0)	(17.8)
Non-GAAP net income	$ 1,126.1	$ 899.8	$ 621.2
Diluted net income per share	$ 2.24	$ 5.44	$ 0.96
Stock-based compensation expense	2.52	1.80	1.63
Amortization of developed technologies	0.23	0.14	0.16
Amortization of purchased intangibles	0.18	0.17	0.17
Acquisition-related costs	0.12	0.07	0.11
Lease-related asset impairments and other charges	0.47	—	—
(Gain) loss on strategic investments	(0.02)	0.19	0.01
Release of valuation allowance on deferred tax assets	—	(3.06)	(0.18)
Discrete tax (benefit) provision items	(0.33)	(0.20)	0.01
Income tax effect of non-GAAP adjustments	(0.34)	(0.50)	(0.08)
Non-GAAP diluted net income per share	$ 5.07	$ 4.05	$ 2.79

(1) Totals may not sum due to rounding.

Our non-GAAP financial measures may exclude the following:

Stock-based compensation expenses. We exclude stock-based compensation expenses from non-GAAP measures primarily because they are non-cash expenses and management finds it useful to exclude certain non-cash charges to assess the appropriate level of various operating expenses to assist in budgeting, planning, and forecasting future periods. Moreover, because of varying available valuation methodologies, subjective assumptions, and the variety of award types that companies can use under FASB ASC Topic 718, we believe excluding stock-based compensation expenses allows investors to make meaningful comparisons between our recurring core business operating results and those of other companies.

Amortization of developed technologies and purchased intangibles. We incur amortization of acquisition-related developed technology and purchased intangibles in connection with acquisitions of certain businesses and technologies. Amortization of developed technologies and purchased intangibles is inconsistent in amount and frequency and is significantly affected by both the timing and size of our acquisitions. Management finds it useful to exclude these variable charges from our cost of revenues to assist in budgeting, planning, and forecasting future periods. Investors should note that the use of intangible assets contributed to our revenues earned during the periods presented and will contribute to our future period revenues as well. Amortization of developed technologies and purchased intangible assets will recur in future periods.

CEO transition costs. We exclude amounts paid to the Company's former CEOs upon departure under the terms of their transition agreements, including severance payments, acceleration of restricted stock units, and continued vesting of performance stock units, and legal fees incurred with the transition. Also excluded from our non-GAAP measures are recruiting costs related to the search for a new CEO. These costs represent non-recurring expenses and are not indicative of our ongoing operating expenses. We further believe that excluding the CEO transition costs from our non-GAAP results is useful to investors in that it allows for period-over-period comparability.

Goodwill impairment. This is a non-cash charge to write down goodwill to fair value when there is an indication that the asset has been impaired. As explained above, management finds it useful to exclude certain non-cash charges to assess the appropriate level of various operating expenses to assist in budgeting, planning, and forecasting future periods.

Restructuring and other exit costs, net. These expenses are associated with realigning our business strategies based on current economic conditions. In connection with these restructuring actions or other exit actions, we recognize costs related to termination benefits for former employees whose positions were eliminated, the closure of facilities, and cancellation of certain contracts. We exclude these charges because these expenses are not reflective of ongoing business and operating results. We believe it is useful for investors to understand the effects of these items on our total operating expenses.

Lease-related asset impairments and other charges. These charges are associated with the optimization of our facilities costs related to leases for facilities that we have recently vacated as a result of our one-time move to a more hybrid remote workforce. In connection with these facility leases, we recognize costs related to the impairment or abandonment of operating lease right-of-use assets, computer equipment, furniture, and leasehold improvements, and other costs. We exclude these charges because these expenses are not reflective of ongoing business and operating results. We believe it is useful for investors to understand the effects of these items on our total operating expenses.

Acquisition-related costs. We exclude certain acquisition-related costs, including due diligence costs, professional fees in connection with an acquisition, certain financing costs, and certain integration-related expenses. These expenses are unpredictable, and depend on factors that may be outside of our control and unrelated to the continuing operations of the acquired business or our Company. In addition, the size and complexity of an acquisition, which often drives the magnitude of acquisition-related costs, may not be indicative of such future costs. We believe excluding acquisition-related costs facilitates the comparison of our financial results to the Company's historical operating results and to other companies in our industry.

Loss (gain) on strategic investments and dispositions. We exclude gains and losses related to our strategic investments and dispositions of strategic investments, purchased intangibles, and businesses from our non-GAAP measures primarily because management finds it useful to exclude these variable gains and losses on these investments and dispositions in assessing our financial results. Included in these amounts are non-cash unrealized gains and losses, dividends received, realized gains and losses on the sales or losses on the impairment of these investments, and gain and loss on dispositions. We believe excluding these items is useful to investors because they do not correlate to the underlying performance of our business and these losses or gains were incurred in connection with strategic investments and dispositions which do not occur regularly.

Discrete tax provision items. We exclude the GAAP tax provision, including discrete items, from the non-GAAP measure of net income (loss), and include a non-GAAP tax provision based upon the projected annual non-GAAP effective tax rate. Discrete tax items include income tax expenses or benefits that do not relate to ordinary income from continuing operations in the current fiscal year, unusual or infrequently occurring items, or the tax impact of certain stock-based compensation. Examples of discrete tax items include, but are not limited to, certain changes in judgment and changes in estimates of tax matters related to prior fiscal years, certain costs related to business combinations, certain changes in the realizability of deferred tax assets, or changes in tax law. Management believes this approach assists investors in understanding the tax provision and the effective tax rate related to ongoing operations. We believe the exclusion of these discrete tax items provides investors with useful supplemental information about our operational performance.

Establishment (release) of a valuation allowance on certain net deferred tax assets. This is a non-cash charge to record or to release a valuation allowance on certain deferred tax assets. As explained above, management finds it useful to exclude certain non-cash charges to assess the appropriate level of various cash expenses to assist in budgeting, planning, and forecasting future periods.

Income tax effects on the difference between GAAP and non-GAAP costs and expenses. The income tax effects that are excluded from the non-GAAP measures relate to the tax impact on the difference between GAAP and non-GAAP expenses, primarily due to stock-based compensation, amortization of purchased intangibles, and restructuring charges and other exit costs (benefits) for GAAP and non-GAAP measures.

LIQUIDITY AND CAPITAL RESOURCES

Our primary source of cash is from the sale of our software and related services. Our primary use of cash is payment of our operating costs, which consist primarily of employee-related expenses, such as compensation and benefits, as well as general operating expenses for marketing, facilities, and overhead costs. Long-term cash requirements for items other than normal operating expenses are anticipated for the following: the acquisition of businesses, software products, or technologies complementary to our business; repayment of debt; common stock repurchases; and capital expenditures, including the purchase and implementation of internal-use software applications.

At January 31, 2022, our principal sources of liquidity were cash, cash equivalents, and marketable securities totaling $1.81 billion and net accounts receivable of $716.1 million.

In September 2021, Autodesk entered into an amended and restated credit agreement (“Credit Agreement”) by and among Autodesk, the lenders party thereto, and Citibank, N.A., as agent, that provides for a revolving credit facility in the aggregate principal amount of $1.5 billion with an option to be increased up to $2.0 billion which increased from an aggregate principal amount of $650.0 million, with an option to be increased up to $1.0 billion, under our previous credit agreement. The revolving credit facility is available for working capital or other business needs. The maturity date on the Credit Agreement is September 30, 2026. At January 31, 2022, Autodesk had no outstanding borrowings under the Credit Agreement. Additionally, as of March 14, 2022, we have no amounts outstanding under the Credit Agreement. See Part II, Item 8, Note 8, “Borrowing Arrangements,” in the Notes to Consolidated Financial Statements for further discussion on our covenant requirements. If we are unable to remain in compliance with the covenants under the Credit Agreement, we may not be able to draw on our revolving credit facility.

As of January 31, 2022, we had $2.65 billion aggregate principal amount of notes outstanding. See Part II, Item 8, Note 8, “Borrowing Arrangements,” in the Notes to Consolidated Financial Statements for further discussion.

Our cash and cash equivalents are held by diversified financial institutions globally. Our primary commercial banking relationship is with Citigroup and its global affiliates. In addition, Citibank N.A., an affiliate of Citigroup, is one of the lead lenders and agent in the syndicate of our $1.5 billion revolving credit facility.

Our cash, cash equivalents, and marketable securities balances are concentrated in a few locations around the world, with substantial amounts held outside of the United States. As of January 31, 2022, approximately 66% of our total cash or cash equivalents and marketable securities are located in foreign jurisdictions and that percentage will fluctuate subject to business needs. There are several factors that can impact our ability to utilize foreign cash balances, such as foreign exchange restrictions, foreign regulatory restrictions, or adverse tax costs. The Tax Act included a mandatory one-time tax on accumulated earnings of foreign subsidiaries and generally eliminated U.S. taxes on foreign subsidiary distributions in future periods. As a result, earnings in foreign jurisdictions are generally available for distribution to the United States with little to no incremental U.S. taxes. We regularly review our capital structure and consider a variety of potential financing alternatives and planning strategies to ensure we have the proper liquidity available in the locations in which it is needed. We expect to meet our liquidity needs through or in combination of current cash balances, ongoing cash flows, and external borrowings.

Cash from operations could also be affected by various risks and uncertainties, including, but not limited to the risks detailed in Part I, Item 1A titled “Risk Factors.” We currently expect to have sufficient liquidity to manage through the COVID-19 pandemic but we will continue to monitor the impact of potential disruptions beyond our control. Based on our current business plan and revenue prospects, we believe that our existing cash and cash equivalents, our anticipated cash flows from operations, and our available revolving credit facility will be sufficient to meet our working capital and operating resource expenditure requirements for at least the next 12 months from the date of this Annual Report.

Our revenue, earnings, cash flows, receivables, and payables are subject to fluctuations due to changes in foreign currency exchange rates, for which we have put in place foreign currency contracts as part of our risk management strategy. See Part II, Item 7A, “Quantitative and Qualitative Disclosures about Market Risk” for further discussion.

	Fiscal year ended January 31,		
(in millions)	**2022**	**2021**	**2020**
Net cash provided by operating activities	$ 1,531.3	$ 1,437.2	$ 1,415.1
Net cash used in investing activities	(1,594.6)	(403.9)	(57.3)
Net cash used in financing activities	(168.6)	(1,046.8)	(466.8)

Net cash provided by operating activities of $1,531.3 million for fiscal 2022, primarily consisted of $497.0 million of our net income adjusted for $817.0 million non-cash items such as stock-based compensation expense, depreciation, amortization, and accretion expense, lease-related asset impairment charges, and deferred income tax. The increase in cash provided by working capital was primarily due to a net increase in deferred revenue of $419.4 million driven by an increase in product subscriptions and EBA offerings and a decrease in maintenance subscriptions offset in part by an increase in prepaid expenses and other assets of $133.5 million primarily due to the timing of payments for operating expenses.

Net cash provided by operating activities of $1,437.2 million for fiscal 2021, primarily consisted of $1,208.2 million of our net income adjusted for $217.6 million non-cash items such as deferred income tax including the release of our deferred tax valuation allowance, stock-based compensation expense, and depreciation, amortization, and accretion expense. The increase in cash provided by working capital was primarily due to: a net increase in deferred revenue of $344.4 million driven by an increase in product subscriptions and EBA offerings and a decrease in maintenance subscriptions; and an increase in accounts payable and other liabilities of $129.6 million primarily due to the timing of payments for operating expenses and accruals for employee related costs.

Net cash used in investing activities was $1,594.6 million for fiscal 2022 and was primarily due to business combinations, net of cash acquired, and purchases of marketable securities.

Net cash used in investing activities was $403.9 million for fiscal 2021 and was primarily due to business combinations, net of cash acquired, capital expenditures, purchases of strategic investments, and purchases of marketable securities. These cash outflows were partially offset by maturities of marketable securities.

Net cash used in financing activities was $168.6 million in fiscal 2022 and was primarily due to repurchases of our common stock offset by proceeds from the issuance of debt and common stock.

Net cash used in financing activities was $1,046.8 million in fiscal 2021 and was primarily due to repurchases of our common stock and repayment of debt. These cash outflows were partially offset by proceeds from the issuance of common stock.

CONTRACTUAL OBLIGATIONS

The following table summarizes our significant financial contractual obligations at January 31, 2022, and the effect such obligations are expected to have on our liquidity and cash flows in future periods.

(in millions)	Total	Fiscal year 2023	Fiscal years 2024-2025	Fiscal years 2026-2027	Thereafter	Management Comments
Notes payable	$ 3,150.0	$ 430.0	$ 137.8	$ 416.4	$ 2,165.8	Notes payable consist of the notes issued in December 2012, June 2015, June 2017, January 2020, and October 2021 including interest. See Part II, Item 8, Note 8, "Borrowing Arrangements," in the Notes to Consolidated Financial Statements for further discussion.
Operating leases	467.4	95.8	153.5	94.0	124.1	Operating lease obligations consist primarily of obligations for real estate, vehicles, and certain equipment. See Part II, Item 8, Note 9, "Leases," in the Notes to Consolidated Financial Statements for further discussion.
Purchase obligations	317.6	109.4	195.5	9.2	3.5	Purchase obligations are contractual obligations for purchase of goods or services and are defined as agreements that are enforceable and legally binding to Autodesk and that specify all significant terms, including: fixed or minimum quantities to be purchased; fixed, minimum, or variable price provisions; and the approximate timing of the transaction. Purchase obligations relate primarily to acquisition of cloud services, marketing, and commitments related to our investment agreements with limited liability partnership funds.
Deferred compensation obligations	89.5	7.1	15.6	14.1	52.7	Deferred compensation obligations relate to amounts held in a rabbi trust under our non-qualified deferred compensation plan. See Part II, Item 8, Note 7, "Deferred Compensation," in our Notes to Consolidated Financial Statements for further information regarding this plan.
Pension obligations	35.2	2.9	5.8	6.6	19.9	Pension obligations relate to our obligations for pension plans outside of the United States. See Part II, Item 8, Note 15, "Retirement Benefit Plans," in our Notes to Consolidated Financial Statements for further information regarding these obligations.
Asset retirement obligations	12.0	4.3	4.0	0.8	2.9	Asset retirement obligations represent the estimated costs to bring certain office buildings that we lease back to their original condition after the termination of the lease.
Total (1)	$ 4,071.7	$ 649.5	$ 512.2	$ 541.1	$ 2,368.9	

(1) This table generally excludes amounts already recorded on the balance sheet as current liabilities, certain purchase obligations as discussed below, long term deferred revenue, and amounts related to income tax accruals for uncertain tax positions, since we cannot predict with reasonable reliability the timing of cash settlements to the respective taxing authorities (see Part II, Item 8, Note 5, "Income Taxes" in the Notes to Consolidated Financial Statements).

Purchase orders or contracts for the purchase of supplies and other goods and services are not included in the table above. We are not able to determine the aggregate amount of such purchase orders that represent contractual obligations, as purchase orders may represent authorizations to purchase rather than binding agreements. Our purchase orders are based on our current procurement or development needs and are fulfilled by our vendors within short time horizons. We do not have significant agreements for the purchase of supplies or other goods specifying minimum quantities or set prices that exceed our expected requirements for three months. In addition, we have certain software royalty commitments associated with the shipment and licensing of certain products.

The expected timing of payment of the obligations discussed above is estimated based on current information. Timing of payments and actual amounts paid may be different depending on the time of receipt of goods or services or changes to agreed-upon amounts for some obligations.

We provide indemnifications of varying scopes and certain guarantees, including limited product warranties. Historically, costs related to these warranties and indemnifications have not been significant, but because potential future costs are highly variable, we are unable to estimate the maximum potential impact of these guarantees on our future results of operations.

ISSUER PURCHASES OF EQUITY SECURITIES

Autodesk's stock repurchase program provides Autodesk with the ability to offset the dilution from the issuance of stock under our employee stock plans and reduce shares outstanding over time and has the effect of returning excess cash generated from our business to stockholders. Under the share repurchase program, Autodesk may repurchase shares from time to time in open market transactions, privately negotiated transactions, accelerated share repurchase programs, tender offers, or by other means. The share repurchase program does not have an expiration date and the pace and timing of repurchases will depend on factors such as cash generation from operations, available surplus, the volume of employee stock plan activity, remaining shares available in the authorized pool, cash requirements for acquisitions, economic and market conditions, stock price, and legal and regulatory requirements.

During the three and 12 months ended January 31, 2022, we repurchased 2.3 million and 4.0 million shares of our common stock, respectively. At January 31, 2022, 8.1 million shares remained available for repurchase under the repurchase program approved by the Board of Directors. This program does not have a fixed expiration date. See Part II, Item 8, Note 11, "Stock Repurchase Program," in the Notes to Consolidated Financial Statements for further discussion.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

FOREIGN CURRENCY EXCHANGE RISK

Our revenue, earnings, cash flows, receivables, and payables are subject to fluctuations due to changes in foreign currency exchange rates. Our risk management strategy utilizes foreign currency contracts to manage our exposure to foreign currency volatility that exists as part of our ongoing business operations. We utilize cash flow hedge contracts to reduce the exchange rate impact on a portion of the net revenue or operating expense of certain anticipated transactions. In addition, we use balance sheet hedge contracts to reduce the exchange rate risk associated primarily with foreign currency denominated receivables and payables. As of January 31, 2022 and 2021, we had open cash flow and balance sheet hedge contracts with future settlements generally within one to 12 months. Contracts were primarily denominated in euros, Japanese yen, British pounds, Canadian dollars, Australian dollars, Singapore dollars, Swiss francs, Swedish krona, and Czech koruna. We do not enter into foreign exchange derivative instruments for trading or speculative purposes.

Our option and foreign exchange forward contracts outstanding as of the respective period-ends are summarized in U.S. dollar equivalents as follows (in millions):

	January 31, 2022		January 31, 2021	
	Notional Amount	Fair Value	Notional Amount	Fair Value
Forward Contracts:				
Purchased	$ 852.3	$ (10.3)	$ 686.0	$ 3.6
Sold	1,611.9	7.0	1,172.1	2.2
Option Contracts:				
Purchased	1,272.6	18.3	1,044.4	5.2
Sold	1,321.8	(7.6)	1,092.1	(18.6)

We use foreign currency contracts to reduce the exchange rate impact on the net revenue and operating expenses of certain anticipated transactions. A sensitivity analysis performed on our hedging portfolio as of January 31, 2022, indicated that a hypothetical 10% appreciation of the U.S. dollar from its value at January 31, 2022 and 2021, would increase the fair value of our foreign currency contracts by $217.8 million and $118.6 million, respectively. A hypothetical 10% depreciation of the dollar from its value at January 31, 2022 and 2021, would decrease the fair value of our foreign currency contracts by $138.1 million and $149.2 million, respectively.

INTEREST RATE RISK

Interest rate movements affect both the interest income we earn on our short-term investments and the market value of certain longer term securities. At January 31, 2022, we had $708.2 million of cash equivalents and marketable securities, including $235.7 million classified as short-term marketable securities. If interest rates were to move up by 50 or 100 basis points over a 12-month period, the market value change of these securities would not have a material impact on our results of operations.

OTHER MARKET RISK

From time to time we make direct investments in privately held companies. Privately held company investments generally are considered inherently risky. The technologies and products these companies have under development are typically in the early stages and may never materialize, which could result in a loss of all or a substantial part of our initial investment in these companies. The evaluation of privately held companies is based on information that we request from these companies, which is not subject to the same disclosure regulations as U.S. publicly traded companies, and as such, the basis for these evaluations is subject to the timing and accuracy of the data received from these companies. See Part II, Item 8, Note 3, “Financial Instruments” in the Notes to Consolidated Financial Statements for further discussion regarding these strategic investments.

For information about exposure to counter-party credit-related losses, see Part II, Item 8, Note 1, “Business and Summary of Significant Accounting Policies - Concentration of Credit Risk."

