

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

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTIONS 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Fiscal Year Ended: September 30, 2023

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: 0-18059

PTC Inc.

(Exact name of registrant as specified in its charter)

Massachusetts

(State or other jurisdiction of incorporation or organization)

04-2866152

(I.R.S. Employer Identification Number)

121 Seaport Boulevard, Boston, MA 02210

(Address of principal executive offices, including zip code)

(781) 370-5000

(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, \$.01 par value per share	PTC	NASDAQ Global Select Market

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

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

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

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

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

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

<input checked="" type="checkbox"/> Large Accelerated Filer	<input type="checkbox"/> Accelerated Filer	<input type="checkbox"/> Non-accelerated Filer	<input type="checkbox"/> Smaller Reporting Company
			<input type="checkbox"/> Emerging growth company

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

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

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

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

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

The aggregate market value of our voting stock held by non-affiliates was approximately \$14,078,377,983 on March 31, 2023 based on the last reported sale price of our common stock on the Nasdaq Global Select Market on that date. There were 118,333,823 shares of our common stock outstanding on that day and 119,244,754 shares of our common stock outstanding on November 16, 2023.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive Proxy Statement in connection with the 2024 Annual Meeting of Stockholders (2024 Proxy Statement) are incorporated by reference into Part III.

PTC Inc.
ANNUAL REPORT ON FORM 10-K FOR FISCAL YEAR 2023
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Cautionary Note About Forward-Looking Statements

This Annual Report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. We intend such forward-looking statements to be covered by the safe harbor provisions for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995. In particular, statements that are not historical facts, including but not limited to, statements about our anticipated financial results, capital development and growth, as well as about the development of our products, markets and workforce, are forward-looking statements. These forward-looking statements are generally identifiable by use of the words "believe," "expect," "intend," "anticipate," "estimate," "project" or similar expressions, whether in the negative or affirmative. Forward-looking statements are based on our current plans, expectations and assumptions and are not guarantees of future performance. Factors that may cause our actual results to differ materially from these statements include, but are not limited to, the risks and uncertainties discussed in Item 1A. "Risk Factors" and elsewhere throughout this Annual Report. Such factors, among others, could have a material adverse effect upon our business, results of operations and financial condition. We caution readers not to place undue reliance on any forward-looking statements, which only speak as of the date made. We undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which such statement is made.

Unless otherwise indicated, all references to a year reflect our fiscal year that ends on September 30.

Website References

References to our PTC.com website in this Annual Report and to our 2023 Impact Report are provided for convenience. The content on PTC.com and in our 2023 Impact Report is not incorporated by reference into this Annual Report unless expressly stated.

PART I

ITEM 1. Business

Our Business

PTC is a global software company that provides a portfolio of innovative digital solutions that work together to transform how physical products are engineered, manufactured, and serviced.

Our software portfolio includes award-winning offerings that enable companies to author product data (our computer-aided design (CAD) portfolio solutions) and to manage product data and orchestrate processes (our product lifecycle management (PLM) portfolio solutions).

Our software can be delivered on premises, in the cloud, or in a hybrid model. Our customers include some of the world's most innovative companies in the aerospace and defense, automotive, electronics and high tech, industrial machinery and equipment, life sciences, retail and consumer products industries.

We generate revenue through the sale of subscriptions, which include term-based on-premises software licenses and related support, Software-as-a-Service (SaaS), and hosting services; perpetual licenses; support for perpetual licenses; and professional services (consulting, implementation, and training).

Recent Developments

We acquired the ServiceMax® cloud-native field service management business in Q2'23, broadening our PLM solution set to encompass the service phase of the product lifecycle. We paid the first purchase payment installment of \$835 million, as adjusted for working capital, indebtedness, cash, and transaction expenses, in January 2023, and the second and final installment of \$650 million in October 2023. Refer to *Note 6. Acquisitions and Disposition of Businesses of Notes to Consolidated Financial Statements* in this Annual Report for additional discussion about the ServiceMax transaction.

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Our Strategy

We pursue multiple strategic initiatives designed to create value for our customers, increase our Annual Run Rate (ARR) and free cash flow, and deliver long-term value for stockholders.

Subscription Business Model

Our transition from a perpetual and maintenance model to a subscription business model continues to be key to driving growth. Our subscription model offers greater benefits of scale and growth potential, drives higher customer engagement and retention, and provides better business predictability, with over 90% of our annual revenues being recurring in nature. This, in turn, enables us to make steady and sustained investments to pursue mid-to-long-term growth opportunities.