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

AUTODESK, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In millions, except per share data)

	Fiscal year ended January 31,		
	2022	2021	2020
Net revenue:			
Subscription	$ 4,156.4	$ 3,478.9	$ 2,751.9
Maintenance	76.3	183.3	386.6
Total subscription and maintenance revenue	4,232.7	3,662.2	3,138.5
Other	153.7	128.2	135.8
Total net revenue	4,386.4	3,790.4	3,274.3
Cost of revenue:			
Cost of subscription and maintenance revenue	299.1	242.1	223.9
Cost of other revenue	66.6	64.1	66.5
Amortization of developed technologies	52.8	30.9	34.5
Total cost of revenue	418.5	337.1	324.9
Gross profit	3,967.9	3,453.3	2,949.4
Operating expenses:			
Marketing and sales	1,623.1	1,440.3	1,310.3
Research and development	1,114.8	932.5	851.1
General and administrative	571.7	413.9	405.6
Amortization of purchased intangibles	40.7	37.5	38.9
Restructuring and other exit costs, net	—	—	0.5
Total operating expenses	3,350.3	2,824.2	2,606.4
Income from operations	617.6	629.1	343.0
Interest and other expense, net	(52.9)	(82.4)	(48.2)
Income before income taxes	564.7	546.7	294.8
(Provision) benefit for income taxes	(67.7)	661.5	(80.3)
Net income	$ 497.0	$ 1,208.2	$ 214.5
Basic net income per share	$ 2.26	$ 5.51	$ 0.98
Diluted net income per share	$ 2.24	$ 5.44	$ 0.96
Weighted average shares used in computing basic net income per share	219.7	219.4	219.7
Weighted average shares used in computing diluted net income per share	222.0	222.1	222.5

See accompanying Notes to Consolidated Financial Statements.

AUTODESK, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In millions)

	Fiscal year ended January 31,		
	2022	2021	2020
Net income	$ 497.0	$ 1,208.2	$ 214.5
Other comprehensive income (loss), net of reclassifications:			
Net gain (loss) on derivative instruments (net of tax effect of $(8.3), $5.0, and $(1.1))	48.3	(32.5)	(6.6)
Change in net unrealized gain on available-for-sale securities (net of tax effect of zero, $0.1, and $(0.4))	11.8	1.7	1.4
Change in defined benefit pension items (net of tax effect of $(0.7), $(0.3), and $1.6)	4.7	1.5	(6.5)
Net change in cumulative foreign currency translation (loss) gain (net of tax effect of $0.3, $(0.6), and $0.1)	(62.9)	63.7	(13.6)
Total other comprehensive income (loss)	1.9	34.4	(25.3)
Total comprehensive income	$ 498.9	$ 1,242.6	$ 189.2

See accompanying Notes to Consolidated Financial Statements.

AUTODESK, INC.
CONSOLIDATED BALANCE SHEETS
(In millions, except per share data)

	January 31, 2022	January 31, 2021
ASSETS		
Current assets:		
Cash and cash equivalents	$ 1,528.4	$ 1,772.2
Marketable securities	235.7	4.0
Accounts receivable, net	716.1	643.1
Prepaid expenses and other current assets	283.6	206.2
Total current assets	2,763.8	2,625.5
Long-term marketable securities	45.4	—
Computer equipment, software, furniture, and leasehold improvements, net	162.5	192.8
Operating lease right-of-use assets	304.5	416.7
Intangible assets, net	493.8	199.3
Goodwill	3,603.8	2,706.5
Deferred income taxes, net	740.7	763.1
Long-term other assets	492.3	375.9
Total assets	$ 8,606.8	$ 7,279.8
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 120.8	$ 122.5
Accrued compensation	341.3	322.6
Accrued income taxes	29.7	42.6
Deferred revenue	2,863.3	2,500.9
Operating lease liabilities	86.6	71.4
Current portion of long-term notes payable, net	349.7	—
Other accrued liabilities	218.0	194.7
Total current liabilities	4,009.4	3,254.7
Long-term deferred revenue	926.5	859.3
Long-term operating lease liabilities	345.8	396.0
Long-term income taxes payable	19.8	15.9
Long-term deferred income taxes	29.4	11.4
Long-term notes payable, net	2,277.9	1,637.2
Long-term other liabilities	148.9	139.8
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, $0.01 par value; shares authorized 2.0; none issued or outstanding at January 31, 2022 and 2021	—	—
Common stock and additional paid-in capital, $0.01 par value; shares authorized 750.0; 218.2 and 219.6 issued and outstanding at January 31, 2022 and 2021, respectively	2,923.1	2,578.9
Accumulated other comprehensive loss	(124.0)	(125.9)
Accumulated deficit	(1,950.0)	(1,487.5)
Total stockholders' equity	849.1	965.5
Total liabilities and stockholders' equity	$ 8,606.8	$ 7,279.8

See accompanying Notes to Consolidated Financial Statements.

AUTODESK, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In millions)

	Fiscal year ended January 31, 2022	2021	2020
Operating activities:			
Net income	$ 497.0	$ 1,208.2	$ 214.5
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation, amortization, and accretion	148.1	123.8	127.3
Stock-based compensation expense	555.4	398.4	362.4
Deferred income taxes	(7.8)	(778.6)	10.3
Lease-related asset impairments	103.7	—	—
Restructuring and other exit costs, net	—	—	0.5
Other operating activities	17.6	38.8	(11.9)
Changes in operating assets and liabilities, net of business combinations:			
Accounts receivable	(66.2)	12.6	(178.5)
Prepaid expenses and other assets	(133.5)	(56.4)	58.5
Accounts payable and other liabilities	9.9	129.6	(90.8)
Deferred revenue	419.4	344.4	916.7
Accrued income taxes	(12.3)	16.4	6.1
Net cash provided by operating activities	1,531.3	1,437.2	1,415.1
Investing activities:			
Purchases of marketable securities	(311.1)	(21.0)	(19.9)
Sales of marketable securities	12.0	—	22.4
Maturities of marketable securities	25.8	17.0	5.0
Purchases of developed technologies	(10.5)	(4.8)	—
Business combinations, net of cash acquired	(1,250.3)	(246.2)	—
Capital expenditures	(56.0)	(91.1)	(53.2)
Other investing activities	(4.5)	(57.8)	(11.6)
Net cash used in investing activities	(1,594.6)	(403.9)	(57.3)
Financing activities:			
Proceeds from issuance of common stock, net of issuance costs	113.7	114.1	93.7
Taxes paid related to net share settlement of equity awards	(193.5)	(156.7)	(112.5)
Repurchase and retirement of common stock	(1,078.5)	(551.7)	(442.5)
Proceeds from debt, net of discount	997.0	—	498.9
Repayments of debt	—	(450.0)	(500.0)
Other financing activities	(7.3)	(2.5)	(4.4)
Net cash used in financing activities	(168.6)	(1,046.8)	(466.8)
Effect of exchange rate changes on cash and cash equivalents	(11.9)	11.0	(2.3)
Net (decrease) increase in cash and cash equivalents	(243.8)	(2.5)	888.7
Cash and cash equivalents at beginning of fiscal year	1,772.2	1,774.7	886.0
Cash and cash equivalents at end of fiscal year	$ 1,528.4	$ 1,772.2	$ 1,774.7
Supplemental cash flow disclosure:			
Cash paid for interest	$ 57.5	$ 62.7	$ 67.8
Cash paid for income taxes, net of tax refunds	$ 165.2	$ 92.8	$ 60.3
Non-cash investing and financing activities:			
Fair value of common stock issued to settle liability-classified restricted stock units	$ 2.7	$ 28.7	$ 23.5
Fair value of common stock issued related to business combination (See Note 6)	$ 6.1	$ 37.9	$ —

See accompanying Notes to Consolidated Financial Statements.

AUTODESK, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' (DEFICIT) EQUITY

(In millions)

	Common stock and additional paid-in capital		Accumulated other comprehensive (loss) income	Accumulated deficit	Total stockholders' (deficit) equity
	Shares	Amount			
Balances, January 31, 2019	219.4	$ 2,071.5	$ (135.0)	$ (2,147.4)	$ (210.9)
Common stock issued under stock plans	2.7	(18.6)	—	—	(18.6)
Stock-based compensation expense	—	332.7	—	—	332.7
Settlement of liability-classified restricted stock units	—	23.5	—	—	23.5
Pre-combination expense related to equity awards assumed	—	1.2	—	—	1.2
Cumulative effect of adoption of accounting standards	—	—	—	(0.7)	(0.7)
Net income	—	—	—	214.5	214.5
Other comprehensive loss	—	—	(25.3)	—	(25.3)
Repurchase and retirement of common stock	(2.7)	(93.3)	—	(362.2)	(455.5)
Balances, January 31, 2020	219.4	2,317.0	(160.3)	(2,295.8)	(139.1)
Common stock issued under stock plans	2.7	(41.2)	—	—	(41.2)
Stock-based compensation expense	—	385.6	—	—	385.6
Settlement of liability-classified restricted stock units	—	28.7	—	—	28.7
Post-combination expense related to equity awards assumed	—	0.4	—	—	0.4
Net income	—	—	—	1,208.2	1,208.2
Other comprehensive income	—	—	34.4	—	34.4
Shares issued related to business combination	0.1	37.9	—	—	37.9
Repurchase and retirement of common stock	(2.6)	(149.5)	—	(399.9)	(549.4)
Balances, January 31, 2021	219.6	2,578.9	(125.9)	(1,487.5)	965.5
Common stock issued under stock plans	2.6	(79.8)	—	—	(79.8)
Stock-based compensation expense		544.4	—	—	544.4
Settlement of liability-classified restricted stock units		2.7	—	—	2.7
Post-combination expense related to equity awards assumed		0.1	—	—	0.1
Net income			—	497.0	497.0
Other comprehensive income			1.9	—	1.9
Shares issued related to business combination	—	6.1	—	—	6.1
Repurchase and retirement of common stock	(4.0)	(129.3)	—	(959.5)	(1,088.8)
Balances, January 31, 2022	218.2	$ 2,923.1	$ (124.0)	$ (1,950.0)	$ 849.1

See accompanying Notes to Consolidated Financial Statements.

AUTODESK, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

January 31, 2022

(Tables in millions of dollars, except per share data, unless otherwise indicated)

1. Business and Summary of Significant Accounting Policies

Business

Autodesk, Inc. (“Autodesk” or the “Company”) is a world leading design software and services company, offering customers productive business solutions through powerful technology products and services. The Company serves customers in the architecture, engineering, and construction; manufacturing; and digital media, consumer, and entertainment industries. The Company’s sophisticated software products, offered through a hybrid of desktop and cloud functionality, enable its customers to experience their ideas before they are real by allowing them to imagine, design, and create their ideas and to visualize, simulate, and analyze real-world performance early in the design process by creating digital prototypes. These capabilities allow Autodesk’s customers to foster innovation, optimize and improve their designs, help save time and money, improve quality, and collaborate with others. Autodesk software products are sold globally, both directly to customers and through a network of resellers and distributors.

Principles of Consolidation

The accompanying consolidated financial statements include the accounts of Autodesk and its wholly owned subsidiaries. All intercompany accounts and transactions have been eliminated.

Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles (“GAAP”) requires management to make estimates and assumptions that affect the amounts reported in Autodesk’s consolidated financial statements and notes thereto. These estimates are based on information available as of the date of the consolidated financial statements. On a regular basis, management evaluates these estimates and assumptions. Actual results may differ materially from these estimates. In March 2020, the World Health Organization declared the outbreak of a disease caused by a novel strain of the coronavirus (COVID-19) to be a pandemic. This pandemic has created and may continue to create significant uncertainty in the macroeconomic environment which, in addition to other unforeseen effects of this pandemic, may adversely impact our results of operations. As the COVID-19 pandemic continues to develop, many of our estimates could require increased judgment and carry a higher degree of variability and volatility. As events continue to evolve our estimates may change materially in future periods.

Examples of significant estimates and assumptions made by management involve revenue recognition for product subscriptions and enterprise business arrangements (“EBAs”), the determination of the fair value of acquired assets and liabilities, goodwill, financial instruments including strategic investments, long-lived assets, and intangible assets, the realizability of deferred tax assets, and the fair value of stock awards. The Company also makes assumptions, judgments, and estimates in determining the accruals for uncertain tax positions, variable compensation, partner incentive programs, product returns reserves, allowances for credit losses, asset retirement obligations, legal contingencies, and operating lease liabilities.

Change in presentation and immaterial correction of an error

Autodesk changed its presentation on the Consolidated Balance Sheet for intangible assets during the fiscal year ended January 31, 2022. These amounts were previously presented in “Developed technologies, net” and “Long-term other assets” and are now presented as “Intangible assets, net”. Accordingly, prior period amounts have been reclassified to conform to the current period presentation. This presentation change did not impact “Total assets” on the Consolidated Balance Sheets and had no impact on the Company's Consolidated Statements of Operations, Consolidated Statements of Comprehensive Income, and Consolidated Statements of Cash Flows.

The effects of the change on the Consolidated Balance Sheet as of January 31, 2021, were as follows:

	As Reported January 31, 2021	Effect of Change in Presentation	As Adjusted January 31, 2021
Intangible assets, net	$ 88.6	$ 110.7	$ 199.3
Long-term other assets	486.6	(110.7)	375.9
Total assets	7,279.8	—	7,279.8

The Company also changed its presentation on the Consolidated Balance Sheets for investments in debt and equity securities that are held in a rabbi trust under non-qualified deferred compensation plans, including correcting the classification as current and non-current assets during fiscal year ended January 31, 2022. These amounts were previously presented as current “Marketable securities” and are now presented as “Prepaid expenses and other current assets” and “Long-term other assets” on the Consolidated Balance Sheets. Accordingly, prior period amounts have been reclassified to conform to the current period presentation. These presentation and classification changes did not impact “Total assets” on the Consolidated Balance Sheets and had no impact on the Company's Consolidated Statements of Operations, Consolidated Statements of Comprehensive Income and Consolidated Statement of Cash Flows.

The effects of the changes on the Consolidated Balance Sheet as of January 31, 2021, were as follows:

	As Reported January 31, 2021	Effect of Changes in Presentation	As Adjusted January 31, 2021
Marketable securities	$ 85.0	$ (81.0)	$ 4.0
Prepaid and other current assets	198.9	7.3	206.2
Long-term other assets	412.9	73.7	486.6
Total current assets	2,699.2	(73.7)	2,625.5
Total assets	7,279.8	$ —	7,279.8

Segments

Autodesk operates in one operating segment and accordingly, all required financial segment information is included in the consolidated financial statements. Operating segments are defined as components of an enterprise for which separate financial information is evaluated regularly by the chief operating decision maker (“CODM”) in deciding how to allocate resources and assess performance. Autodesk reports segment information based on the “management” approach. The management approach designates the internal reporting used by management for making decisions, allocating resources, and assessing performance as the source of the Company’s reportable segments. The Company's CODM allocates resources and assesses the operating performance of the Company as a whole.

Information regarding Autodesk's long-lived assets by geographic area were as follows:

	January 31, 2022	January 31, 2021
Long-lived assets (1):		
Americas		
U.S.	$ 322.7	$ 423.6
Other Americas	19.8	29.5
Total Americas	342.5	453.1
Europe, Middle East, and Africa	92.6	109.7
Asia Pacific	31.9	46.7
Total long-lived assets	$ 467.0	$ 609.5

(1) Long-lived assets exclude deferred tax assets, marketable securities, goodwill, and intangible assets.

Revenue Recognition

Autodesk's revenue is divided into three categories: subscription revenue, maintenance revenue, and other revenue. Subscription revenue consists of our term-based product subscriptions, cloud service offerings, and flexible EBAs. Maintenance revenue consists of renewal fees for existing maintenance plan agreements that were initially purchased with a perpetual software license. Under our maintenance plan, customers are eligible to receive unspecified upgrades, when and if available, and technical support. Other revenue consists of revenue from consulting, training, and other products and services. Revenue is recognized when control for these offerings is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for products and services.

Autodesk's contracts with customers may include promises to transfer multiple products and services to a customer. Determining whether the products and services are considered distinct performance obligations that should be accounted for separately or as a single performance obligation may require significant judgment. Judgment is required to determine the level of integration and interdependency between individual components of desktop software applications and cloud functionalities. This determination influences whether the desktop software is considered distinct and accounted for separately as a license performance obligation recognized at the time of delivery, or not distinct and accounted for together with the cloud functionalities as a single subscription performance obligation recognized over time.

For product subscriptions and flexible EBA subscriptions in which the desktop software and related cloud functionalities are highly interrelated, the single performance obligation is recognized ratably over the contract term as the subscription is delivered. For subscriptions involving distinct desktop software licenses, the license performance obligation is satisfied when delivered to our customers. For standalone maintenance subscriptions, cloud subscriptions, and technical support services, the performance obligation is satisfied ratably over the contract term as those services are delivered. For consulting services, the performance obligation is satisfied over a period of time as those services are delivered.

When an arrangement includes multiple performance obligations which are concurrently delivered and have the same pattern of transfer to the customer (the services transfer to the customer over the contract period), we account for those performance obligations as a single performance obligation.

For contracts with more than one performance obligation, the transaction price is allocated among the performance obligations in an amount that depicts the relative standalone selling price ("SSP") of each obligation. Judgment is required to determine the SSP for each distinct performance obligation. 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 that should be allocated based on the relative SSP of the various products and services.

Our indirect channel model includes both a two-tiered distribution structure, where Autodesk sells to distributors that subsequently sell to resellers, and a one-tiered structure where Autodesk sells directly to resellers. For these arrangements, transfer of control begins at the time access to our subscriptions is made available electronically to our customer, provided all other criteria for revenue recognition are met. Judgment is required to determine whether our distributors and resellers have the ability to honor their commitment to pay, regardless of whether they collect payment from their customers. If we were to change this assessment, it could cause a material increase or decrease in the amount of revenue that we report in a particular period.

Costs to Obtain a Contract with a Customer

Sales commissions earned by our internal sales personnel and our reseller partners are considered incremental and recoverable costs of obtaining a contract with a customer. The commission costs are capitalized and included in "Prepaid expenses and other current assets" and "Long-term other assets" on our Consolidated Balance Sheets. The deferred costs are then amortized over the period of benefit. Autodesk determined that sales commissions earned by internal sales personnel that are related to contract renewals are commensurate with sales commissions earned on the initial contracts, and we determined the period of benefit to be the term of the respective customer contract. Commissions paid to our reseller partners that are related to contract renewals are not commensurate with commissions earned on the initial contract, and we determined the estimated period of benefit by taking into consideration customer retention data, customer contracts, our technology, and other factors. Deferred costs are periodically reviewed for impairment. Amortization expense is included in marketing and sales expenses in the Consolidated Statements of Operations.

Fair Value Measurement

Fair value is defined as the price that would be received from the sale of an asset or paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. In determining the fair value of our investments, we are sometimes required to use various alternative valuation techniques. Inputs to valuation techniques are either observable or unobservable. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect our market assumptions. These two types of inputs have created the following fair value hierarchy:

Level 1 - Quoted prices for identical instruments in active markets;

Level 2 - Quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-derived valuations in which all significant inputs and significant value drivers are observable in active markets; and

Level 3 - Unobservable inputs for which there is little or no market data, which require Autodesk to develop its own assumptions.

This hierarchy requires us to minimize the use of unobservable inputs and to use observable market data, if available, when determining fair value. This is generally true for our cash and cash equivalents and the majority of our marketable securities, which we consider to be Level 1 and Level 2 assets.

Key inputs for currency derivatives are spot rates, forward rates, interest rates, volatility, and credit default rates. The spot rate for each currency is the same spot rate used for all balance sheet translations at the measurement date. Autodesk reviews for any potential changes on a quarterly basis, in conjunction with our fiscal quarter-end close. It is Autodesk's assessment that the leveling best reflects current market activity when observing the pricing information for these assets. Autodesk's Level 2 securities and derivatives are valued primarily using observable inputs other than quoted prices in active markets for identical assets and liabilities. The Company has elected to use the income approach to value derivatives using the observable Level 2 market expectations at measurement date and standard valuation techniques to convert future amounts to a single present amount (discounted). Mid-market pricing is used as a practical expedient and when required, rates are interpolated from commonly quoted intervals published by market sources. See Note 3, "Financial Instruments" for information.

Cash and Cash Equivalents

Autodesk considers all highly liquid investments with insignificant interest rate risk and remaining maturities of three months or less at the date of purchase to be cash equivalents. Cash equivalents are stated at estimated fair value.

Marketable Securities and Strategic Investments

Autodesk classifies its marketable securities as either short-term or long-term generally based on each instrument's underlying contractual maturity date. Generally, marketable securities with remaining maturities of less than 12 months are classified as short-term and marketable securities with remaining maturities greater than 12 months are classified as long-term. Autodesk may sell certain of its marketable securities prior to their stated maturities for strategic purposes or in anticipation of credit deterioration.

Marketable securities are stated at fair value. Marketable securities maturing within one year that are not restricted are classified as current assets.

Autodesk determines the appropriate classification of its marketable securities at the time of purchase and re-evaluates such classification as of each balance sheet date. Autodesk carries all "available-for-sale securities" at fair value, with unrealized gains and losses, net of tax, reported in stockholders' equity (deficit) until disposition or maturity. Autodesk carries all "trading securities" at fair value, with unrealized gains and losses, recorded in "Interest and other expense, net" in the Company's Consolidated Statements of Operations. The cost of securities sold is based on the specific-identification method.

The company's strategic investments consist of privately held debt and equity securities.

Under the measurement alternative method, strategic investment equity securities are measured at cost, less any impairments, plus or minus changes resulting from observable price changes in orderly transactions for the identical or similar investment of the same issuer in the current period. The carrying value is not adjusted for the Company’s strategic investment equity securities if there are no observable price changes in a same or similar security from the same issuer or if there are no identified events or changes in circumstances that may indicate impairment, as discussed below. To determine if a transaction is deemed a similar investment, Autodesk considers the rights and obligations between the investments and the extent to which those differences would affect the fair values of those investments with additional consideration for the stage of development of the investee company. The fair value would then be adjusted positively or negatively based on available information such as pricing in recent rounds of financing.

The company’s strategic investment debt and equity securities (Level 3) are valued using significant unobservable inputs or data in an inactive market and the valuation requires the Company’s judgment due to the absence of market prices and inherent lack of liquidity. These assumptions are inherently subjective and involve significant management judgment. Whenever possible, we use observable market data and rely on unobservable inputs only when observable market data is not available, when determining fair value.

In determining the estimated fair value of its strategic investments, the Company utilizes the most recent data available to the Company. In addition, the determination of whether an orderly transaction is for a same or similar investment requires significant management judgment including: the rights and obligations of the investments, the extent to which those differences would affect the fair values of those investments, and the impact of any differences based on the stage of operational development of the investee.

All of Autodesk’s marketable securities and strategic investments are subject to a periodic impairment review. Strategic investments equity securities are assessed based on available information such as current cash positions, earnings, earnings and cash flow forecasts, recent operational performance and any other readily available market data. For any available-for-sale debt securities, if Autodesk does not intend to sell and it is not more likely than not that Autodesk will be required to sell the available-for-sale debt security prior to recovery of its amortized cost basis, Autodesk will determine whether a decline in fair value below the amortized cost basis is due to credit-related factors. The credit loss is measured as the amount by which the debt security’s amortized cost basis exceeds the estimate of the present value of cash flows expected to be collected, up to the difference between the amortized cost basis and the fair value. Impairment will be assessed at the individual security level. Credit-related impairment is recognized as an allowance on the Consolidated Balance Sheets with a corresponding adjustment to “Interest and other expense, net” on the Company’s Consolidated Statements of Operations. Any impairment that is not credit-related is recognized in “Accumulated other comprehensive loss” on the Consolidated Balance Sheets.

Autodesk does not measure an allowance for credit losses on accrued interest receivables on available-for-sale debt securities separately. Autodesk writes off accrued interest receivables by reversing interest income in the period deemed uncollectible in “Interest and other expense, net” on the Company’s Consolidated Statements of Operations. Any accrued interest receivable on available-for-sale debt securities is recorded in “Cash and cash equivalents,” “Prepaid expenses and other current assets,” or “Long-term other assets” in the accompanying Consolidated Balance Sheets, as applicable.

For Autodesk’s quarterly impairment assessment of privately held debt and equity securities strategic investment portfolio, the analysis encompasses an assessment of the severity and duration of the impairment and qualitative and quantitative analysis of other key factors including: the investee’s financial metrics, the investee’s products and technologies meeting or exceeding predefined milestones, market acceptance of the product or technology, other competitive products or technology in the market, general market conditions, management and governance structure of the investee, the investee’s liquidity, debt ratios, and the rate at which the investee is using its cash.

For additional information, see “Concentration of Credit Risk” within this Note 1, “Business and Summary of Significant Accounting Policies” and Note 3, “Financial Instruments.”

Derivative Financial Instruments

Under its risk management strategy, Autodesk uses derivative instruments to manage its short-term exposures to fluctuations in foreign currency exchange rates that exist as part of ongoing business operations. Autodesk’s general practice is to hedge a portion of transaction exposures primarily denominated in euros, Japanese yen, British pounds, Canadian dollars, Australian dollars, Singapore dollars, Swiss francs, Swedish krona, and Czech koruna. These instruments generally have maturities between one and 12 months in the future. Autodesk uses foreign currency contracts not designated as hedging instruments and foreign currency contracts designated as cash flow hedges but Autodesk does not enter into derivative instrument transactions for trading or speculative purposes.

The bank counterparties to the derivative contracts potentially expose Autodesk to credit-related losses in the event of their nonperformance. However, to mitigate that risk, Autodesk only contracts with counterparties who meet the Company's minimum requirements under its counterparty risk assessment process. Autodesk monitors counterparty risk on at least a quarterly basis and will adjust its exposure to various counterparties as necessary. Autodesk generally enters into master netting arrangements, which reduce credit risk by permitting net settlement of transactions with the same counterparty. Autodesk does not have any master netting arrangements in place with collateral features.

Autodesk accounts for these derivative instruments as either assets or liabilities on the balance sheet and carries them at fair value. Gains and losses resulting from changes in fair value are accounted for depending on the use of the derivative and whether it is designated and qualifies for hedge accounting. Derivatives that do not qualify for hedge accounting are adjusted to fair value through earnings.

In addition to these foreign currency contracts, Autodesk holds derivative instruments issued by privately held companies, which are not designated as hedging instruments. These derivatives consist of certain conversion options on the convertible debt securities held by Autodesk and an option to acquire a privately held company. These derivatives are recorded at fair value as of each balance sheet date and are recorded in "Long-term other assets." Changes in the fair values of these instruments are recognized in "Interest and other expense, net."

Foreign Currency Translation and Transactions

The assets and liabilities of Autodesk's foreign subsidiaries are translated from their respective functional currencies into U.S. dollars at the rates in effect at the balance sheet date, and revenue and expense amounts are translated at exchange rates that approximate those rates in effect during the period in which the underlying transactions occur. Foreign currency translation adjustments are recorded in other comprehensive income (loss).

Gains and losses realized from foreign currency transactions, those transactions denominated in currencies other than the foreign subsidiary's functional currency, are included in "Interest and other expense, net." Monetary assets and liabilities are remeasured using foreign currency exchange rates at the end of the period, and non-monetary assets and liabilities are remeasured based on historical exchange rates.

Foreign Currency Contracts Designated as Cash Flow Hedges

Autodesk uses foreign currency contracts to reduce the exchange rate impact on a portion of the net revenue or operating expense of certain anticipated transactions. These currency collars and forward contracts are designated and documented as cash flow hedges. The effectiveness of the cash flow hedge contracts is assessed quantitatively using regression at inception and thereafter. To receive cash flow hedge accounting treatment, all hedging relationships are formally documented at the inception of the hedge relationship and the hedges are expected to be highly effective in offsetting changes to future cash flows on hedged transactions. The gains and losses on these hedges are included in "Accumulated other comprehensive loss" and are reclassified into earnings at the time the forecasted revenue or expense is recognized. In the event the underlying forecasted transaction does not occur, or it becomes probable that it will not occur, Autodesk reclassifies and discloses the gain or loss on the related cash flow hedge from "Accumulated other comprehensive loss" to "Interest and other expense, net" in the Company's Consolidated Financial Statements at that time. Derivative contracts and related gain (loss) are presented within "Net cash provided by operating activities" in the Company's Consolidated Statements of Cash Flow. See Note 3, "Financial Instruments" for additional information.

Derivatives Not Designated as Hedging Instruments

Autodesk uses foreign currency contracts that are not designated as hedging instruments to reduce the exchange rate risk associated primarily with foreign currency denominated receivables, payables, and cash. These forward contracts are marked-to-market at the end of each fiscal quarter with gains and losses recognized as "Interest and other expense, net." These derivative instruments do not subject the Company to material balance sheet risk due to exchange rate movements because gains and losses on these derivative instruments are intended to offset the gains or losses resulting from the revaluation and settlement of the underlying foreign currency denominated receivables, payables, and cash.

Accounts Receivable, Net

Accounts receivable, net, consisted of the following as of January 31:

	2022	2021
Trade accounts receivable	$ 779.8	$ 701.3
Less: Allowance for credit losses	(4.6)	(3.8)
Product returns reserve	(0.6)	(0.7)
Partner programs and other obligations	(58.5)	(53.7)
Accounts receivable, net	$ 716.1	$ 643.1

Allowances for uncollectible trade receivables and contract assets are subject to impairment using the expected credit loss model. Allowances for expected credit losses are measured based upon the lifetime expected credit loss which is based on historical experience, the number of days that billings are past due, reasonable economic forecast, including revised forecast data for the current economic environment, customer payment behavior, credit reports, and other customer-specific information. Allowances for credit losses on trade receivables and contract assets were not material as of January 31, 2022.

As part of the indirect channel model, Autodesk has a partner incentive program that uses quarterly attainment of monetary rewards to motivate distributors and resellers to achieve mutually agreed upon business goals in a specified time period. The majority of these incentives are recorded as a reduction to deferred revenue in the period the transaction is billed and subsequently recognized as a reduction to subscription or maintenance revenue over the contract period. The remainder reduces subscription or maintenance revenue in the current period.

These incentive balances do not require significant assumptions or judgments. Depending on how the payments are made, the reserves associated with the partner incentive program are recognized on the balance sheet as either a reduction to accounts receivable or recorded as accounts payable.

Concentration of Credit Risk

Autodesk places its cash, cash equivalents, and marketable securities in highly liquid instruments with, and in the custody of, multiple diversified financial institutions globally with high credit ratings and limits the amounts invested with any one institution, type of security, and issuer. Autodesk’s primary commercial banking relationship is with Citigroup Inc. and its global affiliates. Citibank, N.A., an affiliate of Citigroup, is one of the lead lenders and an agent in the syndicate of Autodesk’s $1.5 billion revolving credit facility.

The bank counterparties to the derivative contracts potentially expose Autodesk to credit-related losses in the event of their nonperformance. However, to mitigate that risk, Autodesk only contracts with counterparties who meet the Company's minimum requirements under its counterparty risk assessment process. Autodesk monitors counterparty risk on at least a quarterly basis and will adjust its exposure to various counterparties as necessary. Autodesk generally enters into master netting arrangements, which reduce credit risk by permitting net settlement of transactions with the same counterparty. However, Autodesk does not have any master netting arrangements in place with collateral features.

Autodesk’s accounts receivable are derived from sales to a large number of resellers, distributors, and direct customers in the Americas, EMEA, and APAC geographies. Autodesk performs ongoing evaluations of these partners’ and customers’ financial condition and limits the amount of credit extended when deemed necessary, but generally does not require collateral from such parties. Total sales to the Company’s largest distributor Tech Data Corporation, and its global affiliates (“Tech Data”), accounted for 36%, 37%, and 35% of Autodesk's net revenue for fiscal years ended January 31, 2022, 2021 and 2020, respectively. The majority of the net revenue from sales to Tech Data is for sales made outside of the United States. In addition, Tech Data accounted for 24% and 26% of trade accounts receivable as of January 31, 2022 and 2021, respectively. Ingram Micro Inc. (“Ingram Micro”), our second largest distributor, accounted for 9% of Autodesk’s total net revenue for the fiscal year ended January 31, 2022 and 10% of Autodesk’s total net revenue for both fiscal years ended January 31, 2021 and 2020. No other customer accounted for more than 10% of Autodesk’s total net revenue or trade accounts receivable for each of the respective periods.

Computer Equipment, Software, Furniture, and Leasehold Improvements, Net

Computer equipment, software, and furniture are depreciated using the straight-line method over the estimated useful lives of the assets, which range from three to five years. Leasehold improvements are amortized on a straight-line basis over the shorter of their estimated useful lives or the lease term. Depreciation expense was $52.0 million in fiscal 2022, $51.4 million in fiscal 2021, and $51.0 million in fiscal 2020. During the fiscal year ended January 31, 2022, Autodesk recorded impairment charges to computer equipment, software, furniture, and leasehold improvements related to certain vacated leased office facilities in connection with Autodesk's move to a more hybrid workforce. See Note 9, " Leases" for further discussion. Autodesk did not recognize any impairment losses in fiscal years ended January 31, 2021 and 2020.

Computer equipment, software, furniture, leasehold improvements, and the related accumulated depreciation at January 31 were as follows:

	2022	2021
Computer hardware, at cost	$ 137.2	$ 153.3
Computer software, at cost	55.0	57.9
Leasehold improvements, land and buildings, at cost	350.5	335.9
Furniture and equipment, at cost	93.4	88.4
Computer software, hardware, leasehold improvements, furniture, and equipment, at cost	636.1	635.5
Less: Accumulated depreciation	(473.6)	(442.7)
Computer software, hardware, leasehold improvements, furniture, and equipment, net	$ 162.5	$ 192.8

Costs incurred for computer software developed or obtained for internal use are capitalized for application development activities, if material, and immediately expensed for preliminary project activities and post-implementation activities. These capitalized costs are amortized straight-line over the software's expected useful life, which is generally three years.

Software Development Costs

Software development costs for external use incurred prior to the establishment of technological feasibility are included in research and development expenses. Autodesk defines establishment of technological feasibility as the completion of a working model. Software development costs incurred subsequent to the establishment of technological feasibility through the period of general market availability of the products are capitalized and generally amortized over a three-year period, if material. Autodesk had no material capitalized software development costs at January 31, 2022, and January 31, 2021.

Cloud Computing Arrangements

Autodesk enters into certain cloud-based software hosting arrangements that are accounted for as service contracts. Costs incurred for these arrangements are capitalized for application development activities, if material, and immediately expensed for preliminary project activities and post-implementation activities. Autodesk amortizes the capitalized development costs straight-line over the fixed, non-cancellable term of the associated hosting arrangement plus any reasonably certain renewal periods. The capitalized costs are included in "Prepaid expenses and other current assets" and "Long-term other assets" on our Consolidated Balance Sheets. Capitalized costs were $128.4 million and $72.2 million at January 31, 2022, and January 31, 2021, respectively. Accumulated amortization was $16.7 million and $4.9 million at January 31, 2022, and January 31, 2021, respectively. Amortization expense was $11.8 million, $3.7 million, and $1.2 million at January 31, 2022, January 31, 2021, and January 31, 2020, respectively.

Leases

Autodesk determines if an arrangement is a lease at inception. Operating leases are included in "Operating lease right-of-use assets," "Operating lease liabilities," and "Long-term operating lease liabilities" in the Consolidated Balance Sheets.

Operating lease right-of-use assets represent Autodesk's right to use an underlying asset for the lease term and operating lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating lease right-of-use assets and operating lease liabilities are recognized at commencement date based on the present value of lease payments over the lease term. The operating lease right-of-use assets also include any lease payments made and are reduced by any lease incentives. Autodesk uses its incremental borrowing rate, if the Company's leases do not provide an implicit rate, adjusted for local country-specific borrowing rates as applicable, based on the information available at commencement date in determining the present value of lease payments. Options to extend or terminate the lease are considered in determining the lease term when it is reasonably certain that the option will be exercised. Lease expense for lease payments is recognized on a straight-line basis over the lease term.

Autodesk has lease agreements with lease and non-lease components. Autodesk accounts for the lease and non-lease components as a single lease component.

Business Combinations

Autodesk records the tangible and intangible assets acquired and liabilities assumed in a business combination based on their estimated fair values at the date of the respective acquisition, with the exception of contract assets and contract liabilities (i.e., deferred revenue) which are recognized and measured on the acquisition date in accordance with Autodesk's "Revenue Recognition" policy in Note 1 "Business and Summary of Significant Accounting Policies". The fair values assigned to the identifiable intangible assets acquired were based on estimates and assumptions determined by management. Autodesk recorded the excess of consideration transferred over the aggregate fair values as goodwill. During the measurement period, which may be up to one year from the acquisition date, Autodesk may record adjustments to these tangible and intangible assets acquired and liabilities assumed, with the corresponding offset to goodwill.

Intangible Assets, Net

Intangible assets include customer relationships, developed technologies, trade names and patents, and other, and the related accumulated amortization. These assets are presented as "Intangible assets, net" in the Consolidated Balance Sheets. The majority of Autodesk's intangible assets are amortized to expense over the estimated economic life of the product, which ranges from 1 to 15 years. Amortization expense for intangible assets was $93.5 million in fiscal 2022, $69.9 million in fiscal 2021, and $73.7 million in fiscal 2020. See Note 1 "Change in Presentation and immaterial correction of error" for a change in the presentation on the Consolidated Balance Sheets related to intangible assets.

Intangible assets and related accumulated amortization at January 31, 2022 were as follows:

	Gross Carrying Amount (1)	Accumulated Amortization	Net
Customer relationships	$ 666.7	$ (374.5)	$ 292.2
Developed technologies	846.6	(660.9)	185.7
Trade names and patents	116.1	(100.2)	15.9
Other	0.3	(0.3)	—
Total intangible assets	$ 1,629.7	$ (1,135.9)	$ 493.8

(1) Includes the effects of foreign currency translation.

Intangible assets and related accumulated amortization at January 31, 2021 were as follows:

	Gross Carrying Amount (1)	Accumulated Amortization	Net
Customer relationships	$ 437.3	$ (345.1)	$ 92.2
Developed technologies	698.4	(609.8)	88.6
Trade names and patents	111.5	(93.0)	18.5
Total intangible assets	$ 1,247.2	$ (1,047.9)	$ 199.3

(1) Includes the effects of foreign currency translation.

The weighted average amortization period for intangible assets during fiscal 2022 was 8.67 years. Excluding in-process research and development, expected future amortization expense for intangible assets for each of the fiscal years ended thereafter is as follows:

	Fiscal Year ended January 31,
2023	$ 95.2
2024	77.1
2025	67.6
2026	60.4
2027	51.7
Thereafter	141.8
Total	$ 493.8

Impairment of Long-Lived Assets

At least annually or more frequently as circumstances dictate, Autodesk reviews its long-lived assets for impairment whenever impairment indicators exist. Autodesk continually monitors events and changes in circumstances that could indicate the carrying amounts of its long-lived assets may not be recoverable. When such events or changes in circumstances occur, Autodesk assesses the recoverability of these assets. Recoverability is measured by comparison of the carrying amounts of the assets to the future undiscounted cash flow the assets are expected to generate generally using Level 3 inputs. If the long-lived assets are impaired, the impairment to be recognized is equal to the amount by which the carrying value of the assets exceeds its fair market value. Autodesk recorded impairment charges on lease related right-of-use assets and other long-lived assets related to certain office leases during the fiscal year ended January 31, 2022. See Note 9, “Leases” for further discussion. Impairment charges in fiscal years ended January 31, 2021 and 2020 were not material.

In addition to the recoverability assessments, Autodesk routinely reviews the remaining estimated useful lives of its long-lived assets. Any reduction in the useful life assumption will result in increased depreciation and amortization expense in the quarter when such determinations are made, as well as in subsequent quarters.

Goodwill

Goodwill consists of the excess of the consideration transferred over the fair value of net assets acquired in business combinations. Autodesk tests goodwill for impairment annually in its fourth fiscal quarter or more often if circumstances indicate a potential impairment may exist, or if events have affected the composition of reporting units.