Customer Expansion

Our solutions portfolio encompasses the entire product life cycle, from design to manufacture to service, enabling companies to adopt a “digital thread” strategy to drive innovation and productivity. A digital thread manages product data and makes it accessible and useful to the right people, at the right time, and in the right context. The digital thread is particularly valuable for customers with complex products that tend to have longer life cycles. We seek to drive value for our customers by offering new and enhanced features and products that enable our customers to pursue and expand their digital thread strategies.

Our acquisition strategy targets companies with products that complement ours and that we believe will appeal to our existing customer base, allowing us to pursue cross-selling opportunities. The addition of ServiceMax in 2023 for the SLM part of our PLM portfolio further extends what was already a unique portfolio of interconnected digital thread capabilities across the full product life cycle. The addition of Codebeam in 2022 for the ALM part of our PLM portfolio strengthened our offerings in the ALM space as software becomes integral to more and more products, especially in regulated industries where traceability is safety-critical.

PLM Expansion

PLM is at the heart of digital transformation and has become essential technology at industrial companies. No longer confined to the Engineering department, PLM data is driving decision-making across organizations, enabling them to improve how products are designed, manufactured, and serviced.

Our goal is to be the category leader in PLM and to provide our customers with best-in-class solutions to drive innovation and productivity.

SaaS Transition

We continue to invest in the transformation of our technology portfolio to include more SaaS offerings. Our acquisitions of Onshape, Arena, and ServiceMax brought cloud-native solutions to our portfolio, and we continue to work towards creating and expanding SaaS offerings for our existing products. We believe that SaaS products represent a strong value proposition for our customers, offering reduced complexity; lower costs to implement, upgrade and administer; better user collaboration and mobility; and scalability. This is a longer-term strategy as we expect that SaaS adoption in the CAD and PLM markets will be gradual at first, then accelerate significantly, given constraints such as the length and cost of conversion projects and budgeting timelines of our customers.

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Our Principal Products and Services

Our Principal Product Groups

PLM Software Products
For Product Data Management
and Process Orchestration

CAD Software Products
For Product Data Authoring

PLM

Our **Windchill®** PLM application suite manages all aspects of the product development lifecycle—from concept through service and retirement—by enabling a digital thread of product parts, materials, and configuration information. Windchill provides real-time information sharing, dynamic data visualization, and the ability to collaborate across geographically-distributed teams, enabling manufacturers to elevate their product development, manufacturing, and field service processes. With its open architecture that integrates with other enterprise systems, Windchill provides a solid foundation for a product-driven digital thread.

Our **ThingWorx®** platform is flexible and purpose-built for Industrial Internet of Things (IIoT). It offers a rich set of capabilities that enable enterprises to digitally transform every aspect of their business with innovative solutions that are simple to create, easy to implement, scalable to meet future needs, and designed to enable customers to accelerate time to value. Primary use cases include remote asset monitoring, remote maintenance and service, predictive maintenance and asset management, and optimized equipment effectiveness. Our ThingWorx Digital Performance Management solution enables manufacturers to identify, prioritize, and overcome their most significant production bottlenecks.

Our **ServiceMax®** field service management (FSM) solutions enable companies to improve asset uptime with optimized in-person and remote service, boost technician productivity with the latest mobile tools, and deliver metrics for confident decision making.

Our **Arena®** SaaS PLM solution enables product teams to collaborate virtually anytime and anywhere, making it easier to share the latest product and quality information with internal teams and supply chain partners and deliver innovative products to customers faster. Our Arena quality management system software connects quality and product designs into a single system to simplify regulatory compliance.

Our **Codebeamer®** application lifecycle management (ALM) and model-based systems engineering capabilities enable companies to accelerate the development of software-intensive products through system modeling, software configuration, and requirements, risk, and test management.

Our **Servigistics®** service parts management solution enables companies to effectively manage their service parts inventory, enabling them to optimize equipment availability and uptime, and increase customer satisfaction.

Our **FlexPLM®** solution provides retailers with a single platform for merchandising and line planning, materials management, sampling, and more.

Our **Kepware®** portfolio of industrial connectivity solutions helps companies connect diverse automation devices and software applications.

CAD

Our **Creo®** 3D CAD technology enables the digital design, testing, and modification of product models. With its design simulation, additive manufacturing, and generative design innovations, we enable our customers to be first to market with differentiated products. From initial concept to design, simulation, and analysis, Creo provides designers with innovative tools to efficiently create better products, faster.