When goodwill is assessed for impairment, Autodesk has the option to perform an assessment of qualitative factors of impairment (“optional assessment”) prior to necessitating a quantitative impairment test. Should the optional assessment be used for any given fiscal year, qualitative factors to consider include cost factors; financial performance; legal, regulatory, contractual, political, business, or other factors; entity-specific factors; and industry and market considerations, macroeconomic conditions, and other relevant events and factors affecting the reporting unit. If, after assessing the totality of events or circumstances, it is more likely than not that the fair value of the reporting unit is greater than its carrying value, then performing the quantitative impairment test is unnecessary.

The quantitative impairment test is necessary when either Autodesk does not use the optional assessment or, as a result of the optional assessment, it is not more likely than not that the fair value of the reporting unit is greater than its carrying value. In situations in which an entity’s reporting unit is publicly traded, the fair value of the company may be approximated by its market capitalization, in performing the quantitative impairment test.

Goodwill impairment exists when the estimated fair value of goodwill is less than its carrying value. If impairment exists, the carrying value of the goodwill is reduced to fair value through an impairment charge recorded in the Company’s statements of operations. The process of evaluating the potential impairment of goodwill is subjective and requires significant judgment at many points during the analysis. The value of Autodesk’s goodwill could also be impacted by future adverse changes such as: (i) declines in Autodesk’s actual financial results, (ii) a sustained decline in Autodesk’s market capitalization, (iii) a significant slowdown in the worldwide economy or the industries Autodesk serves, or (iv) changes in Autodesk’s business strategy.

For the annual impairment test, Autodesk's market capitalization was substantially in excess of the carrying value of the Company as of January 31, 2022. Accordingly, Autodesk has determined there was no goodwill impairment of our reporting unit during the fiscal year ended January 31, 2022. In addition, Autodesk did not recognize any goodwill impairment losses in fiscal 2021 or 2020.

The following table summarizes the changes in the carrying amount of goodwill during the fiscal years ended January 31, 2022 and 2021:

	January 31, 2022	January 31, 2021
Goodwill, beginning of the year	$ 2,855.7	$ 2,594.2
Less: accumulated impairment losses, beginning of the year	(149.2)	(149.2)
Additions arising from acquisitions during the year	936.2	220.8
Effect of foreign currency translation, measurement period adjustments and other (1)	(38.9)	40.7
Goodwill, end of the year	$ 3,603.8	$ 2,706.5

(1) Measurement period adjustments reflect revisions made to the Company's preliminary determination of estimated fair value of assets and liabilities assumed.

Deferred Tax Assets

Deferred tax assets arise primarily from tax credits, net operating losses, and timing differences for reserves, accrued liabilities, stock options, deferred revenue, purchased technologies, and capitalized intangibles, partially offset by U.S. deferred tax liabilities on acquired intangibles, and valuation allowances against Netherlands, Canada, Australia, California, Michigan and U.S. capital loss deferred tax assets. Autodesk performs a quarterly assessment of the recoverability of these net deferred tax assets and believes it will generate sufficient future taxable income in appropriate tax jurisdictions to realize the net deferred tax assets. They are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to reverse. Valuation allowances are established when necessary to reduce gross deferred tax assets to the amount that is more likely than not to be realized.

Stock-based Compensation Expense

The following table summarizes stock-based compensation expense for fiscal 2022, 2021, and 2020, respectively, as follows:

	Fiscal Year Ended January 31,		
	2022	2021	2020
Cost of subscription and maintenance revenue	$ 25.4	$ 17.2	$ 13.8
Cost of other revenue	9.1	6.4	5.8
Marketing and sales	233.5	178.4	149.0
Research and development	220.5	145.0	120.8
General and administrative	70.0	52.8	73.0
Stock-based compensation expense related to stock awards and Employee Qualified Stock Purchase Plan ("ESPP") purchases	558.5	399.8	362.4
Tax benefit	(53.3)	(42.0)	(1.1)
Stock-based compensation expense related to stock awards and ESPP purchases, net	$ 505.2	$ 357.8	$ 361.3

Autodesk measures stock-based compensation cost at the grant date fair value of the award, and recognizes expense ratably over the requisite service period, which is generally the vesting period. Autodesk determines the estimated fair value of stock-based payment awards for stock options and grants of employee stock purchases related to the employee stock purchase plan using the Black-Scholes-Merton ("BSM") option-pricing model. To determine the grant-date fair value of our stock-based payment awards for restricted stock units and performance stock units, we use the quoted stock price on the date of grant unless the awards are subject to market conditions, in which case we use the Monte Carlo simulation model. The Monte Carlo simulation model utilizes multiple input variables to estimate the probability that market conditions will be achieved. These variables include our expected stock price volatility over the expected term of the award, actual and projected employee stock option exercise behaviors, the risk-free interest rate for the expected term of the award, and expected dividends. The variables used in these models are reviewed on a quarterly basis and adjusted as needed. Share-based compensation cost for restricted stock is measured on the closing fair market value of our common stock on the date of grant. Autodesk uses the following assumptions to estimate the fair value of stock-based awards:

	Fiscal Year Ended January 31, 2022		Fiscal Year Ended January 31, 2021		Fiscal Year Ended January 31, 2020	
	Performance Stock Unit	ESPP	Performance Stock Unit	ESPP	Performance Stock Unit	ESPP
Range of expected volatilities	36.9%	29.5 - 41.8%	50.7%	39.4 - 45.8%	36.3%	33.0 - 40.0%
Range of expected lives (in years)	N/A	0.5 - 2.0	N/A	0.5 - 2.0	N/A	0.5 - 2.0
Expected dividends	—%	—%	—%	—%	—%	—%
Range of risk-free interest rates	0.1%	0.1 - 0.2%	0.3%	0.1 - 0.5%	2.5%	1.7 - 2.5%

Autodesk estimates expected volatility for stock-based awards based on the average of the following two measures: (1) a measure of historical volatility in the trading market for the Company’s common stock, and (2) the implied volatility of traded options on the Company’s common stock. The expected volatility for performance stock units subject to market conditions includes the expected volatility of companies within the S&P North American Technology Software Index with a market capitalization over $2.0 billion, depending on the award type.

Autodesk estimates the expected life of stock-based awards using both exercise behavior and post-vesting termination behavior as well as consideration of outstanding options. The range of expected lives of ESPP awards are based upon the four six-month exercise periods within a 24-month offering period.

Autodesk did not pay cash dividends in fiscal 2022, 2021, or 2020 and does not anticipate paying any cash dividends in the foreseeable future. Consequently, an expected dividend yield of zero is used in the BSM option pricing model and the Monte Carlo simulation model.

The risk-free interest rate used in the BSM option pricing model and the Monte Carlo simulation model for stock-based awards is the historical yield on U.S. Treasury securities with equivalent remaining lives.

Autodesk recognizes expense only for the stock-based awards that ultimately vest. Autodesk accounts for forfeitures of stock-based awards as those forfeitures occur.

Advertising Expenses

Advertising costs are expensed as incurred. Total advertising expenses incurred were $80.5 million in fiscal 2022, $60.4 million in fiscal 2021, and $42.2 million in fiscal 2020.

Net Income Per Share

Basic net income per share is computed using the weighted average number of shares of common stock outstanding during the period. Diluted net income per share is computed using the weighted average shares of common stock outstanding during the period and potentially dilutive common shares, including the effect of restricted stock units, performance share awards, and stock options using the treasury stock method.

Defined Benefit Pension Plans

The funded status of Autodesk’s defined benefit pension plans is recognized in the Consolidated Balance Sheets. The funded status is measured as the difference between the fair value of plan assets and the projected benefit obligation for the fiscal years presented. The projected benefit obligation represents the actuarial present value of benefits expected to be paid upon retirement based on employee services already rendered and estimated future compensation levels. The fair value of plan assets represents the current market value of Autodesk’s cumulative company and participant contributions made to the various plans in effect.

Net periodic benefit cost is recorded in the Consolidated Statements of Operations and includes service cost, interest cost, expected return on plan assets, amortization of prior service costs, and gains or losses previously recognized as a component of other comprehensive income (loss). Certain events, such as changes in the employee base, plan amendments, and changes in actuarial assumptions may result in a change in the defined benefit obligation and the corresponding change to other comprehensive loss.

Gains and losses and prior service costs not recognized as a component of net periodic benefit cost in the Consolidated Statements of Operations as they arise are recognized as a component of other comprehensive income (loss) in the Consolidated Statements of Comprehensive Income. Those gains and losses and prior service costs are subsequently amortized as a component of net periodic benefit cost over the average remaining service lives of the plan participants using a corridor approach to determine the portion of gain or loss subject to amortization.

The measurement of projected benefit obligations and net periodic benefit cost is based on estimates and assumptions that reflect the terms of the plans and use participant-specific information such as compensation, age and years of services, as well as certain assumptions, including estimates of discount rates, expected return of plan assets, rate of compensation increases, interest rates, and mortality rates.

Accounting Standards in Fiscal 2022

With the exception of those discussed below, there have been no recent changes in accounting pronouncements issued by FASB or adopted by the Company during the fiscal year ended January 31, 2022, that are applicable to the Company.

Accounting Standards Adopted

In March 2020, FASB issued ASU No. 2020-04, "Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting" ("ASU No. 2020-04"), which provides optional expedients and exceptions for applying GAAP to contracts, hedging relationships, and other transactions affected by reference rate reform if certain criteria are met. The amendments apply only to contracts, hedging relationships, and other transactions that reference LIBOR or another reference rate expected to be discontinued because of reference rate reform. The amendments are effective for all entities as of March 12, 2020, through December 31, 2022. The expedients and exceptions provided by the amendments do not apply to contract modifications made and hedging relationships entered into or evaluated after December 31, 2022, except for hedging relationships existing as of December 31, 2022, that an entity has elected certain optional expedients for and that are retained through the end of the hedging relationship. Autodesk will apply the expedients in ASU No. 2020-04 through December 31, 2022. Autodesk does not believe ASU No. 2020-04 will have a material impact on its consolidated financial statements.

In November 2021, FASB issued ASU No. 2021-08, "Business Combinations (Topic 805), Accounting for Contract Assets and Contract Liabilities from Contracts with Customers" ("ASU No. 2021-08"), which requires contract assets and contract liabilities (i.e., deferred revenue) acquired in a business combination to be recognized and measured by the acquirer on the acquisition date in accordance with ASC 606 "Revenue from Contracts with Customers" (Topic 606). ASU No. 2021-08 allows an acquirer to assess how the acquiree applied Topic 606 to determine what to record for acquired revenue contracts. Historically, such amounts were recognized by the acquirer at fair value in accordance with Topic 805. The amendments are effective for Autodesk's fiscal year beginning February 1, 2023. Early adoption is permitted, including in interim periods, for any financial statements that have not yet been issued. Autodesk adopted ASU No. 2021-08 in the fourth fiscal quarter of 2022. ASU No. 2021-08 did not have a material impact on Autodesk's consolidated financial statements at adoption.

2. Revenue Recognition

Revenue Disaggregation

Autodesk recognizes revenue from the sale of (1) product subscriptions, cloud service offerings, and enterprise business agreements ("EBAs"), (2) renewal fees for existing maintenance plan agreements that were initially purchased with a perpetual software license, and (3) consulting, training, and other goods and services. The three categories are presented as line items on Autodesk's Consolidated Statements of Operations.

Information regarding the components of Autodesk's net revenue from contracts with customers by geographic location, product family, sales channel, and product type was as follows:

	Fiscal Year ended January 31,		
	2022	2021	2020
Net revenue by product family:			
Architecture, Engineering and Construction	$ 1,959.9	$ 1,648.6	$ 1,377.1
Manufacturing	876.0	798.6	726.1
AutoCAD and AutoCAD LT	1,253.0	1,099.4	948.2
Media and Entertainment	258.9	219.4	199.2
Other	38.6	24.4	23.7
Total net revenue	$ 4,386.4	$ 3,790.4	$ 3,274.3
Net revenue by geographic area:			
Americas			
U.S.	$ 1,456.5	$ 1,281.8	$ 1,108.9
Other Americas	308.6	260.6	226.9
Total Americas	1,765.1	1,542.4	1,335.8
Europe, Middle East and Africa	1,700.4	1,472.6	1,303.5
Asia Pacific	920.9	775.4	635.0
Total net revenue	$ 4,386.4	$ 3,790.4	$ 3,274.3
Net revenue by sales channel:			
Indirect	$ 2,849.4	$ 2,600.0	$ 2,282.2
Direct	1,537.0	1,190.4	992.1
Total net revenue	$ 4,386.4	$ 3,790.4	$ 3,274.3
Net revenue by product type:			
Design	$ 3,868.8	$ 3,365.8	$ 2,920.1
Make	363.9	296.4	218.4
Other	153.7	128.2	135.8
Total net revenue	$ 4,386.4	$ 3,790.4	$ 3,274.3

Payments for product subscriptions, industry collections, cloud subscriptions, and maintenance subscriptions are typically due up front with payment terms of 30 to 45 days. Payments on EBAs are typically due in annual installments over the contract term, with payment terms of 30 to 60 days. Autodesk does not have any material variable consideration, such as obligations for returns, refunds, warranties, or amounts payable to customers for which significant estimation or judgment is required as of the reporting date.

Remaining performance obligations consist of total short-term, long-term, and unbilled deferred revenue. As of January 31, 2022, Autodesk had remaining performance obligations of $4.74 billion, which represents the total contract price allocated to remaining performance obligations, which are generally recognized over the next three years. We expect to recognize $3.14 billion or 66% of our remaining performance obligations as revenue during the next 12 months. We expect to recognize the remaining $1.60 billion or 34% of our remaining performance obligations as revenue thereafter.

The amount of remaining performance obligations may be impacted by the specific timing, duration, and size of customer subscription and support agreements, varying billing cycles of such agreements, the specific timing of customer renewals, and foreign currency fluctuations.

Contract Balances

We receive payments from customers based on a billing schedule as established in our contracts. Contract assets relate to performance completed in advance of scheduled billings. Contract assets were not material as of January 31, 2022. Deferred revenue relates to billings in advance of performance under the contract. The primary changes in our contract assets and deferred revenues are due to our performance under the contracts and billings.

Revenue recognized during the fiscal years ended January 31, 2022 and 2021, that was included in the deferred revenue balances at January 31, 2021 and 2020, was $2.50 billion and $2.24 billion, respectively. The satisfaction of performance obligations typically lags behind payments received under revenue contracts from customers.

3. Financial Instruments

The following tables summarize the Company's financial instruments' amortized cost, gross unrealized gains, gross unrealized losses, and fair value by significant investment category as of January 31, 2022 and 2021.

	January 31, 2022						
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Level 1	Level 2	Level 3
Cash equivalents (1):							
Money market funds	$ 302.3	$ —	$ —	$ 302.3	$ 302.3	$ —	$ —
Commercial paper	54.7	—	—	54.7	—	54.7	—
U.S. government securities	25.0	—	—	25.0	—	25.0	—
Custody cash deposit	17.8	—	—	17.8	17.8	—	—
Corporate debt securities	17.6	—	—	17.6	—	17.6	—
Certificates of deposit	5.7	—	—	5.7	—	5.7	—
Other (2)	4.0	—	—	4.0	—	4.0	—
Marketable securities:							
Short-term							
Commercial paper	102.9	—	—	102.9	—	102.9	—
Corporate debt securities	60.7	—		60.7	—	60.7	—
Asset backed securities	26.3	—	—	26.3	—	26.3	—
Certificates of deposit	13.7	—	—	13.7	—	13.7	—
U.S. government securities	12.5	—	—	12.5	—	12.5	—
Municipal bonds	11.1	—	—	11.1	—	11.1	—
Common Stock	—	4.3	—	4.3	4.3	—	—
Other (3)	4.2		—	4.2		4.2	—
Long-term							
Corporate debt securities	44.7	—	(0.1)	44.6	—	44.6	—
Other (4)	0.8	—	—	0.8	—	0.8	—
Mutual funds (5) (6)	74.2	15.6	(0.3)	89.5	89.5	—	—
Strategic investments derivative asset (6)	0.1	0.4	(0.4)	0.1	—	—	0.1
Derivative contract assets (6)	1.1	17.1	(0.2)	18.0	—	18.0	
Derivative contract liabilities (7)	—	—	(10.7)	(10.7)	—	(10.7)	—
Total	$ 779.4	$ 37.4	$ (11.7)	$ 805.1	$ 413.9	$ 391.1	$ 0.1

(1) Included in "Cash and cash equivalents" in the accompanying Consolidated Balance Sheets. These investments are classified as debt securities.
(2) Consists of sovereign bonds and municipal bonds.
(3) Consists of sovereign bonds and supranational bonds.
(4) Consists of asset backed securities.
(5) See Note 7, "Deferred Compensation" for more information.

(6) Included in “Prepaid expenses and other current assets” or “Long-term other assets” in the accompanying Consolidated Balance Sheets.
(7) Included in “Other accrued liabilities” in the accompanying Consolidated Balance Sheets.

	January 31, 2021						
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Level 1	Level 2	Level 3
Cash equivalents (1):							
Commercial paper	$ 36.0	$ —	$ —	$ 36.0	$ —	$ 36.0	$ —
Money market funds	686.9	—	—	686.9	686.9	—	—
Other (2)	4.4	—	—	4.4	4.0	0.4	—
Marketable securities:							
Short-term available-for-sale							
Other (3)	4.0		—	4.0		4.0	—
Short-term trading securities							
Mutual funds (4)	64.5	16.5	—	81.0	81.0	—	—
Strategic investments derivative asset (5)	0.1	0.4	(0.3)	0.2	—	—	0.2
Derivative contract assets (5)	0.4	9.8	(0.4)	9.8	—	9.8	
Derivative contract liabilities (6)	—	—	(17.5)	(17.5)	—	(17.5)	—
Total	$ 796.3	$ 26.7	$ (18.2)	$ 804.8	$ 771.9	$ 32.7	$ 0.2

(1) Included in “Cash and cash equivalents” in the accompanying Consolidated Balance Sheets. These investments are classified as debt securities.
(2) Consists of custody cash deposits and certificates of deposit.
(3) Consists of commercial paper and municipal bonds.
(4) See Note 7, "Deferred Compensation" for more information.
(5) Included in “Prepaid expenses and other current assets” or “Long-term other assets” in the accompanying Consolidated Balance Sheets.
(6) Included in “Other accrued liabilities” in the accompanying Consolidated Balance Sheets.

The following table summarizes the fair values of investments classified as marketable securities by contractual maturity date as of January 31, 2022:

	Fair Value
Due within 1 year	$ 207.9
Due in 1 year through 5 years	69.2
Total	$ 277.1

Autodesk applies fair value accounting for certain financial assets and liabilities, which consist of cash equivalents, marketable securities, and other financial instruments, on a recurring basis. The Company defines fair value as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

As of both January 31, 2022 and 2021, Autodesk had no material unrealized losses, individually and in the aggregate, for marketable debt securities that are in a continuous unrealized loss position for greater than 12 months. Total unrealized gains for securities with net gains in accumulated other comprehensive income were not material for fiscal 2022.

Autodesk monitors all marketable debt securities for potential credit losses by reviewing indicators such as, but not limited to, current credit rating, change in credit rating, credit outlook, and default risk. There were no allowances for credit losses as of both January 31, 2022 and 2021. There were no write offs of accrued interest receivables for fiscal 2022 and 2021.

There were no realized gain or loss for the sales or redemptions of debt securities during fiscal 2022. The sales or redemptions of debt securities in fiscal 2021 resulted in a net gain of $0.6 million. There were no realized gain or loss for the sales or redemptions of debt securities during fiscal 2020. Realized gains and losses from the sale or redemption of marketable securities are recorded in “Interest and other expense, net” on the Company’s Consolidated Statements of Operations.

Proceeds from the sale and maturity of marketable debt securities for fiscal 2022, 2021, and 2020 were $37.8 million, $17.0 million, and $27.4 million, respectively.

Strategic investment equity securities

As of January 31, 2022 and 2021, Autodesk had $133.7 million and $134.1 million, respectively, in direct investments in privately held companies. These strategic investment equity securities do not have readily determined fair values and Autodesk uses the measurement alternative to account for the adjustment to these investments in a given quarter. If Autodesk determines that an impairment has occurred, Autodesk writes down the investment to its fair value.