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Our **Onshape**[®] SaaS product development platform unites computer-aided design with data management, collaboration tools, and real-time analytics. A cloud-native multi-tenant solution that can be instantly deployed on virtually any computer or mobile device, Onshape enables teams to work together from just about anywhere. Real-time design reviews, commenting, and simultaneous editing enable a collaborative workflow where multiple design iterations can be completed in parallel and merged into the final design.

Our **Vuforia**[®] augmented reality (AR) technology enables the visualization of digital information in a physical context and the creation of AR and mixed reality experiences, enabling companies to drive results in manufacturing, service, engineering, and operations. Vuforia solutions equip frontline workers with focused and effective step-by-step instructions, procedural guidance, skill development and remote assistance that enable enterprises to improve workforce productivity, reduce errors, increase asset utilization and drive higher profitability.

Our **Arbortext**[®] dynamic publishing solution streamlines how organizations create, manage, and publish technical documentation.

Our Markets and How We Address Them

The markets we serve present different growth opportunities for us. The PLM market is undergoing expansion as PLM plays a larger role in industrial companies. Within PLM, we've extended our reach in the growing SLM and ALM spaces through our acquisitions of ServiceMax and Codebeamer. Across all our solutions, we see opportunity for further market growth with a new generation of SaaS solutions we are developing to bring to market over the next few years.

We derive most of our sales from products and services sold directly by our sales force to end-user customers. Approximately 25% of our sales of products and services are through third-party resellers. Our sales force focuses on large accounts, while our reseller channel provides a cost-effective means of covering the small- and medium-size business market. Our strategic alliance partners enable us to increase our market reach, offer broader solutions, and add compelling technology to our offerings. Our strategic services partners provide service offerings to help customers implement our product offerings and transition to SaaS.

Additional financial information about our international and domestic operations may be found in *Note 3. Revenue from Contracts with Customers* of Notes to Consolidated Financial Statements in this Annual Report, which information is incorporated herein by reference.

Competition

We compete with a number of companies whose offerings address one or more specific functional areas covered by our solutions. For enterprise CAD and PLM solutions, we compete with large established companies including Autodesk, Dassault Systèmes SA, and Siemens AG. In our IIoT business, we compete with large established companies such as Amazon, IBM, Oracle, SAP, Siemens AG, and Software AG as well as customers' homegrown solutions. There are also a number of smaller companies that compete in the market for IIoT products. For our AR products, our primary competitors include Microsoft, TeamViewer SE, and Scope Technologies US Inc. For our ALM products, we compete with IBM, Jama Software, Inc. and Siemens AG. For our SLM products, we compete with enterprise software companies such as Oracle, SAP and IFS AB, and with companies that offer point solutions.

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Proprietary Rights

Our software products and related technical know-how, along with our trademarks, including our company names, product names and logos, are proprietary. We protect our intellectual property rights in these items by relying on copyrights, trademarks, patents and common law safeguards, including trade secret protection. The nature and extent of such legal protection depends in part on the type of intellectual property right and the relevant jurisdiction. In the U.S., we are generally able to maintain our trademark registrations for as long as the trademarks are in use and to maintain our patents for up to 20 years from the earliest effective filing date. We also use license management and other anti-piracy technology measures, as well as contractual restrictions, to curtail the unauthorized use and distribution of our products.

Our proprietary rights are subject to the risks and uncertainties described under Item 1A. *Risk Factors* below, which is incorporated into this section by reference.

Environmental Sustainability

At PTC, we're motivated to become an impactful contributor to the dematerialization and decarbonization of global manufacturing. While we have a climate action plan committed to reduce our company's "footprint," we believe far larger benefits will flow from our "handprint" stemming from our software offerings. Our software solutions enable manufacturers to design, build, and service their products more sustainably.

Footprint

In 2023, we announced our footprint reduction commitment via the Science Based Target initiative (SBTi) and submitted near-term and net-zero targets for validation by SBTi. Our submitted near-term commitment is to reduce combined Scope 1 (direct emissions from owned/controlled operations) and Scope 2 (indirect energy use) emissions by 50% and reduce Scope 3 - Category 1 (Purchased Goods and Services) 25% compared to our 2022 baseline by 2030. Our long-term net-zero commitment is to reach net-zero across all scope emissions by 2050, with absolute reductions of over 90% across Scopes 1-3, with accredited carbon removal offsets for the remaining <10% as needed.

While we await SBTi approval of our near-term and net-zero targets, we have already begun to implement programs and pursue initiatives to reduce our emissions and carbon footprint, including:

- prioritizing energy efficiency and accessibility to public transportation when selecting office space;
- increasing our subsidy for employee's public transportation commute costs; and
- consolidating our data center operations with providers committed to mid-decade 100% renewable energy and advancing circular outcomes.

Handprint

Environmental sustainability is integral to our product offerings. With our software, manufacturers can drive sustainability improvement, including by designing with less material, enhancing product repairability and circularity, improving factory efficiency, and enabling remote service.

People and Culture

At PTC, we don't just imagine a better world, we help create it. Within our work environment we seek to create an equitable and inclusive culture in which all employees can thrive. This is a key aspect of our talent strategy. Our approach is focused on promoting an agile culture, an increased sense of belonging, engaged work environments, and high-performing teams.

Our Values

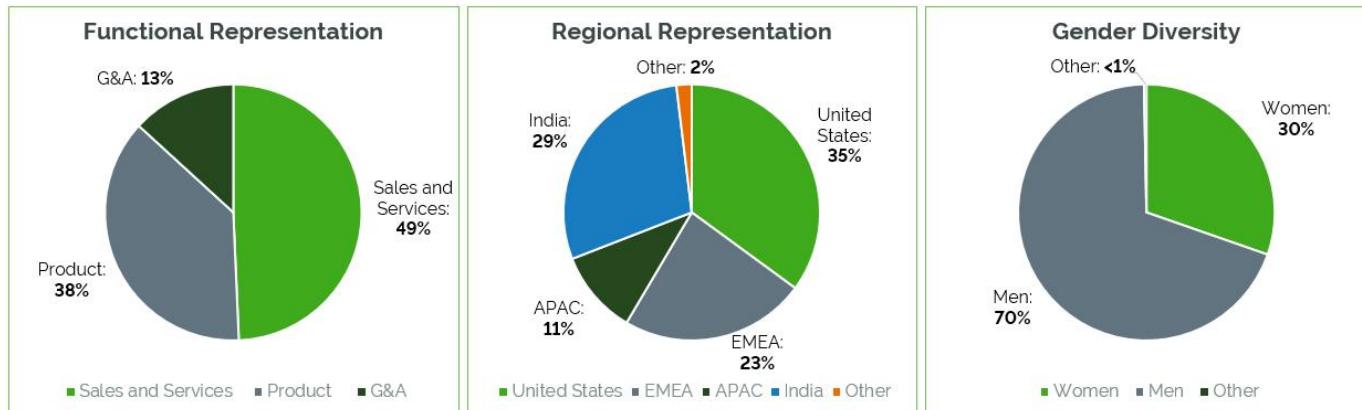


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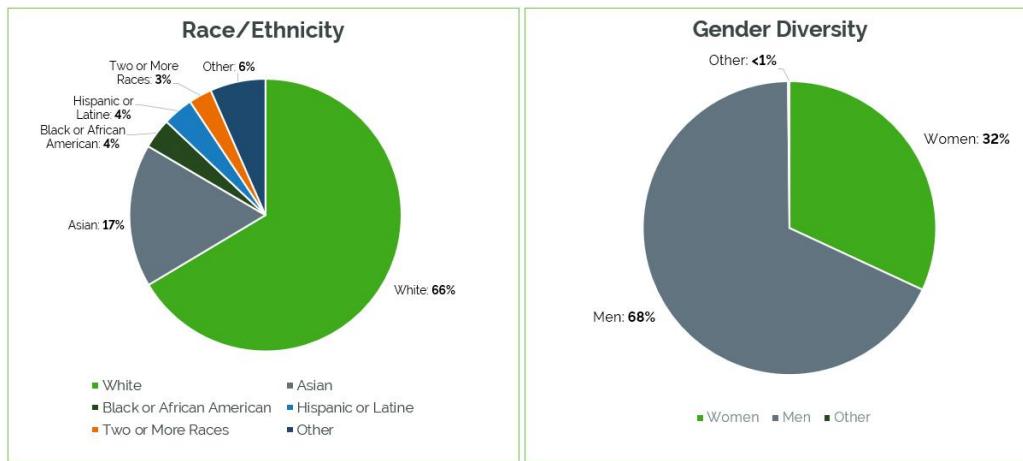
PTC at-a-Glance

As of September 30, 2023, PTC had 7,231 full-time employees. Our employee population is geographically diverse and serves a geographically diverse customer and partner network.

Worldwide Employee Representation



United States Employee Representation



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Compensation and Benefits

PTC provides a comprehensive and competitive compensation and benefits package designed to attract, retain, motivate, and engage talent around the world.