Adjustments to the carrying value of our strategic investment equity securities with no readily determined fair values measured using the measurement alternative were as follows:

	Fiscal Year Ended			Cumulative Amount as of
	2022	2021	2020	January 31, 2022
Upward adjustments (1)	$ 7.2	$ 6.6	$ 3.2	$ 23.2
Negative adjustments, including impairments (1)	(16.6)	(51.6)	(4.2)	(77.2)
Net adjustments	$ (9.4)	$ (45.0)	$ (1.0)	$ (54.0)

(1) Included in "Interest and other expense, net" on the Company's Consolidated Statements of Operations.

Autodesk does not consider the remaining investments to be impaired as of January 31, 2022.

During fiscal year ended January 31, 2022, Autodesk recognized gains of $8.1 million on the disposition of strategic investment equity securities. During both fiscal years ended January 31, 2021 and 2020, Autodesk recognized no gains on the dispositions of strategic investment equity securities.

Foreign currency contracts designated as cash flow hedges

Autodesk uses foreign currency contracts to reduce the exchange rate impact on a portion of the net revenue or operating expense of certain anticipated transactions. These currency collars and forward contracts are designated and documented as cash flow hedges. The notional amounts of these contracts are presented net settled and were $1.08 billion at January 31, 2022, and $1.14 billion at January 31, 2021. Outstanding contracts are recognized as either assets or liabilities on the Company's Consolidated Balance Sheets at fair value. The majority of the net loss of $24.2 million remaining in "Accumulated other comprehensive loss" as of January 31, 2022, is expected to be recognized into earnings within the next 24 months.

The location and amount of gain or loss recognized in income on cash flow hedges together with the total amount of income or expense presented in the Company's Consolidated Statements of Operations where the effects of the hedge are recorded were as follows for the fiscal years ended January 31, 2022 and 2021:

	Fiscal Year Ended January 31, 2022						
	Net revenue		Cost of revenue	Operating expenses			
	Subscription revenue	Maintenance revenue	Cost of subscription and maintenance revenue	Marketing and sales	Research and development	General and administrative	Interest and other expense, net
Total amounts of income and expense line items presented in the Consolidated Statements of Operations in which the effects of cash flow hedges are recorded	$ 4,156.4	$ 76.3	$ 299.1	$ 1,623.1	$ 1,114.8	$ 571.7	$ (52.9)
(Loss) gain on cash flow hedging relationships in Subtopic ASC 815-20							
Foreign exchange contracts							
Amount of (loss) gain reclassified from accumulated other comprehensive income into income	$ (10.7)	$ (1.2)	$ (0.5)	$ (2.4)	$ (1.2)	$ (1.2)	$ 0.1

	Fiscal Year Ended January 31, 2021					
	Net revenue		Cost of revenue	Operating expenses		
	Subscription revenue	Maintenance revenue	Cost of subscription and maintenance revenue	Marketing and sales	Research and development	General and administrative
Total amounts of income and expense line items presented in the Consolidated Statements of Operations in which the effects of cash flow hedges are recorded	$ 3,478.9	$ 183.3	$ 242.1	$ 1,440.3	$ 932.5	$ 413.9
Gain (loss) on cash flow hedging relationships in Subtopic ASC 815-20						
Foreign exchange contracts						
Amount of (loss) gain reclassified from accumulated other comprehensive income into income	$ (0.4)	$ 0.1	$ 0.6	$ 2.4	$ 0.5	$ 1.2

Interest rate locks designated as cash flow hedges

During fiscal 2022, Autodesk entered into interest rate lock arrangements to mitigate the risk of changes in interest rates prior to completion of a debt offering. The interest rate locks hedged the cash flow risk for each of the interest payments on the planned fixed-rate debt issue. The interest rate lock hedges were terminated in October 2021 in connection with the debt offering completed in that month. See Note 8, "Borrowing Arrangements," for further discussion. The aggregate fair value of the terminated interest rate lock hedges of $4.0 million, net of tax of $0.9 million, was classified as an increase to accumulated other comprehensive income and is amortized as a reduction to interest expense over the term of the related debt issuance. The Company had cash inflows of $4.0 million in the fiscal year ended January 31, 2022, associated with the termination of the interest rate lock arrangements, included in "Other financing activities" in our Consolidated Statement of Cash Flows.

Derivatives not designated as hedging instruments

Autodesk uses foreign currency contracts that are not designated as hedging instruments to reduce the exchange rate risk associated primarily with foreign currency denominated receivables, payables, and cash. The notional amounts of these foreign currency contracts are presented net settled and were $542.2 million at January 31, 2022, and $434.5 million at January 31, 2021.

Fair Value of Derivative Instruments:

The fair values of derivative instruments in Autodesk's Consolidated Balance Sheets were as follows as of January 31, 2022, and January 31, 2021:

		Fair Value at	
	Balance Sheet Location	**January 31, 2022**	**January 31, 2021**
Derivative Assets			
Foreign currency contracts designated as cash flow hedges	Prepaid expenses and other current assets	$ 12.2	$ 4.7
Derivatives not designated as hedging instruments	Prepaid expenses and other current assets and long-term other assets	5.9	5.3
Total derivative assets		$ 18.1	$ 10.0
Derivative Liabilities			
Foreign currency contracts designated as cash flow hedges	Other accrued liabilities	$ 6.9	$ 16.5
Derivatives not designated as hedging instruments	Other accrued liabilities	3.8	1.0
Total derivative liabilities		$ 10.7	$ 17.5

The effects of derivatives designated as hedging instruments on Autodesk's Consolidated Statements of Operations were as follows for the fiscal years ended January 31, 2022, 2021, and 2020, respectively (amounts presented include any income tax effects):

	Foreign Currency Contracts		
	Fiscal Year Ended January 31,		
	2022	**2021**	**2020**
Amount of gain (loss), net of tax, recognized in accumulated other comprehensive loss on derivatives (effective portion)	$ 31.0	$ (28.1)	$ 3.0
Amount and location of (loss) gain reclassified from accumulated other comprehensive loss into income (effective portion)			
Net revenue	$ (11.9)	$ (0.3)	$ 17.6
Cost of revenue	(0.5)	0.6	(0.9)
Operating expenses	(4.8)	4.1	(7.1)
Interest and other expense, net	0.1	—	—
Total	$ (17.1)	$ 4.4	$ 9.6

The effects of derivatives not designated as hedging instruments on Autodesk's Consolidated Statements of Operations were as follows for the fiscal years ended January 31, 2022, 2021, and 2020, respectively (amounts presented include any income tax effects):

	Fiscal Year Ended January 31,		
	2022	**2021**	**2020**
Amount and location of gain (loss) recognized on derivatives in net income (loss)			
Interest and other expense, net	$ 11.2	$ (0.8)	$ 6.0

4. Equity Compensation

Stock Plans

As of January 31, 2022, Autodesk maintained four active stock plans for the purpose of granting equity awards to employees and to non-employee members of Autodesk's Board of Directors: the 2012 Employee Stock Plan (as amended, the "2012 Employee Plan"), which is available only to employees, the Autodesk 2012 Outside Directors' Stock Plan ("2012 Directors' Plan"), which is available only to non-employee directors, the PlanGrid 2012 Equity Incentive Plan ("PlanGrid 2012 Plan"), which is available to employees who held outstanding unvested options and restricted stock units that were assumed as part of our acquisition of PlanGrid, Inc. and the BuildingConnected, Inc. 2013 Stock Plan ("BuildingConnected 2013 Plan"), which is available to employees who held outstanding unvested options that were assumed as part of our acquisition of BuildingConnected, Inc.

The 2012 Employee Plan was approved by Autodesk's stockholders and became effective on January 6, 2012. Since the 2012 Stock Plan was adopted by stockholders in January 2012, Autodesk has received stockholder approval to increase the number of shares subject to the plan by 36.1 million shares. The 2012 Employee Plan reserves up to 57.3 million shares which includes 51.3 million shares reserved under the 2012 Employee Plan, as well as up to 6.0 million shares forfeited under certain prior employee stock plans during the life of the 2012 Employee Plan. The 2012 Employee Plan permits the grant of stock options, restricted stock units, and restricted stock awards. Each restricted stock unit or restricted stock award granted will be counted against the shares authorized for issuance under the 2012 Employee Plan as 1.79 shares. If a granted option, restricted stock unit, or restricted stock award expires or becomes unexercisable for any reason, the unpurchased or forfeited shares that were granted may be returned to the 2012 Employee Plan and may become available for future grant under the 2012 Employee Plan. As of January 31, 2022, 59.1 million shares subject to options, restricted stock units, or restricted stock awards have been granted under the 2012 Employee Plan. Options and restricted stock that were granted under the 2012 Employee Plan vest over periods ranging from immediately upon grant to over a three-year period and options expire 10 years from the date of grant. The 2012 Employee Plan will expire on June 30, 2022. At January 31, 2022, 6.9 million shares were available for future issuance under the 2012 Employee Plan.

The 2012 Directors' Plan was approved by Autodesk's stockholders and became effective on January 6, 2012. The 2012 Directors' Plan permits the grant of stock options, restricted stock units, and restricted stock awards to non-employee members of Autodesk's Board of Directors. Each restricted stock unit or restricted stock award granted will be counted against the shares authorized for issuance under the 2012 Directors' Plan as 2.11 shares. As of January 31, 2022, 1.0 million shares subject to restricted stock units, and restricted stock awards have been granted under the 2012 Directors' Plan. Restricted stock units that were granted under the 2012 Directors' Plan vest over one to three years from the date of grant. On March 12, 2015, the Board reduced the number of shares reserved for issuance under the 2012 Directors' Plan by 0.9 million shares, so that 1.7 million shares are now reserved for issuance under the 2012 Directors' Plan. The 2012 Directors' Plan will expire on June 30, 2022. At January 31, 2022, 0.7 million shares were available for future issuance under the 2012 Directors' Plan.

Pursuant to the PlanGrid acquisition on December 19, 2018, the Company assumed the unvested options and restricted stock units under the PlanGrid 2012 Plan. No further equity awards will be granted under the PlanGrid 2012 Plan. As of January 31, 2022, approximately 67 thousand shares subject to options remain outstanding under the PlanGrid 2012 Plan. Options that were granted under the PlanGrid 2012 Plan vest over a four-year period and expire 10 years from the date of grant. The PlanGrid 2012 Plan will expire on June 18, 2022.

Pursuant to the BuildingConnected acquisition on January 23, 2019, the Company assumed the unvested options under the BuildingConnected 2013 Plan. No further equity awards will be granted under the BuildingConnected 2013 Plan. As of January 31, 2022, approximately 14 thousand shares subject to options remain outstanding under the BuildingConnected 2013 Plan. Options that were granted under the BuildingConnected 2013 Plan vest over a four-year period and expire 10 years from the date of grant. The BuildingConnected 2013 Plan will expire on May 6, 2023.

The following sections summarize activity under Autodesk's stock plans.

Restricted Stock Units:

A summary of restricted stock activity for the fiscal year ended January 31, 2022, was as follows:

	Unreleased Restricted Stock Units (in thousands)		Weighted average grant date fair value per share
Unvested restricted stock at January 31, 2021	4,503.9	$	191.91
Granted	2,294.1		288.13
Vested	(2,230.7)		181.97
Canceled/Forfeited	(526.7)		226.00
Performance Adjustment (1)	(7.9)		137.02
Unvested restricted stock at January 31, 2022	4,032.7	$	251.17

(1) Based on Autodesk's financial results and relative total stockholder return for the fiscal 2021 performance period. The performance stock units were attained at rates ranging from 103.0% to 108.0% of the target award.

For the restricted stock granted during fiscal years ended January 31, 2022, 2021 and 2020, the weighted average grant date fair values were $288.13, $224.20, and $156.24, respectively. The fair value of the shares vested during fiscal years ended January 31, 2022, 2021 and 2020 were $619.8 million, $503.4 million, and $361.0 million, respectively.

During the fiscal year ended January 31, 2022, Autodesk granted 2.0 million restricted stock units. Restricted stock units vest over periods ranging from immediately upon grant to a pre-determined date that is typically within three years from the date of grant. Restricted stock units are not considered outstanding stock at the time of grant, as the holders of these units are not entitled to any of the rights of a stockholder, including voting rights. The fair value of the restricted stock units is expensed ratably over the vesting period.

During the fiscal years ended January 31, 2022 and 2021, Autodesk settled liability-classified awards of $2.7 million and $28.7 million, respectively. The ultimate number of shares earned was based on the Autodesk closing stock price on the vesting date. As these awards were settled in a fixed dollar amount of shares, the awards were accounted for as a liability-classified award and were expensed using the straight-line method over the vesting period.

Autodesk recorded stock-based compensation expense related to restricted stock units of $425.1 million, $308.9 million, and $274.5 million during fiscal years ended January 31, 2022, 2021 and 2020, respectively. As of January 31, 2022, total compensation cost not yet recognized of $672.8 million related to non-vested awards is expected to be recognized over a weighted average period of 1.6 years. At January 31, 2022, the number of restricted stock units granted but unvested was 3.6 million.

During the fiscal year ended January 31, 2022, Autodesk granted 0.2 million performance stock units for which the ultimate number of shares earned is determined based on the achievement of performance criteria at the end of the stated service and performance period. The performance criteria for the performance stock units vested during fiscal 2022 are based on revenue and free cash flow goals adopted by the Compensation and Human Resource Committee and, as applicable, total stockholder return compared against companies in the S&P North American Technology Software Index with a market capitalization over $2.0 billion ("Relative TSR"). These performance stock units vests over the three-year period and have the following vesting schedule:

- Up to one third of the performance stock units may vest following year one, depending upon the achievement of the performance criteria for fiscal 2022 as well as 1-year Relative TSR (covering year one).
- Up to one third of the performance stock units may vest following year two, depending upon the achievement of the performance criteria for year two as well as 2-year Relative TSR (covering years one and two).
- Up to one third of the performance stock units may vest following year three, depending upon the achievement of the performance criteria for year three as well as 3-year Relative TSR (covering years one, two and three).

Additionally, during fiscal year ended January 31, 2022, Autodesk granted 0.1 million performance stock units, as part of a program offering certain employees the option to receive equity in lieu of the opportunity to receive an annual cash incentive award. The ultimate number of shares earned is determined based on the achievement of performance criteria at the end of the stated service and performance period. The performance criteria for the performance stock units are based on revenue and Non-GAAP income from operations targets adopted by the Compensation and Human Resource Committee. The fair value of these performance stock units is expensed using the accelerated attribution method over the one-year vesting period.

Performance stock units are not considered outstanding stock at the time of grant, as the holders of these units are not entitled to any of the rights of a stockholder, including voting rights. Autodesk has determined the grant-date fair value for these awards using the stock price on the date of grant or if the awards are subject to a market condition, a Monte Carlo simulation model. The fair value of the performance stock units is expensed using the accelerated attribution over the vesting period.

Autodesk recorded stock-based compensation expense related to performance stock units of $68.2 million, $30.7 million, and $27.1 million during fiscal years ended January 31, 2022, 2021 and 2020 respectively. As of January 31, 2022, total compensation cost not yet recognized of $10.4 million related to unvested performance stock units, is expected to be recognized over a weighted average period of 0.6 years. At January 31, 2022, the number of performance stock units granted but unvested was 0.4 million.

Common Stock

Autodesk agreed to issue a fixed amount of $4.9 million in common stock at a future date to certain employees in connection with a fiscal 2021 acquisition. Issuance of the common stock is dependent on the respective employees' continued employment through the vesting period. The number of shares to be issued will be determined based on the closing price of Autodesk's common stock at the issuance date. During fiscal year ended January 31, 2022, Autodesk issued 8,300 shares at an aggregate fair value of $2.7 million. Remaining shares to be issued are estimated to be 9,000 based on the closing price of Autodesk's common stock on January 31, 2022, the last trading day of Autodesk's fiscal 2022 year-end. The awards are accounted for as liability-classified awards and are recognized as compensation expense using the straight-line method over the vesting period.

Autodesk issued 73,632 shares of restricted common stock to certain employees in connection with a fiscal 2021 acquisition. These shares of restricted common stock are subject to forfeiture by the employees if employment terminates prior to the three-year employment period. The fair value of the restricted common stock is recorded as compensation for post-acquisition services and recognized as expense using the straight-line method over the three-year repurchase period. See Note 6, "Acquisitions," for further discussion.

Autodesk issued 9,277 shares of restricted common stock to certain employees in connection with a fiscal 2022 acquisition. These shares of restricted common stock were recorded as "Prepaid expenses and other current assets" and "Long-term other assets" on our Consolidated Balance Sheets and will be amortized to stock-based compensation expense for post-acquisition services using the straight-line method over the two-year vesting period. See Note 6, "Acquisitions," for further discussion.

Autodesk agreed to issue a fixed amount of $13.1 million in shares of common stock to certain employees in connection with a fiscal 2022 acquisition. Issuance of the common stock is dependent on the respective employees' continued employment through the vesting period. The number of shares to be issued will be determined based on the volume weighted average closing price ("VWAP") of Autodesk's common stock for the ninety consecutive trading day period ending on the release date. Shares to be issued are estimated to be 48,000 based on the VWAP of Autodesk's common stock for the ninety consecutive trading day period ending January 31, 2022, the last trading day of Autodesk's fiscal 2022 year-end. The awards are accrued as liability-classified awards and are recognized as compensation expense using the straight-line method over the vesting period. See Note 6, "Acquisitions," for further discussion.

Autodesk agreed to issue a fixed amount of $10.6 million in common stock at a future date to certain employees in connection with other fiscal 2022 acquisitions. Issuance of the common stock is dependent on the respective employees' continued employment through the vesting period. The number of shares to be issued will be determined based on the VWAP of Autodesk's common stock at the issuance date. Shares to be issued are estimated to be 39,000 based on the closing price of Autodesk's common stock on January 31, 2022. The awards are accounted for as liability-classified awards and are recognized as compensation expense using the straight-line method over the vesting period. Additionally, Autodesk issued 12,782 shares of restricted common stock to certain employees in connection with these fiscal 2022 acquisitions. These shares of restricted common stock were recorded as "Prepaid expenses and other current assets" and "Long-term other assets" on our Consolidated

Balance Sheets and will be amortized to stock-based compensation expense for post-acquisition services using the straight-line method over the vesting period. See Note 6, "Acquisitions," for further discussion.

Autodesk recorded stock-based compensation expense related to common stock shares of $16.5 million and $2.4 million during the fiscal years ended January 31, 2022 and 2021, respectively.

1998 Employee Qualified Stock Purchase Plan ("ESPP")

Under Autodesk's ESPP, which was approved by stockholders in 1998, eligible employees may purchase shares of Autodesk's common stock at their discretion using up to 15% of their eligible compensation, subject to certain limitations, at 85% of the lower of Autodesk's closing price (fair market value) on the offering date or the exercise date. The offering period for ESPP awards consists of four six-month exercise periods within a 24-month offering period.

At January 31, 2022, a total of 5.6 million shares were available for future issuance. Under the ESPP, the Company issues shares on the first trading day following March 31 and September 30 of each fiscal year. The ESPP does not have an expiration date.

A summary of the ESPP activity for the fiscal years ended January 31, 2022, 2021 and 2020 was as follows:

	Fiscal year ended January 31,		
	2022	2021	2020
Issued shares	0.9	0.9	0.9
Average price of issued shares	$ 130.13	$ 122.73	$ 102.20
Weighted average grant date fair value of awards granted under the ESPP	$ 84.21	$ 55.98	$ 47.78

Autodesk recorded $37.1 million, $40.1 million, and $33.3 million of compensation expense associated with the ESPP in fiscal 2022, 2021 and 2020, respectively.

Equity Compensation Plan Information

The following table summarizes the number of outstanding options and awards granted to employees and directors, as well as the number of securities remaining available for future issuance under these plans as of January 31, 2022:

Plan category	(a) Number of securities to be issued upon exercise or vesting of outstanding options and awards (in millions)	(b) Weighted-average exercise price of outstanding options	(c) Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (in millions) (1)
Equity compensation plans approved by security holders	4.1	$ 21.03	13.3
Total	4.1	$ 21.03	13.3

(1) Included in this amount are 5.6 million securities available for future issuance under Autodesk's ESPP.