We provide employees with competitive compensation packages, including base salaries, and, for eligible roles, incentive and equity compensation. Employees also have the opportunity to purchase PTC stock at a discount through our Employee Stock Purchase Plan.

Our benefits offerings are designed to meet the needs of our employees and their families around the world. Specific offerings differ country by country due to cultural norms, market dynamics, and legal requirements, but we provide a wide variety of core health and financial programs such as healthcare, life and disability insurance, employee assistance plans, retirement savings and pension benefit plans, and generous paid family leave and vacation time.

Talent Development & Employee Engagement

As we focus on enhancing the employee experience, we are increasing our efforts to invest in our people and create meaningful opportunities to learn, grow, develop, and advance their careers. We have specific development programs and coaching programs, as well as numerous other self-led learning paths. The variety of options means that employees have the ability to focus on the development path most meaningful to them.

Diversity, Equity, and Inclusion (DEI)

Commitment to our values and diversity in our workforce is supported by various ongoing efforts. We mitigate bias by coaching managers and leaders in fostering psychologically safe environments. We also review and revise our processes based on feedback and engagement scores from employee pulse surveys. We embed equitable practices into the planning and execution of how we attract, select, develop, and retain talent. Meanwhile, our DEI ambassadors are aligned with functions across the business to amplify and enhance our efforts in these areas. Finally, to cultivate a community of belonging, our 12 Employee Resource Groups foster an inclusive culture and facilitate safe spaces for employees to navigate social issues and challenges.

Additional Information About Our Employee Initiatives

You can find more information about our employee initiatives in our 2023 Impact Report, which we expect to release in December 2023.

Available Information

We make available free of charge on our website at www.ptc.com the following reports as soon as reasonably practicable after electronically filing them with, or furnishing them to, the SEC: our Annual Reports on Form 10-K; our Quarterly Reports on Form 10-Q; our Current Reports on Form 8-K; and amendments to those reports filed or furnished pursuant to Sections 13(a) or 15(d) of the Securities Exchange Act of 1934. Our Proxy Statements for our Annual Meetings and Section 16 trading reports on SEC Forms 3, 4 and 5 also are available on our website.

Corporate Information

PTC was incorporated in Massachusetts in 1985 and is headquartered in Boston, Massachusetts.

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ITEM 1A. Risk Factors

The following are important factors we have identified that could affect an investment in our securities. You should consider them carefully when evaluating an investment in PTC securities, because these factors could cause actual results to differ materially from historical results or any forward-looking statements. The risks described below are not the only risks we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial may also materially adversely affect our business, financial condition, operating results, and prospects.

I. Risks Related to Our Business Operations and Industry

We face significant competition, which could adversely affect our business, financial condition, operating results, and prospects if we are unable to successfully compete.

The markets for our products and solutions are rapidly changing and characterized by intense competition, disruptive technology developments, evolving distribution models and increasingly lower barriers to entry. If we are unable to provide products and solutions that address customers' needs as well as our competitors' products and solutions do, or to align our pricing, licensing and delivery models with customer preferences, we could lose customers and/or fail to attract new customers, which could adversely affect our business, financial condition, operating results, and prospects.

For example, customer demand for SaaS solutions is increasing. While our Arena, ServiceMax, and Onshape solutions are cloud-native SaaS solutions, and we have introduced our Windchill+, Creo+, and Kepware+ SaaS solutions, customers may not adopt them as we expect. If we are unable to compete successfully with competitors offering SaaS solutions, we could lose customers and/or fail to attract new customers, which could adversely affect our business, financial condition, operating results, and prospects.

Our current and potential competitors range from large and well-established companies to emerging start-ups. Some of our competitors and potential competitors have greater name recognition in the markets we serve and greater financial, technical, sales and marketing, and other resources, which could limit our ability to gain customer recognition and confidence in our products and solutions and successfully sell our products and solutions, which could adversely affect our ability to grow our business.

A breach of security in our products or computer systems, or those of our third-party service providers, could compromise the integrity of our products, cause loss of data, harm our reputation, create additional liability and adversely affect our business, financial condition, operating results, and prospects.

We have implemented and continue to implement measures intended to maintain the security and integrity of our products, source code and IT systems. The potential for a security breach or system disruption has significantly increased over time as the scope, number, intensity and sophistication of attempted cyberattacks and cyber intrusions have increased – particularly cyberattacks and intrusions designed to access and exfiltrate information and to disrupt and lock up access to systems for the purpose of demanding a ransom payment. It is impossible for us to eliminate the risk of a successful cyberattack or intrusion, and, in fact, we regularly deal with security issues and have experienced security incidents from time to time. Accordingly, there is a risk that a cyberattack or intrusion will be successful and that such event will be material.

In addition, we offer cloud services to our customers and some of our products, including our SaaS products, are hosted by third-party service providers, which expose us to additional risks as those repositories of our customers' proprietary data may be targeted and a cyberattack or intrusion may be successful and material. Interception of data transmission, misappropriation or modification of data, corruption of data and attacks against our service providers may adversely affect our products or product and service delivery. Malicious code, viruses or vulnerabilities that are undetected by our service providers may disrupt our business operations generally and may have a disproportionate effect on those of our products that are developed and delivered in the cloud environment.

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While we devote resources to maintaining the security and integrity of our products and systems, as well as performing due diligence of our third-party service providers, security breaches that have not had a material effect on our business or that of our customers have occurred, and we will continue to face cybersecurity threats and exposure. A significant breach of the security and/or integrity of our products or systems, or those of our third-party service providers, whether intentional or by human error by our employees or others, could disrupt our business operations or those of our customers, could prevent our products from functioning properly, could enable access to sensitive, proprietary or confidential information of our customers, or could enable access to our sensitive, proprietary or confidential information. This could require us to incur significant costs of investigation, remediation and/or payment of a ransom; harm our reputation; cause customers to stop buying our products; and cause us to face lawsuits and potential liability, any of which could have a material adverse effect on our business, financial condition, operating results, and prospects.

We increasingly rely on third-party providers of cloud infrastructure services to deliver our offerings to users on our platform, and any disruption of or interference with our use of these services could adversely affect our business, financial condition, operating results, and prospects.

Our continued growth depends in part on the ability of our existing and potential customers to use and access our cloud services or our website in order to download our software or encrypted access keys for our software within an acceptable amount of time. We use a number of third-party service providers that we do not control for key components of our infrastructure, particularly with respect to development and delivery of our cloud-based products. The use of these service providers gives us greater flexibility in efficiently delivering a more tailored, scalable customer experience, but also exposes us to additional risks and vulnerabilities. Third-party service providers operate their own platforms that we access, and we are, therefore, vulnerable to their service interruptions. We may experience interruptions, delays and outages in service and availability from time to time as a result of problems with our third-party service providers' infrastructure. Lack of availability of this infrastructure could be due to a number of potential causes including technical failures, natural disasters, fraud or security attacks that we cannot predict or prevent. Such outages could adversely impact our business, financial condition, results of operations, and prospects.

If we are unable to renew our agreements with our cloud service providers on commercially reasonable terms, or any of our agreements are prematurely terminated, or we need to add new cloud services providers to increase capacity and uptime, we could experience interruptions, downtime, delays, and additional expenses related to transferring to and providing support for these new platforms. Any of the above circumstances or events may harm our reputation and brand, reduce the availability or usage of our platforms and impair our ability to attract new users, any of which could adversely affect our business, financial condition, results of operations, and prospects.

We may be unable to hire or retain employees with the necessary skills to operate and grow our business, which could adversely affect our ability to compete and adversely affect our business, financial condition, results of operations, and prospects.

Our success depends upon our ability to attract and retain highly skilled employees to develop our products and solutions and to operate and grow our business. Competition for such employees in our industry is intense worldwide, and particularly in the Boston, Massachusetts area where our global headquarters is located.

If we are unable to attract and retain employees with the requisite skills to develop our products and solutions, or to guide, operate and support our business, we may be unable to compete successfully, which would adversely affect our business, financial condition, results of operations, and prospects.

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We depend on sales within the discrete manufacturing sector and our business could be adversely affected if manufacturing activity does not grow or if it contracts, or if manufacturers are adversely affected by other macroeconomic factors.

A large amount of our sales are to customers in the discrete manufacturing sector. Manufacturers worldwide continue to face uncertainty about the global macroeconomic environment due to, among other factors, the effects of earlier and ongoing supply chain disruptions, rising interest rates and inflation, volatile foreign exchange rates and the current relative strength of the U.S. Dollar, and the U.S. government's focus on technology transactions with non-U.S. entities. Customers may delay, reduce, or forego purchases of our solutions due to these challenges and concerns, which could adversely affect our business, financial condition, results of operations, and prospects.

If we fail to successfully transform our operations to support the sale of SaaS solutions and to develop competitive SaaS solutions, our business and prospects could be adversely affected.