5. Income Taxes

The provision for income taxes consists of the following:

	Fiscal year ended January 31,		
	2022	2021	2020
Federal:			
Current	$ (0.5)	$ 9.8	$ (2.3)
Deferred	(5.4)	(741.0)	7.6
State:			
Current	2.5	19.0	(0.4)
Deferred	0.3	(57.5)	2.1
Foreign:			
Current	82.5	87.6	69.6
Deferred	(11.7)	20.6	3.7
Income tax provision (benefit)	$ 67.7	$ (661.5)	$ 80.3

Foreign pretax income was $559.5 million in fiscal 2022, $527.8 million in fiscal 2021, and $475.5 million in fiscal 2020.

The differences between the U.S. statutory rate and the aggregate income tax provision are as follows:

	Fiscal year ended January 31,		
	2022	2021	2020
Income tax provision at U.S. Federal statutory rate	$ 118.6	$ 114.8	$ 61.9
State income tax benefit, net of the U.S. Federal benefit	2.2	(43.0)	1.8
Foreign income taxed at rates different from the U.S. statutory rate	(25.4)	(11.5)	(81.0)
Valuation allowance adjustment	(0.2)	(637.4)	93.9
Transition tax and revisions due to subsequent regulations	—	—	9.6
Tax effect of non-deductible stock-based compensation	32.3	24.8	29.2
Stock compensation (windfall) / shortfall	(43.2)	(35.1)	(22.5)
Research and development tax credit benefit	(18.5)	(15.5)	(19.8)
Closure of income tax audits and changes in uncertain tax positions	(0.4)	0.1	(2.1)
Tax effect of officer compensation in excess of $1.0 million	7.0	4.6	3.4
Non-deductible expenses	4.5	2.3	5.4
Global intangible low-taxed income, foreign derived intangible income	24.1	(65.0)	—
India withholding tax refund	(43.8)	—	—
Acquisition-related integrations	9.0	—	—
Other	1.5	(0.6)	0.5
Income tax provision (benefit)	$ 67.7	$ (661.5)	$ 80.3

(1) The above comparative for fiscal 2021 and fiscal 2020 have reclassified to conform to the current period presentation.

Autodesk's fiscal 2022 tax expense is primarily driven by the U.S. and foreign tax expense, including withholding taxes on payments made to the United States or to Singapore from foreign sources, offset by shared-based compensation deductions, India withholding tax refunds and generation of federal tax credits.

Significant components of Autodesk's deferred tax assets and liabilities are as follows:

	January 31,	
	2022	2021
Stock-based compensation	$ 55.8	$ 39.0
Research and development tax credit carryforwards	249.7	220.4
Foreign tax credit carryforwards	55.9	69.9
Accrued compensation and benefits	5.7	3.4
Other accruals not currently deductible for tax	23.0	14.1
Purchased technology and capitalized software	88.4	48.2
Fixed assets	24.5	8.1
Lease liability	105.7	114.2
Tax loss carryforwards	53.0	65.5
Deferred revenue	389.6	501.5
Other	23.3	40.2
Total deferred tax assets	1,074.6	1,124.5
Less: valuation allowance	(188.3)	(186.5)
Net deferred tax assets	886.3	938.0
Indefinite lived intangibles	(95.4)	(83.1)
Right-of-use assets	(73.7)	(101.6)
Unremitted earnings of foreign subsidiaries	(5.5)	(1.6)
Total deferred tax liabilities	(174.6)	(186.3)
Net deferred tax assets (liabilities)	$ 711.7	$ 751.7

Autodesk regularly assesses the need for a valuation allowance against its deferred tax assets. In making that assessment, Autodesk evaluates whether it is more likely than not that some or all of the deferred tax assets will not be realized based on all available positive and negative evidence.

In evaluating the need for a valuation allowance, prior to fiscal 2021 Autodesk considered global cumulative losses arising from the Company's business model transition as a significant piece of negative evidence. During fiscal 2021 Autodesk recognized cumulative earnings on a global basis and was profitable in the U.S. and forecasted future cumulative earnings in U.S. jurisdiction for future periods. In the fourth quarter of fiscal 2021, Autodesk released the valuation allowance against the Company's U.S. deferred tax assets, due to positive evidence indicating that these deferred tax assets are more likely than not to be realized. The Company has retained a valuation allowance against California and Michigan deferred tax assets and deferred tax assets that will convert into a capital loss upon reversal as we do not have sufficient income of the appropriate character to benefit these deferred tax assets. The Company continues to retain a valuation allowance of $60.5 million against foreign deferred tax assets in the Netherlands and Canada as of January 31, 2022, as well as establishing a valuation allowance in Australia.

The valuation allowance increased by $1.8 million in fiscal 2022 primarily due to the generation of deferred tax attributes and the establishment of a valuation allowance in Australia. The valuation allowance decreased by $696.9 million in fiscal 2021 primarily due to the U.S. valuation allowance release of $679.0 million. The valuation allowance increased by $85.6 million in fiscal 2020, primarily due to the generation of deferred tax attributes, net of the fiscal 2020 valuation allowance release of $42.0 million in Singapore.

We anticipate that the U.S. Department of Treasury and other standard-setting bodies will continue to interpret or issue guidance on how provisions of the U.S. Tax Cuts and Jobs Act ("TCJA") will be applied or otherwise administered. As future guidance is issued, we may make adjustments to amounts that we have previously recorded that may materially impact our financial statements in the period in which the adjustments are made.

The company has elected to recognize any potential GILTI obligations as an expense in the period it is incurred.

As of January 31, 2022, Autodesk had $41.0 million of cumulative U.S. federal tax loss carryforwards and $585.4 million of cumulative U.S. state tax loss carryforwards, which may be available to reduce future income tax liabilities in federal and state jurisdictions. The pre-fiscal 2019 U.S. federal tax loss carryforward will expire beginning fiscal 2035 through fiscal 2039. U.S. federal losses generated beginning in fiscal 2019 do not expire and are carried forward indefinitely. The U.S. state tax loss carryforward will expire beginning fiscal 2025 through fiscal 2042.

In addition to U.S. federal and state tax loss carryforwards, the Netherlands, Norway, Singapore, and other foreign jurisdictions incurred tax losses totaling $164.0 million, which may be available to reduce future income tax liabilities. Our Norway and Singapore losses, of $28.7 million and $85.2 million, respectively, have an indefinite expiration period. The Netherlands losses of $41.3 million will expire beginning in fiscal 2026 through fiscal 2028, and have a full valuation allowance against them on our balance sheet as the Company has determined it is more likely than not that these losses will not be utilized.

As of January 31, 2022, Autodesk had $190.8 million of cumulative U.S. federal research tax credit carryforwards, $106.5 million of cumulative California state research tax credit carryforwards, and $49.2 million and $1.4 million of cumulative Canadian federal research and Ontario minimum tax credit carryforwards, respectively, which may be available to reduce future income tax liabilities in the respective jurisdictions. The federal research tax credit carryforwards will expire beginning fiscal 2026 through fiscal 2042, the state research tax credit carryforwards may reduce future California income tax liabilities indefinitely, and the Canadian research tax credit carryforwards will expire beginning fiscal 2030 through fiscal 2042. Autodesk also has $119.3 million of cumulative U.S. federal foreign tax credit carryforwards, which may be available to reduce future U.S. tax liabilities. These foreign tax credits will expire beginning fiscal 2025 through fiscal 2032. As discussed above, the California and Canada cumulative assets have full valuation allowance against them on our balance sheet as the Company has determined it is more likely than not that these losses and credits will not be utilized.

Utilization of net operating losses and tax credits may be subject to an annual limitation due to ownership change limitations provided in the Internal Revenue Code and similar state provisions. This annual limitation may result in the expiration of net operating losses and credits before utilization. No ownership change has occurred through the balance sheet date that would result in permanent losses of the U.S. federal and state tax attributes.

As of January 31, 2022, the Company had $206.7 million of gross unrecognized tax benefits, of which $33.6 million would reduce our valuation allowance, if recognized. The remaining $173.1 million would impact the effective tax rate. It is possible that the amount of unrecognized tax benefits will decrease in the next 12 months for an audit settlement of approximately $7.8 million.

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

	Fiscal Year Ended January 31,		
	2022	2021	2020
Gross unrecognized tax benefits at the beginning of the fiscal year	$ 198.0	$ 220.6	$ 209.0
Increases for tax positions of prior years	9.0	12.7	2.8
Decreases for tax positions of prior years	(6.6)	(41.1)	(0.4)
Increases for tax positions related to the current year	6.7	6.4	11.1
Decreases relating to settlements with taxing authorities	—	—	—
Reductions as a result of lapse of the statute of limitations	(0.4)	(0.6)	(1.9)
Gross unrecognized tax benefits at the end of the fiscal year	$ 206.7	$ 198.0	$ 220.6

It is the Company's continuing practice to recognize interest and/or penalties related to income tax matters in income tax expense. Autodesk had $6.5 million, $4.5 million, and $2.3 million, net of tax benefit, accrued for interest and penalties related to unrecognized tax benefits as of January 31, 2022, 2021, and 2020, respectively. There was $2.1 million, $2.2 million, and $(0.8) million of net expense for interest and penalties related to tax matters recorded through the consolidated statements of operations for the years ended January 31, 2022, 2021, and 2020, respectively.

Autodesk's U.S. and state income tax returns for fiscal 2002 through fiscal 2022 remain open to examination due to either net operating loss or credit carryforward. The Internal Revenue Service notified the Company of examination of the Company's consolidated federal income tax returns for fiscal 2020 and 2021. This audit commenced in February, 2022.

Autodesk files tax returns in multiple foreign taxing jurisdictions with open tax years ranging from fiscal 2005 to 2022.

6. Acquisitions

Fiscal 2022 Acquisitions

The results of operations for the following acquisitions are included in the accompanying Consolidated Statements of Operations since their respective acquisition dates. Pro forma results of operations have not been presented because the effects of these acquisitions were not material to Autodesk's Consolidated Financial Statements.

Upchain

On May 11, 2021, Autodesk acquired 100% of the outstanding stock of Upchain Inc. ("Upchain"), a cloud-based provider of product lifecycle management and product data management systems, for approximately $126.7 million in cash and Autodesk will issue a fixed amount of $13.1 million in common stock at future dates to certain employees in connection with the acquisition for a total consideration of $139.8 million. Of the total consideration transferred, $123.6 million is considered purchase consideration. Of the remaining amount, $13.1 million is accounted for as liability-classified awards and recognized as compensation expense using the straight-line method over the vesting period, and $3.1 million was recorded as stock-based compensation expense during the fiscal year ended January 31, 2022. Issuance of the $13.1 million fixed value in common stock is dependent on the respective employees' continued employment and vests 40% and 60% on the first and second anniversaries of the closing date, respectively. The number of shares will be determined based on the VWAP of Autodesk's common stock for the ninety consecutive trading day period ending on the release date. The number of shares is estimated to be 48,000 based on the VWAP of Autodesk's common stock for the ninety consecutive trading day period ending January 31, 2022, the last trading day of the fiscal quarter. See also Note 4, "Equity Compensation".

Autodesk expects to integrate Upchain's unified cloud platform in Autodesk solutions to centralize data management and process management.

Innovyze

On March 31, 2021, Autodesk acquired all of the outstanding stock of Storm UK Holdco Limited, the parent of Innovyze, Inc. ("Innovyze"), a global leader in water infrastructure software. Innovyze is expected to provide comprehensive water modeling solutions that augment Autodesk's BIM offerings in civil engineering, and is expected to extend Autodesk's presence into operations and maintenance of water infrastructure assets.

The acquisition-date fair value of the consideration transferred totaled $1,038.1 million, which consisted of $1,035.5 million of cash and 9,277 shares of Autodesk's restricted common stock at an aggregate fair value of $2.6 million. Of the total consideration transferred, $1,035.5 million is considered purchase consideration. The remaining amount of $2.6 million was recorded in "Prepaid expenses and other current assets" and "Long-term other assets". The 9,277 shares of restricted common stock are subject to forfeiture until the second anniversary of the acquisition closing date. 50% are released from restriction on both the first and second anniversaries subject to continued employment. See also Note 4, "Equity Compensation".

Other Acquisitions

During the fiscal year ended January 31, 2022, Autodesk completed four additional business combinations. The acquisition-date fair value of the consideration transferred totaled $113.3 million, which consisted of $98.8 million of cash, a fixed amount of $10.6 million in common stock to be issued at future dates to certain employees in connection with the acquisition, 12,782 shares of Autodesk's restricted common stock at an aggregate fair value of $3.5 million, and $0.4 million of assumed liabilities on behalf of the sellers. Of the total consideration transferred, $99.2 million is considered purchase consideration. The remaining amounts of $3.5 million was recorded in "Prepaid expenses and other current assets" and "Long-term other assets" and $10.6 million is accounted for as liability-classified awards and recognized as compensation expense using the straight-line method over the vesting period.

Purchase Price Allocation

The acquisitions during fiscal 2022 were accounted for as business combinations. The goodwill recorded was primarily attributable to synergies expected to arise after the acquisition. Goodwill of $86.7 million, $323.5 million, and $69.7 million is deductible for U.S. income tax purposes for Upchain, Innovyze, and other acquisitions, respectively. The transaction costs related to the acquisitions were not material.

The following table summarizes the assets acquired and liabilities assumed by major class for the business combinations that were completed during the fiscal year ended January 31, 2022:

	Innovyze	Upchain	Other	Total
Developed technologies	$ 93.0	$ 17.6	$ 27.0	$ 137.6
Customer relationships	221.0	10.4	4.7	236.1
Trade name	4.0	0.4	0.5	4.9
Backlog	0.5	—	—	0.5
Goodwill	764.4	98.3	73.5	936.2
Deferred revenue and long-term deferred revenue	(12.3)	(2.6)	(3.5)	(18.4)
Long-term deferred income taxes	(42.4)	(0.7)	(2.5)	(45.6)
Net tangible assets (liabilities)	7.3	0.2	(0.5)	7.0
Total	$ 1,035.5	$ 123.6	$ 99.2	$ 1,258.3

For the business combinations, the allocation of purchase price consideration to certain assets and liabilities as well as the final amount of purchase consideration are not yet finalized. For the items not yet finalized, Autodesk's estimates and assumptions are subject to change within the measurement period (up to one year from the acquisition date). The primary areas of the preliminary purchase price allocation that are not yet finalized are amounts for tax assets and liabilities, deferred revenue, and residual goodwill.

Fiscal 2021 Acquisitions

Spacemaker AS

On November 23, 2020, Autodesk acquired Spacemaker AS (“Spacemaker”). Spacemaker is a leading provider of cloud-based artificial intelligence technology and generative design enabling architects, urban designers, and real estate developers to optimize and maximize the potential of a building site, especially during early-stage design.

The acquisition-date fair value of the consideration transferred totaled $252.0 million, which consisted of $214.1 million of cash and 147,264 shares of Autodesk’s common stock at an aggregate fair value of $37.9 million. Of the total consideration transferred, $231.1 million is considered purchase consideration. Of the remaining amount, $18.9 million was recorded in “Prepaid expenses and other current assets” and “Long-term other assets” on our Consolidated Balance Sheets and will be amortized to stock-based compensation expense, and $2.0 million was recorded as stock-based compensation expense during the fiscal quarter ended January 31, 2021. The 147,264 shares of common stock are held in escrow until the third anniversary of the acquisition closing date, and 73,632 of those shares are subject to forfeiture by the employee if employment terminates during the three-year employment period. See Note 4, “Equity Compensation ,” for further discussion.

Other Acquisitions

During the fiscal year ended January 31, 2021, Autodesk also completed two other business combinations. The acquisition-date fair value of the cash consideration transferred totaled $45.4 million.

The results of operations for Spacemaker and the other acquisitions were included in the accompanying Consolidated Statement of Operations from the dates of the respective acquisitions. Goodwill of $193.0 million is deductible for U.S. income tax purposes.

Fiscal 2020 Acquisitions

During the fiscal year ended January 31, 2020, Autodesk did not complete any business combinations.

7. Deferred Compensation

At January 31, 2022, Autodesk had investments in debt and equity securities that are held in a rabbi trust under non-qualified deferred compensation plans and a corresponding deferred compensation liability totaling $89.5 million. Of this amount, $7.1 million was classified as current and $82.4 million was classified as non-current in the Consolidated Balance Sheet. Of the $81.0 million related to investments and deferred compensation liability in a rabbi trust as of January 31, 2021, $7.3 million was classified as current and $73.7 million was classified as non-current. The current and non-current asset portions of the investments in debt and equity securities that are held in a rabbi trust under non-qualified deferred compensation plans are recorded in the Consolidated Balance Sheets under "Prepaid expenses and other current assets" and "Long-term other assets," respectively. The current and non-current portions of the deferred compensation liability are recorded in the Consolidated Balance Sheets under "Accrued compensation" and "Long-term other liabilities," respectively. See Note 1, "Business and Summary of Significant Accounting Policies" for a change in the presentation and immaterial correction of an error on the Consolidated Balance Sheets related to the investments in a rabbi trust.

Costs to obtain a contract with a customer

Sales commissions earned by our internal sales personnel and our reseller partners are considered incremental and recoverable costs of obtaining a contract with a customer. The ending balance of assets recognized from costs to obtain a contract with a customer was $138.5 million and $120.9 million as of January 31, 2022 and January 31, 2021, respectively. These assets are recorded in "Prepaid expenses and other current assets" and "Long-term other assets" in the Consolidated Balance Sheet. Amortization expense related to assets recognized from costs to obtain a contract with a customer was $117.8 million, $96.6 million, and $101.6 million during fiscal years ended January 31, 2022, 2021, and 2020, respectively. Autodesk did not recognize any contract cost impairment losses during the fiscal years ended January 31, 2022, 2021, or 2020.

8. Borrowing Arrangements

In October 2021, Autodesk issued $1.0 billion aggregate principal amount of 2.4% notes due December 15, 2031 ("2021 Notes"). Net of a discount of $3.0 million and issuance costs of $9.2 million, Autodesk received net proceeds of $987.8 million from issuance of the 2021 Notes. Both the discount and issuance costs are being amortized to interest expense over the term of the 2021 Notes using the effective interest method. The 2021 Notes were designated as sustainability bonds, the net proceeds of which are used to fund environmentally and socially responsible projects in the following areas: eco-efficient products, production technologies, and processes, sustainable water and wastewater management, renewable energy & energy efficiency, green buildings, pollution prevention and control, and socioeconomic advancement and empowerment.

In September 2021, the Company entered into an Amended and Restated Credit Agreement (the "Credit Agreement") by and among the Company, the lenders party thereto and Citibank, N.A. ("Citibank"), as administrative agent, which provides for an unsecured revolving loan facility in the aggregate principal amount of $1.5 billion, with an option to be increased up to $2.0 billion. The Credit Agreement replaced and terminated the Company's existing $650.0 million Amended and Restated Credit Agreement, with an option to be increased up to $1.0 billion, dated as of December 17, 2018, among the Company, the lenders party thereto and Citibank, N.A., as administrative agent. The revolving credit facility is available for working capital or other business needs. The Credit Agreement contains customary covenants that could, among other things, restrict the imposition of liens on Autodesk's assets, and restrict Autodesk's ability to incur additional indebtedness or make dispositions of assets if Autodesk fails to maintain compliance with the financial covenants. The Credit Agreement requires the Company to maintain a maximum leverage ratio of Consolidated Covenant Debt to Consolidated EBITDA (each as defined in the Credit Agreement) no greater than 3.50:1.00 during the term of the credit facility, subject to adjustment following the consummation of certain acquisitions up to 4.00:1.00 for up to four consecutive fiscal quarters. At January 31, 2022, Autodesk was in compliance with the Credit Agreement covenants. Revolving loans under the Credit Agreement will bear interest, at the Company's option, at either (i) a per annum rate equal to the Base Rate (as defined in the Credit Agreement) plus a margin of between 0.000% and 0.375%, depending on the Company's Public Debt Rating (as defined in the Credit Agreement), or (ii) a per annum rate equal to the rate at which dollar deposits are offered in the London interbank market, plus a margin of between 0.785% and 1.375%, depending on Company's Public Debt Rating. The Credit Agreement includes customary provisions to provide for the eventual replacement of LIBOR as a benchmark interest rate. The interest rates for the revolving credit facility are subject to upward or downward adjustments, on an annual basis, if the Company achieves, or fails to achieve, certain sustainability-linked targets based on two key performance indicator metrics: (i) the amount of scope 1 and 2 greenhouse gas emissions from the global operations of the Company and its subsidiaries during a fiscal year less qualified emissions reduction instruments and (ii) the percentage of employees of the Company and its subsidiaries identifying as female working in technical roles. The maturity date on the Credit Agreement is September 30, 2026. At January 31, 2022, Autodesk had no outstanding borrowings under the Credit Agreement.