Transforming our business to offer and support SaaS solutions requires considerable additional investment in our organization. Whether we will be successful and will accomplish our business and financial objectives is subject to risks and uncertainties, including but not limited to: customer demand, attach and renewal rates, channel adoption, our ability to further develop and scale infrastructure, our ability to include functionality and usability in such offerings that address customer requirements, our ability and the ability of our partners to transition existing customer implementations and subscriptions to SaaS, and our costs. If we are unable to successfully establish these new offerings and navigate our business transition, our business, financial condition, results of operations, and prospects could be adversely affected.

Because our sales and operations are globally dispersed, we face additional compliance risks, and any compliance failure could adversely affect our business and prospects.

We sell and deliver software and services, and maintain support operations, in many countries whose laws and practices differ from one another and are subject to unexpected changes. Managing these geographically dispersed operations requires significant attention and resources to ensure compliance with laws of those countries and those of the U.S. governing our activities in non-U.S. countries.

Those laws include, but are not limited to, anti-corruption laws and regulations (including the U.S. Foreign Corrupt Practices Act (FCPA) and the U.K. Bribery Act 2010), data privacy laws and regulations (including the European Union's General Data Privacy Regulation), and trade and economic sanctions laws and regulations (including laws administered by the U.S. Department of the Treasury's Office of Foreign Assets Control, the U.S. State Department, the U.S. Department of Commerce, the United Nations Security Council and other sanctions authorities). Our compliance risks are heightened due to the go-to-market approach for our business that relies heavily on a partner ecosystem, the fact that some of the countries we operate in have a higher incidence of corruption and fraudulent business practices, the fact that we sell to governments and state-owned business enterprises, and the fact that global enforcement of laws has significantly increased.

Accordingly, while we strive to maintain a comprehensive compliance program, an employee, agent or business partner may violate our policies or U.S. or other applicable laws or we may inadvertently violate such laws. Investigations of alleged violations of those laws can be expensive and disruptive. Violations of such laws can lead to civil and/or criminal prosecutions, substantial fines and other sanctions, including the revocation of our rights to continue certain operations, and also cause business loss and reputational harm, which could adversely affect our business, financial condition, results of operations, and prospects.

II. Risks Related to Acquisitions and Strategic Relationships

Businesses we acquire may not generate the sales and earnings we anticipate and may otherwise adversely affect our business and prospects.

We have acquired, and intend to continue to acquire, new businesses and technologies. If we fail to successfully integrate and manage the businesses and technologies we acquire, if an acquisition does not further our business strategy or return a level of sales as we expect, or if a business we acquire has unexpected legal or financial liabilities, our business, financial condition, results of operations, and prospects could be adversely affected.

The types of issues that we may face in integrating and operating the acquired business include:

- difficulties managing an acquired company's technologies or lines of business or entering new markets where we have limited or no prior experience or where competitors may have stronger market positions;
- unanticipated operating difficulties in connection with the acquired entities, including potential declines in sales of the acquired entity;
- complications relating to the assumption of pre-existing contractual relationships of an acquired company that we would not have otherwise entered into, the termination or modification of which may be costly or disruptive to our business;
- litigation arising from the transaction, including potential intellectual property claims or disputes following an acquisition;
- diversion of management and employee attention;
- challenges with implementing adequate and appropriate controls, procedures and policies in an acquired business;
- potential loss of key personnel in connection with an acquisition; and
- potential incompatibility of business cultures.

Further, if we do not achieve the expected return on our investments, it could impair the intangible assets and goodwill that we recorded as part of an acquisition, which could require us to record a reduction to the value of those assets.

We may incur significant debt or issue a material amount of debt or equity securities to finance an acquisition, which could adversely affect our operating flexibility, business and prospects.

If we were to incur a significant amount of debt—whether by borrowing funds under our credit facility or otherwise or issuing new debt securities—to finance an acquisition, our interest expense, debt service requirements and leverage would increase significantly. The increases in these expenses and in our leverage could constrain our ability to operate as we might otherwise or to borrow additional amounts and could adversely affect our business, financial condition, results of operations, and prospects.

If we were to issue a significant amount of equity securities in connection with an acquisition, existing stockholders would be diluted and our stock price could decline.

Our inability to maintain or develop our strategic and technology relationships could adversely affect our business and prospects.