In January 2020, Autodesk issued $500.0 million aggregate principal amount of 2.85% notes due January 15, 2030 ("2020 Notes"). Net of a discount of $1.1 million and issuance costs of $4.8 million, Autodesk received net proceeds of $494.1 million from issuance of the 2020 Notes. Both the discount and issuance costs are being amortized to interest expense over the term of the 2020 Notes using the effective interest method. The proceeds of the 2020 Notes were used for the repayment of $450.0 million 2015 Notes, as defined below, and the remainder is available for general corporate purposes.

In June 2017, Autodesk issued $500.0 million aggregate principal amount of 3.5% notes due June 15, 2027 (the "2017 Notes"). Net of a discount of $3.1 million and issuance costs of $4.9 million, Autodesk received net proceeds of $492.0 million from issuance of the 2017 Notes. Both the discount and issuance costs are being amortized to interest expense over the term of the 2017 Notes using the effective interest method. The proceeds of the 2017 Notes have been used for the repayment of $400.0 million of debt due December 15, 2017, and the remainder is available for general corporate purposes.

In June 2015, Autodesk issued $300.0 million aggregate principal amount of 4.375% notes due June 15, 2025 (" 2015 Notes"). Net of a discount of $1.1 million, and issuance costs of $2.5 million, Autodesk received net proceeds of $296.4 million from issuance of the 2015 Notes. Both the discount and issuance costs are being amortized to interest expense over the respective terms of the 2015 Notes using the effective interest method. The proceeds of the 2015 Notes are available for general corporate purposes.

In December 2012, Autodesk issued $350.0 million aggregate principal amount of 3.6% notes due December 15, 2022 ("2012 Notes"). Autodesk received net proceeds of $346.7 million from issuance of the 2012 Notes, net of a discount of $0.5 million and issuance costs of $2.8 million. Both the discount and issuance costs are being amortized to interest expense over the respective terms of the 2012 Notes using the effective interest method. The proceeds of the 2012 Notes are available for general corporate purposes.

The 2021, 2020 Notes, 2017 Notes, 2015 Notes and the 2012 Notes may all be redeemed at any time, subject to a make whole premium. In addition, upon the occurrence of certain change of control triggering events, Autodesk may be required to repurchase all the Notes, at a price equal to 101% of their principal amount, plus accrued and unpaid interest to the date of repurchase. All Notes contain restrictive covenants that limit Autodesk's ability to create certain liens, to enter into certain sale and leaseback transactions and to consolidate or merge with, or convey, transfer, or lease all or substantially all of its assets, subject to important qualifications and exceptions.

Based on the quoted market prices, the approximate fair value of the notes as of January 31, 2022, were as follows:

	Aggregate Principal Amount	Fair value
2012 Notes	$ 350.0	$ 355.8
2015 Notes	300.0	320.4
2017 Notes	500.0	525.8
2020 Notes	500.0	503.3
2021 Notes	1,000.0	956.7

The expected future principal payments for all borrowings as of January 31, 2022, were as follows:

Fiscal year ending	
2023	$ 350.0
2024	—
2025	—
2026	300.0
2027	—
Thereafter	2,000.0
Total principal outstanding	$ 2,650.0

9. Leases

Autodesk has operating leases for real estate, vehicles and certain equipment. Leases have remaining lease terms of less than 1 year to 68 years, some of which include options to extend the lease with renewal terms from 1 year to 10 years and some of which include options to terminate the leases from less than 1 year to 8 years. Options to extend the lease are included in the lease liability if they are reasonably certain of being exercised. Options to terminate are considered in determining the lease liability if they are reasonably certain of being exercised. Payments under our lease arrangements are primarily fixed, however, certain lease agreements contain variable payments, which are expensed as incurred and not included in the operating lease assets and liabilities. These amounts include payments affected by the Consumer Price Index, payments for common area maintenance that are subject to annual reconciliation, and payments for maintenance and utilities. The Company's leases do not contain residual value guarantees or material restrictive covenants. Short-term leases are recognized in the Consolidated Statement of Operations on a straight-line basis over the lease term. Short-term lease expense was not material for the periods presented. Changes in operating lease right-of-use assets and operating lease liabilities are presented net in the "accounts payable and other liabilities" line in the Consolidated Statements of Cash Flows with the exception of "Lease-related asset impairments" which is presented in "Adjustments to reconcile net income to net cash provided by operating activities".

During the fiscal year ended January 31, 2022, Autodesk vacated certain leased office facilities in connection with Autodesk's move to a more hybrid workforce. Autodesk recorded total impairment and accelerated depreciation charges of $103.7 million, consisting of operating lease right-of-use assets of $74.8 million and computer equipment, software, furniture, and leasehold improvements of $28.9 million. Autodesk assessed the asset groupings for disaggregation based on the proposed changes in use of the facilities. For asset groups where impairment was triggered, Autodesk utilized an income approach to value the asset groups by developing discounted cash flow models. The significant assumptions used in the discounted cash flow models for each of the asset groups included projected sublease income over the remaining lease terms, expected downtime prior to the commencement of future subleases, expected lease incentives offered to future tenants, and discount rates that reflected the level of risk associated with these future cash flows. These significant assumptions are considered Level 1 and Level 2 inputs in accordance with the fair value hierarchy described in Note 1, "Business and Summary of Significant Accounting Policies." The operating lease right-of-use assets and other lease-related assets charges are included in "general and administrative" in the Company's Consolidated Statements of Operations.

The components of lease cost were as follows:

	Fiscal Year Ended January 31, 2022					
	Cost of subscription and maintenance revenue	Cost of other revenue	Marketing and sales	Research and development	General and administrative	Total
Operating lease cost	$ 8.1	$ 2.3	$ 43.2	$ 30.3	$ 14.4	$ 98.3
Variable lease cost	1.0	0.3	5.4	3.8	1.9	12.4

	Fiscal Year Ended January 31, 2021					
	Cost of subscription and maintenance revenue	Cost of other revenue	Marketing and sales	Research and development	General and administrative	Total
Operating lease cost	$ 7.2	$ 1.9	$ 45.0	$ 29.2	$ 18.1	$ 101.4
Variable lease cost	0.9	0.2	5.3	3.5	2.1	12.0

Supplemental operating cash flow information related to leases was as follows:

	Fiscal Year Ended January 31, 2022	Fiscal Year Ended January 31, 2021
Cash paid for operating leases included in operating cash flows (1)	$ 106.8	$ 96.3
Non-cash operating lease liabilities arising from obtaining operating right-of-use assets	52.9	67.4

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(1) Includes $12.4 million and $12.0 million in variable lease payments not included in "Operating lease liabilities" and "Long-term operating lease liabilities" on the Consolidated Balance Sheet for fiscal years ended January 31, 2022 and 2021, respectively.

The weighted average remaining lease term for operating leases is 6.9 and 7.3 years at January 31, 2022 and 2021, respectively. The weighted average discount rate was 2.46% and 2.69% at January 31, 2022 and 2021, respectively,

Maturities of operating lease liabilities were as follows:

Fiscal year ending	
2023	$ 95.8
2024	87.1
2025	66.4
2026	56.0
2027	38.0
Thereafter	124.1
	467.4
Less imputed interest	35.0
Present value of operating lease liabilities	$ 432.4

As of January 31, 2022, Autodesk had no additional operating lease minimum lease payments for executed leases that have not yet commenced.

10. Commitments and Contingencies

Purchase Commitments

In the normal course of business, Autodesk enters into various purchase commitments for goods or services. Total non-cancellable purchase commitments as of January 31, 2022, were approximately $317.6 million for periods through fiscal 2032. These purchase commitments primarily result from contracts entered into for the acquisition of cloud services, marketing, and commitments related to our investment agreements with limited liability partnership funds.

Autodesk has certain royalty commitments associated with the sale and licensing of certain products. Royalty expense is generally based on a fixed rate over a specified period, dollar amount per unit sold or a percentage of the underlying revenue. Royalty expense, which was recorded under cost of subscription and maintenance revenue and cost of other revenue on Autodesk's Consolidated Statements of Operations, was $15.8 million in fiscal 2022, $14.9 million in fiscal 2021, and $14.3 million in fiscal 2020.

Guarantees and Indemnifications

In the normal course of business, Autodesk provides indemnifications of varying scopes, including limited product warranties and indemnification of customers against claims of intellectual property infringement made by third parties arising from the use of its products or services. Autodesk accrues for known indemnification issues if a loss is probable and can be reasonably estimated. Historically, costs related to these indemnifications have not been significant, and because potential future costs are highly variable, Autodesk is unable to estimate the maximum potential impact of these indemnifications on its future results of operations.

In connection with the purchase, sale, or license of assets or businesses with third parties, Autodesk has entered into or assumed customary indemnification agreements related to the assets or businesses purchased, sold, or licensed. Historically, costs related to these indemnifications have not been significant, and because potential future costs are highly variable, Autodesk is unable to estimate the maximum potential impact of these indemnifications on its future results of operations.

As permitted under Delaware law, Autodesk has agreements whereby it indemnifies its officers and directors for certain events or occurrences while the officer or director is, or was, serving at Autodesk's request in such capacity. The maximum potential amount of future payments Autodesk could be required to make under these indemnification agreements is unlimited; however, Autodesk has directors' and officers' liability insurance coverage that is intended to reduce its financial exposure and may enable Autodesk to recover a portion of any future amounts paid. Autodesk believes the estimated fair value of these indemnification agreements in excess of applicable insurance coverage is minimal.

Legal Proceedings

Autodesk is involved in a variety of claims, suits, inquiries, investigations, and proceedings in the normal course of business including claims of alleged infringement of intellectual property rights, commercial, employment, tax, prosecution of unauthorized use, business practices, and other matters. Autodesk routinely reviews the status of each significant matter and assesses its potential financial exposure. If the potential loss from any matter is considered probable and the amount can be reasonably estimated, Autodesk records a liability for the estimated loss. Because of inherent uncertainties related to these legal matters, Autodesk bases its loss accruals on the best information available at the time. As additional information becomes available, Autodesk reassesses its potential liability and may revise its estimates. In the Company's opinion, resolution of pending matters is not expected to have a material adverse impact on its consolidated results of operations, cash flows, or its financial position. Given the unpredictable nature of legal proceedings, there is a reasonable possibility that an unfavorable resolution of one or more such proceedings could in the future materially affect the Company's results of operations, cash flows, or financial position in a particular period, however, based on the information known by the Company as of the date of this filing and the rules and regulations applicable to the preparation of the Company's financial statements, any such amount is either immaterial or it is not possible to provide an estimated amount of any such potential loss.

11. Stock Repurchase Program

Autodesk has a stock repurchase program that is used to offset dilution from the issuance of stock under the Company's employee stock plans and for such other purposes as may be in the interests of Autodesk and its stockholders, which has the effect of returning excess cash generated from the Company's business to stockholders. Autodesk repurchased and retired approximately 4.0 million shares in fiscal 2022 at an average repurchase price of $275.50 per share, 2.6 million shares in fiscal 2021 at an average repurchase price of $207.61 per share, and 2.7 million shares in fiscal 2020 at an average repurchase price of $168.63 per share.

At January 31, 2022, 8.1 million shares remained available for repurchase under the repurchase program approved by the Board of Directors. The share repurchase program does not have an expiration date and the pace and timing of repurchases will depend on factors such as cash generation from operations, available surplus, the volume of employee stock plan activity, cash requirements for acquisitions, economic and market conditions, stock price and legal and regulatory requirements.

12. Interest and Other Expense, net

Interest and other expense, net, consists of the following:

	Fiscal Year Ended January 31,		
	2022	2021	2020
Interest and investment expense, net	$ (65.0)	$ (51.1)	$ (54.0)
Gain on foreign currency	0.4	3.5	3.9
Gain (loss) on strategic investments	4.0	(41.7)	(3.3)
Other income	7.7	6.9	5.2
Interest and other expense, net	$ (52.9)	$ (82.4)	$ (48.2)

13. Accumulated Other Comprehensive Loss

Accumulated other comprehensive loss, net of taxes, consisted of the following:

	Net Unrealized Gains (Losses) on Derivative Instruments	Net Unrealized Gains (Losses) on Available for Sale Securities	Defined Benefit Pension Components	Foreign Currency Translation Adjustments	Total
Balances, January 31, 2020	$ 8.4	$ 4.7	$ (22.8)	$ (150.6)	$ (160.3)
Other comprehensive (loss) income before reclassifications	(33.1)	1.5	0.3	64.3	33.0
Pre-tax (gain) loss reclassified from accumulated other comprehensive income	(4.4)	0.1	1.5	—	(2.8)
Tax effects	5.0	0.1	(0.3)	(0.6)	4.2
Net current period other comprehensive (loss) income	(32.5)	1.7	1.5	63.7	34.4
Balances, January 31, 2021	(24.1)	6.4	(21.3)	(86.9)	(125.9)
Other comprehensive income (loss) before reclassifications	39.4	11.7	0.7	(63.2)	(11.4)
Pre-tax loss reclassified from accumulated other comprehensive income	17.2	0.1	4.7	—	22.0
Tax effects	(8.3)	—	(0.7)	0.3	(8.7)
Net current period other comprehensive income (loss)	48.3	11.8	4.7	(62.9)	1.9
Balances, January 31, 2022	$ 24.2	$ 18.2	$ (16.6)	$ (149.8)	$ (124.0)

Reclassifications related to gains and losses on available-for-sale debt securities are included in "Interest and other expense, net." Refer to Note 3, "Financial Instruments" for the amount and location of reclassifications related to derivative instruments. Reclassifications of the defined benefit pension components of net periodic benefit cost are included in "Interest and other expense, net."

14. Net Income Per Share

Basic net income per share is computed using the weighted average number of shares of common stock outstanding during the period. Diluted net income per share is computed using the weighted average number of shares of common stock outstanding during the period and potentially dilutive common shares, including the effect of restricted stock units, performance share awards, and stock options using the treasury stock method. The following table sets forth the computation of the numerators and denominators used in the basic and diluted net income per share amounts:

	Fiscal Year Ended January 31,		
	2022	2021	2020
Numerator:			
Net income	$ 497.0	$ 1,208.2	$ 214.5
Denominator:			
Weighted average shares for basic net income per share	219.7	219.4	219.7
Effect of dilutive securities	2.3	2.7	2.8
Weighted average shares for dilutive net income per share	222.0	222.1	222.5
Basic net income per share	$ 2.26	$ 5.51	$ 0.98
Diluted net income per share	$ 2.24	$ 5.44	$ 0.96

The computation of diluted net income per share does not include shares that are anti-dilutive under the treasury stock method because their exercise prices are higher than the average market value of Autodesk's stock during the fiscal year. The effect of 0.2 million and 0.1 million potentially anti-dilutive shares were excluded from the computation of diluted net income per share for the fiscal years ended January 31, 2022 and 2021, respectively. There were no potentially anti-dilutive shares excluded from the computation of diluted net income per share for the fiscal year ended January 31, 2020.

15. Retirement Benefit Plans

Pretax Savings Plan

Autodesk has a 401(k) plan that covers nearly all U.S. employees. Eligible employees may contribute up to 75% of their pretax salary, subject to limitations mandated by the Internal Revenue Service. Autodesk makes voluntary cash contributions and matches a portion of employee contributions in cash. Autodesk's contributions were $24.3 million in fiscal 2022, $21.6 million in fiscal 2021, and $21.4 million in fiscal 2020. Autodesk does not allow participants to invest in Autodesk common stock through the 401(k) plan.

Defined Benefit Pension Plans

Autodesk provides certain defined benefit pension plans to employees located in countries outside of the United States, primarily the United Kingdom, Switzerland, and Japan. The Company deposits funds for specific plans, consistent with the requirements of local law, with insurance companies or third-party trustees, or into government-managed accounts, and accrues for the unfunded portion of the obligation, where material.

The projected benefit obligation was $106.7 million and $110.0 million as of January 31, 2022, and January 31, 2021, respectively. The accumulated benefit obligation was $99.5 million and $105.2 million as of January 31, 2022, and January 31, 2021, respectively. The related fair value of plan assets was $112.5 million and $107.2 million as of January 31, 2022, and January 31, 2021, respectively. Our defined pension plan assets are measured at fair value and consist primarily of insurance contracts categorized as level 2 in the fair value hierarchy and an investment fund valued using net asset value. The insurance contracts represent the immediate cash surrender value of assets managed by qualified insurance companies. The assets held in the investment fund are invested in a diversified growth fund actively managed by a third party.

Autodesk recognized an aggregate pension liability for the funded status of $9.3 million and $12.1 million in "Long-term other liabilities" on the Consolidated Balance Sheet as of January 31, 2022, and January 31, 2021, respectively. Our total net periodic pension plan cost was $2.6 million, $2.8 million and $3.7 million for fiscal years 2022, 2021, and 2020, respectively.

Our expected funding for the plans during fiscal 2023 is approximately $4.8 million.

Estimated Future Benefit Payments

Estimated benefit payments over the next 10 fiscal years are as follows:

		Pension Benefits
2023	$	2.9
2024		1.8
2025		4.0
2026		3.4
2027		3.2
2028-2032		19.9
Total	$	35.2

Defined Contribution Plans

Autodesk also provides defined contribution plans in certain foreign countries where required by statute. Autodesk's funding policy for foreign defined contribution plans is consistent with the local requirements in each country. Autodesk's contributions to these plans were $38.3 million in fiscal 2022, $31.7 million in fiscal 2021, and $28.7 million in fiscal 2020.

Cash Balance Plans

Autodesk provides a cash balance plan that insures the risks of disability, death, and longevity, in which the vested pension capital is reinvested and provides a 100% capital and interest guarantee. The weighted-average guaranteed interest crediting rate for cash balance plans was 1%, 1%, and 1% for mandatory retirement savings and 0.3%, 0.1%, and 0.1% for supplementary retirement savings for fiscal 2022, 2021, and 2020, respectively.

Other Plans

In addition, Autodesk offers a non-qualified deferred compensation plan to certain key employees whereby they may defer a portion (or all) of their annual compensation until retirement or a different date specified by the employee in accordance with terms of the plan. See Note 7, "Deferred Compensation," for further discussion.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors of Autodesk, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Autodesk, Inc. (the Company) as of January 31, 2022, and 2021, the related consolidated statements of operations, comprehensive income, stockholders' (deficit) equity, and cash flows for each of the three years in the period ended January 31, 2022, and the related notes and the financial statement schedule listed in the Index at Item 15(a)(2) (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 January 31, 2022, and 2021, and the results of its operations and its cash flows for each of the three years in the period ended January 31, 2022, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of January 31, 2022, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated March 14, 2022 expressed an unqualified opinion thereon.

Basis for Opinion

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

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

Revenue Recognition

Description of the Matter	As discussed in Note 1 to the consolidated financial statements, revenue is recognized when the Company's offerings are deliverec to customers, in an amount that reflects the consideration expected in exchange for products and services. The Company's contracts wit customers often contain multiple performance obligations. For contracts with more than one performance obligation, the transaction pric is allocated among the performance obligations in an amount that depicts the relative standalone selling price ("SSP") of each obligation Auditing the Company's revenue recognition was challenging and complex due to the effort required to analyze the accounting treatment for the Company's various software product and service offerings in accordance with ASC 606, Revenue from Contracts with Customers. This involved assessing the impact of terms and conditions of new or amended contracts with customers or new product or service offerings, the determination of the relative standalone selling prices for each distinct performance obligation and the timing of recognition of revenue.
How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of internal controls over the Company identification and evaluation of performance obligations, determination of the relative standalone selling price for each performance obligation, and the determination of the timing of recognition of revenue. Among other procedures, to evaluate management's identification and evaluation of the performance obligations and timing of revenue recognition, we read executed contracts for a sample of sales transactions to understand the contract, identified the promised goods and services in the contract and identified the distinct performance obligations. To test management's determination of relative standalone selling price for each performance obligation, we assessed the appropriateness of the methodology applied, tested mathematical accuracy of the underlying data and calculations, and tested a sample of sales transactions to corroborate the data underlying the Company's calculations.

Valuation of Innovyze intangible assets

Description of the Matter	During fiscal 2022, the Company completed its acquisition of Storm UK Holdco Limited, the parent of Innovyze, Inc., for consideration of $1,038.1 million, as disclosed in Note 6 to the consolidated financial statements. The transaction was accounted for as a business combination. Auditing the accounting for the acquisition was complex due to the significant estimation uncertainty of the key assumptions in determining the fair values of the customer relationships of $221.0 million. The significant estimation was primarily due to the judgmental nature of the inputs to the valuation models and the sensitivity of the fair values to certain underlying significant assumptions. In particular for the customer relationships intangible, the significant assumptions include the projections of future revenue and the impact of customer attrition. These significant assumptions are forward-looking and could be affected by future economic and market condition
How We Addressed the Matter in Our Audit	We tested the Company's controls over its accounting for acquisitions. Our tests included controls over the estimation process supporting the recognition and measurement of customer relationships intangible assets. We also tested management's review of assumptions used in the valuation models. To test the estimated fair value of the customer relationships intangible assets, we performed audit procedures that included, amon others, evaluating the Company's selection of the valuation methodology, evaluating the methods and significant assumptions used by the Company's valuation specialist, and evaluating the completeness and accuracy of the underlying data supporting the significant assumptions and estimates. We involved our valuation specialists to assist with our evaluation of the methodologies used by the Company and significant assumptions included in the fair value estimates. Specifically, when assessing the key assumptions, we focuse on the projections of future revenue and the impact of customer attrition for the customer relationships intangible asset.

/s/ ERNST & YOUNG LLP

We have served as the Company's auditor since 1983.

San Francisco, California
March 14, 2022

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors of Autodesk, Inc.

Opinion on Internal Control over Financial Reporting

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

As indicated in the accompanying management's report on internal control over financial reporting, management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of Storm UK Holdco Limited, the parent of Innovyze, Inc. ("Innovyze"), which is included in the January 31, 2022 consolidated financial statements of the Company and constituted less than 1% of total assets as of January 31, 2022 and 1% of revenues for the year then ended. Our audit of internal control over financial reporting of the Company also did not include an evaluation of the internal control over financial reporting of Innovyze.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the accompanying consolidated balance sheets of the Company as of January 31, 2022, and 2021, the related consolidated statements of operations, comprehensive income, stockholders' (deficit) equity, and cash flows for each of the three years in the period ended January 31, 2022, and the related notes and the financial statement schedule listed in the Index at Item 15(a)(2) and our report dated March 14, 2022, expressed an unqualified opinion thereon.

Basis for Opinion

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

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ ERNST & YOUNG LLP

San Francisco, California
March 14, 2022

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

EVALUATION OF DISCLOSURE CONTROLS AND PROCEDURES

We maintain “disclosure controls and procedures,” as defined in Rule 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Our disclosure controls and procedures are designed to ensure that information required to be disclosed in our Exchange Act reports is (i) recorded, processed, summarized, and reported within the time periods specified in the rules of the Securities and Exchange Commission (“SEC”), and (ii) accumulated and communicated to Autodesk management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure. We conducted an evaluation, under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures as of the end of the period covered by this Annual Report on Form 10-K. Based upon this evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures are effective as of January 31, 2022.

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934, as amended). Our management assessed the effectiveness of our internal control over financial reporting as of January 31, 2022. In making this assessment, our management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”) in the 2013 Internal Control—Integrated Framework. Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures or our internal control over financial reporting will necessarily prevent all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within Autodesk have been detected.

In accordance with guidance issued by the Securities and Exchange Commission, companies are permitted to exclude acquisitions from their final assessment of internal control over financial reporting for the first fiscal year in which the acquisition occurred. Our management’s evaluation of internal control over financial reporting excluded the internal control activities of Storm UK Holdco Limited, the parent of Innovyze, Inc. (“Innovyze”), which we acquired March 31, 2021, as discussed in Note 6, “Acquisitions,” of the Notes to the Consolidated Financial Statements. The exclusion represents internal control over financial reporting of approximately 1% of consolidated net revenue and less than 1% of consolidated total assets. We have included the financial results of Innovyze in the consolidated financial statements from the date of acquisition.

Our management has concluded that, as of January 31, 2022, our internal control over financial reporting was effective 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. Our independent registered public accounting firm, Ernst & Young LLP, has issued an audit report on our internal control over financial reporting, which is included in Item 8 herein.

CHANGES IN INTERNAL CONTROL OVER FINANCIAL REPORTING

There were no changes in our internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934) during the three months ended January 31, 2022, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not Applicable.

PART III

Certain information required by Part III is omitted from this Annual Report because we intend to file a definitive proxy statement pursuant to Regulation 14A for our Annual Meeting of Stockholders not later than 120 days after the end of the fiscal year covered by this Annual Report (the “Proxy Statement”) and certain information included therein is incorporated herein by reference. Only those sections of the Proxy Statement that specifically address the items set forth herein are incorporated by reference.

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item is incorporated herein by reference to the sections entitled “Proposal One—Election of Directors,” “Section 16(a) Beneficial Ownership Reporting Compliance,” and “Corporate Governance” in our Proxy Statement.

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

The following sets forth certain information as of March 14, 2022, regarding our executive officers.

Name	Age	Position
Andrew Anagnost	57	President and Chief Executive Officer
Deborah L. Clifford	47	EVP and Chief Financial Officer
Steve M. Blum	57	Chief Operating Officer
Pascal W. Di Fronzo	57	EVP, Corporate Affairs, Chief Legal Officer & Secretary

Andrew Anagnost joined Autodesk in September 1997 and has served as President and Chief Executive Officer since June 2017. He also served as Interim Chief Financial Officer from January 2021 to March 2021. Dr. Anagnost served as Co-CEO from February 2017 to June 2017, Chief Marketing Officer from December 2016 to June 2017 and as the Company’s Senior Vice President, Business Strategy & Marketing, from March 2012 to June 2017. From December 2009 to March 2012, Dr. Anagnost was Vice President, Product Suites and Web Services of the Company. Prior to this position, Dr. Anagnost served as Vice President of CAD/CAE products for the manufacturing division of the Company from March 2007 to December 2009. Previously, Dr. Anagnost held other senior management positions at the Company. Prior to joining the Company, Dr. Anagnost held various engineering, sales, marketing and product management positions at Lockheed Aeronautical Systems Company and EXA Corporation. He also served as an NRC post-doctoral fellow at NASA Ames Research Center.

Deborah L. Clifford joined Autodesk as Executive Vice President and Chief Financial Officer in March 2021. Ms. Clifford previously served as Chief Financial Officer of SVMK Inc. (“SurveyMonkey”), an online survey software company, since July 2019. Prior to joining SurveyMonkey, Ms. Clifford served as Vice President of Financial Planning and Analysis at Autodesk from January 2018 to July 2019, and had served in various finance positions at Autodesk since September 2005, including as Vice President, Division Finance from July 2014 to December 2017.

Steven M. Blum joined Autodesk in January 2003 and has served as Executive Vice President and Chief Operating Officer since November 1, 2022. He previously served as Executive Vice President and Chief Revenue Officer from December 2020 through January 2022 and as Vice President and Chief Revenue Officer from August 2020 to December 2020. Mr. Blum served as Executive Vice President, Worldwide Field Operations from December 2020 to November 2021 and as Senior Vice President, Worldwide Field Operations from September 2017 to December 2020. Mr. Blum served as Senior Vice President, Worldwide Sales and Services from February 2011 to September 2017. From January 2003 to February 2011, he served as Senior Vice President of Americas Sales. Prior to this position, Blum was Executive Vice President of Sales and Account Management for Parago, Inc. Blum also held positions at Mentor Graphics, most recently serving as Vice President of America's sales. Before joining Mentor Graphics, he held engineering and sales positions at NCR Corporation and Advanced Micro Devices.

Pascal W. Di Fronzo joined Autodesk in June 1998 and has served as Executive Vice President, Corporate Affairs, Chief Legal Officer & Secretary since December 2016. Mr. Di Fronzo is expected to retire as of May 9, 2022. Mr. Di Fronzo served as Senior Vice President, General Counsel and Secretary from March 2007 to December 2016. From March 2006 to March 2007, Mr. Di Fronzo served as Vice President, General Counsel and Secretary, and served as Vice President, Assistant General Counsel and Assistant Secretary from March 2005 through March 2006. Previously, Mr. Di Fronzo served in other business and legal capacities in our Legal Department. Prior to joining Autodesk, he advised high technology and emerging growth companies on business and intellectual property transactions and litigation while in private practice.

There is no family relationship among any of our directors or executive officers.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item is incorporated herein by reference to the sections entitled “Corporate Governance” and “Executive Compensation” in our Proxy Statement.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this Item is incorporated herein by reference to the sections entitled “Security Ownership of Certain Beneficial Owners and Management” and “Executive Compensation—Equity Compensation Plan Information” in our Proxy Statement.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item is incorporated herein by reference to the sections entitled “Certain Relationships and Related Party Transactions” and “Corporate Governance—Independence of the Board” in our Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this Item is incorporated herein by reference to the sections entitled “Proposal Two—Ratification of the Appointment of Independent Registered Public Accounting Firm” in our Proxy Statement.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this Report:

1. *Financial Statements*: The information concerning Autodesk’s financial statements, and the Report of Ernst & Young LLP, Independent Registered Public Accounting Firm (PCAOB ID: 42), San Francisco, California, required by this Item is incorporated by reference herein to the section of this Report in Item 8, entitled “Financial Statements and Supplementary Data.”

2. *Financial Statement Schedule*: The following financial statement schedule of Autodesk, Inc., for the fiscal years ended January 31, 2022, 2021, and 2020, is filed as part of this Report and should be read in conjunction with the Consolidated Financial Statements of Autodesk, Inc.:

   Schedule II Valuation and Qualifying Accounts

   Schedules not listed above have been omitted because they are not applicable or are not required or the information required to be set forth therein is included in the Consolidated Financial Statements or Notes thereto.

3. *Exhibits*: See Item 15(b) below. We have filed, or incorporated into this Report by reference, the exhibits listed on the accompanying Index to Exhibits immediately prior to the signature page of this Form 10-K.

(b) Exhibits:

We have filed, or incorporated into this Report by reference, the exhibits listed on the accompanying Index to Exhibits immediately prior to the signature page of this Form 10-K.

(c) Financial Statement Schedules: See Item 15(a), above.

ITEM 15(A)(2) FINANCIAL STATEMENT SCHEDULE

SCHEDULE II: VALUATION AND QUALIFYING ACCOUNTS
(in millions)

Description	Balance at Beginning of Fiscal Year	Additions Charged to Costs and Expenses or Revenues	Deductions	Balance at End of Fiscal Year
		(in millions)		
Fiscal Year Ended January 31, 2022				
Partner program reserves (1)	$ 64.0	623.0	622.8	$ 64.2
Fiscal Year Ended January 31, 2021				
Partner program reserves (1)	$ 60.4	491.9	488.3	$ 64.0
Fiscal Year Ended January 31, 2020				
Partner Program reserves (1)	$ 51.7	453.7	445.0	$ 60.4

(1) The partner program reserves balance impacts "Accounts receivable, net" and "Accounts payable" on the accompanying Consolidated Balance Sheets.

ITEM 16 FORM 10-K SUMMARY

None.

Index to Exhibits

Exhibit Number	Description	Filed Herewith	Incorporated by Reference Form	SEC File No.	Exhibit	Filing Date
3.1	Amended and Restated Certificate of Incorporation of Registrant		10-K	000-14338	3.1	3/20/2006
3.2	Amended and Restated Bylaws of Registrant		8-K	000-14338	3.1	3/23/2020
4.1	Indenture dated December 13, 2012, by and between the Registrant and U.S. Bank National Association		8-K	000-14338	4.1	12/13/2012
4.2	First Supplemental Indenture (including Form of Notes) dated December 13, 2012, by and between the Registrant and U.S. Bank National Association		8-K	000-14338	4.2	12/13/2012
4.3	Third Supplemental Indenture (including Form of Notes) dated June 8, 2017, by and between the Registrant and U.S. Bank National Association		8-K	000-14338	4.1	6/8/2017
4.4	Fourth Supplemental Indenture (including Form of Notes) dated January 14, 2020, by and between the Registrant and U.S. National Bank Association		8-K	000-14338	4.1	1/14/2020
4.5	Fifth Supplemental Indenture, dated October 7, 2021, by and between Autodesk, Inc. and U.S. Bank National Association, including Form of Note for Autodesk, Inc.'s 2.400% Notes due 2031		8-K	000-14338	4.1	10/7/2021
4.6	Description of Registrant's Capital Stock		10-K	000-14338	4.6	3/19/2020
10.1*	Description of Registrant's Performance Stock Unit Program		8-K	000-14338		3/26/2018
10.2*	Registrant's 1998 Employee Qualified Stock Purchase Plan, as amended and restated effective as of June 12, 2018		10-Q	000-14338	10.3	8/30/2018
10.3*	Registrant's 1998 Employee Qualified Stock Purchase Plan Forms of Subscription Agreement, as amended and restated		10-Q	000-14338	10.5	8/30/2016
10.4*	Registrant's 2012 Employee Stock Plan, as amended and restated effective as of June 12, 2018		10-Q	000-14338	10.2	8/30/2018
10.5*	Registrant's 2012 Employee Stock Plan Form of Restricted Stock Unit Agreement, as amended and restated		10-Q	000-14338	10.2	8/30/2016
10.6*	Registrant's 2012 Employee Stock Plan Form of Severance Restricted Stock Unit Agreement, as amended and restated		10-Q	000-14338	10.3	8/30/2016
10.7*	Registrant's 2012 Employee Stock Plan Form of Stock Option Agreement		8-K	000-14338	10.2	3/13/2012
10.8*	Registrant's 2012 Employee Stock Plan Form of Stock Option Agreement (non-U.S. Employees)		8-K	000-14338	10.4	3/13/2012
10.9*	PlanGrid, Inc. 2012 Equity Incentive Plan		S-8	333-228934	99.1	12/21/2018
10.10*	Amended and Restated BuildingConnected, Inc. 2013 Stock Plan		S-8	333-229346	99.1	1/24/2019
10.11*	Registrant's 2012 Outside Directors' Stock Plan, as amended and restated		10-K	000-14338	10.18	3/21/2017
10.12*	Registrant's 2012 Outside Directors' Stock Plan Form of Restricted Stock Unit Agreement		8-K	000-14338	10.5	3/13/2012
10.13*	Registrant's 2012 Outside Directors' Stock Plan Form of Restricted Stock Unit Agreement		10-Q	000-14338	10.1	6/4/2019
10.14*	Registrant's Executive Incentive Plan, as amended and restated		10-K	000-14338	10.23	3/23/2016
10.15*	Registrant's 2005 Non-Qualified Deferred Compensation Plan, as amended and restated, effective as of January 1, 2010		10-Q	000-14338	10.1	12/8/2009
10.16*	Executive Change in Control Program, as amended and restated		8-K	000-14338	10.1	12/21/2016
10.17*	Sub-Plan of the Autodesk, Inc. 1998 Employee Qualified Stock Purchase Plan, as amended and restated		10-K	000-14338	10.17	3/25/2019
10.18*	Form of Indemnification Agreement executed by the Registrant and each of its officers and directors		10-K	000-14338	10.8	3/31/2005
10.19	Form of Qualified Retirement Agreement under the Autodesk Amended and Restated Severance Plan and Summary Plan Description dated March 25, 2021		10-Q	000-14338	10.1	9/1/2021
10.20*	Employment Agreement, dated as of June 19, 2017, by and between the Registrant and Andrew Anagnost		8-K	000-14338	10.1	6/19/2017
10.21*	Deborah Clifford Offer Letter dated February 12, 2021		10-Q	000-14338	10.1	6/3/2021
10.22*	Autodesk, Inc. Amended and Restated Severance Plan and Summary Plan Description dated March 25, 2021		10-Q	000-14338	10.2	6/3/2021
10.23*	Registrant's 2012 Employee Stock Plan Form of Retirement Restricted Stock Unit Agreement, as amended and restated		10-K	000-14338	10.21	3/19/2021

Exhibit Number	Description	Filed Herewith	Incorporated by Reference			
			Form	SEC File No.	Exhibit	Filing Date
10.24*	Office Lease between Registrant and the J.H.S. Trust for 111 McInnis Parkway, San Rafael, CA, as amended		10-Q	000-14338	10.1	10/31/2004
10.25	Fourth Amendment to Lease between Registrant and the J.H.S. Holdings L.P. for 111 McInnis Parkway, San Rafael, CA		10-K	000-14338	10.30	3/19/2010
10.26	Amended and Restated Credit Agreement, dated September 30, 2021, by and among Autodesk, Inc., the lenders from time to time party thereto and Citibank, N.A., as administrative agent, and the other parties thereto		8-K	000-14338	10.1	10/4/2021
21.1	List of Subsidiaries	X				
23.1	Consent of Independent Registered Public Accounting Firm (Ernst & Young LLP) (filed herewith)	X				
24.1	Power of Attorney (contained in the signature page to this Annual Report on Form 10-K)	X				
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934	X				
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934	X				
32.1†	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	X				
101.INS ††	XBRL Instance Document					
101.SCH ††	XBRL Taxonomy Extension Schema					
101.CAL ††	XBRL Taxonomy Extension Calculation Linkbase					
101.DEF ††	XBRL Taxonomy Extension Definition Linkbase					
101.LAB ††	XBRL Taxonomy Extension Label Linkbase					
101.PRE ††	XBRL Taxonomy Extension Presentation Linkbase					
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)					

* Denotes a management contract or compensatory plan or arrangement.

† The certifications attached as Exhibit 32.1 that accompany this Annual Report on Form 10-K are not deemed filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Autodesk, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Form 10-K, irrespective of any general incorporation language contained in such filing.

†† The financial information contained in these XBRL documents is unaudited.

SIGNATURES

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

AUTODESK, INC.

By: /s/ ANDREW ANAGNOST

Andrew Anagnost
President and Chief Executive Officer

Dated: March 14, 2022

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POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Andrew Anagnost and Deborah L. Clifford each as his or her attorney-in-fact, each with the power of substitution, for him or her in any and all capacities, to sign any amendments to this Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report has been signed below by the following persons on behalf of the Registrant and in the capacities as of March 14, 2022.

Signature	Title
/s/ ANDREW ANAGNOST Andrew Anagnost	President and Chief Executive Officer, Director (Principal Executive Officer)
/s/ DEBORAH L. CLIFFORD Deborah L. Clifford	Executive Vice President and Chief Financial Officer (Principal Financial Officer)
/s/ STEPHEN W. HOPE Stephen W. Hope	Vice President and Chief Accounting Officer (Principal Accounting Officer)
/s/ STACY J. SMITH Stacy J. Smith	Director (Non-executive Chairman of the Board)
/s/ KAREN BLASING Karen Blasing	Director
/s/ REID FRENCH Reid French	Director
/s/ AYANNA HOWARD Ayanna Howard	Director
/s/ MARY T. MCDOWELL Mary T. McDowell	Director
/s/ BLAKE J. IRVING Blake J. Irving	Director
/s/ STEPHEN D. MILLIGAN Stephen D. Milligan	Director
/s/ LORRIE M. NORRINGTON Lorrie M. Norrington	Director
/s/ ELIZABETH RAFAEL Elizabeth Rafael	Director