We have many strategic and technology relationships with other companies with which we work to offer complementary solutions and services, that market and sell our solutions, and that provide technologies that we embed in our solutions. We may not realize the expected benefits from these

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relationships and such relationships may be terminated by the other party. If these companies fail to perform or if a company terminates or substantially alters the terms of the relationship, we could suffer delays in product development, reduced sales or other operational difficulties and our business, financial condition, results of operations, and prospects could be materially adversely affected.

III. Risks Related to Our Intellectual Property

We may be unable to adequately protect our proprietary rights, which could adversely affect our business and our prospects.

Our software products are proprietary. We protect our intellectual property rights in these items by relying on copyrights, trademarks, patents and common law safeguards, including trade secret protection, as well as restrictions on disclosures and transferability contained in our agreements with other parties. Despite these measures, the laws of all relevant jurisdictions may not afford adequate protection to our products and other intellectual property. In addition, we frequently encounter attempts by individuals and companies to pirate our software. If our measures to protect our intellectual property rights fail, others may be able to use those rights, which could reduce our competitiveness and adversely affect our business, financial condition, operating results, and prospects.

In addition, any legal action to protect our intellectual property rights that we may bring or be engaged in could be costly, may distract management from day-to-day operations and may lead to additional claims against us, and we may not succeed, all of which could adversely affect our business, financial condition, operating results, and prospects.

Intellectual property infringement claims could be asserted against us, which could be expensive to defend, could result in limitations on our use of the claimed intellectual property, and could adversely affect our business and prospects.

The software industry is characterized by frequent litigation regarding copyright, patent and other intellectual property rights. We have faced such lawsuits from time to time. Any such claim could result in significant expense to us and divert the efforts of our technical and management personnel. We cannot be sure that we would prevail against any such asserted claims. If we did not prevail, we could be prevented from using the claimed intellectual property or be required to enter into royalty or licensing agreements, which might not be available on terms acceptable to us. In addition to possible claims with respect to our proprietary products, some of our products contain technology developed by and licensed from third parties and we may likewise be susceptible to infringement claims with respect to these third-party technologies.

IV. Risks Related to Our Indebtedness

Our substantial indebtedness could adversely affect our business, financial condition, results of operations, and prospects, as well as our ability to meet our payment obligations under our debt.

We have a substantial amount of indebtedness. As of November 17, 2023, our total debt outstanding was approximately \$2,307 million and €85 million, \$1 billion of which was associated with the 3.625% Senior Notes and 4.000% Senior Notes (together, "Senior Notes") issued in February 2020, which mature in February 2025 and 2028, respectively, and are unsecured; \$807 million and €85 million of which was borrowed under our credit facility revolving line, which matures in January 2028; and \$500 million of which was borrowed under our credit facility term loan, which begins amortizing in March 2024. All amounts outstanding under the credit facility and the Senior Notes will be due and payable in full on their respective maturity dates. As of November 17, 2023, we had unused commitments under our credit facility of approximately \$350 million. PTC Inc. and one of our foreign subsidiaries are eligible borrowers under the credit facility and certain other foreign subsidiaries may become borrowers under our credit facility in the future, subject to certain conditions.

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Specifically, our level of debt could:

- make it more difficult for us to satisfy our debt obligations and other ongoing business obligations, which may result in defaults;
- result in an event of default if we fail to comply with the financial and other covenants contained in the agreements governing our debt instruments, which could result in all of our debt becoming immediately due and payable or require us to negotiate an amendment to financial or other covenants that could cause us to incur additional fees and expenses;
- limit our ability to obtain additional financing to fund future working capital, capital expenditures, acquisitions or other general corporate requirements;
- reduce the availability of our cash to fund working capital, capital expenditures, acquisitions and other general corporate purposes and limit our ability to obtain additional financing for these purposes;
- increase our vulnerability to adverse economic and industry conditions;
- amplify the risk of increased interest rates as certain of our borrowings, including borrowings under our credit facility, are at variable rates of interest;
- limit our flexibility in planning for, or reacting to, and increasing our vulnerability to, changes in our business, the industries in which we operate, and the overall economy; and
- place us at a competitive disadvantage compared to other, less leveraged competitors.

Any of the above-listed factors could have an adverse effect on our business, financial condition, results of operations, and prospects, and our ability to meet our payment obligations under our debt agreements.

Despite our current level of indebtedness, we and our subsidiaries may still be able to incur substantially more debt and other obligations. This could further exacerbate the risks to our business, financial condition, and prospects described above.

We and our subsidiaries may be able to incur significant additional indebtedness and other obligations in the future, including secured debt. Although the credit agreement governing our credit facility contains restrictions on the incurrence of additional indebtedness, these restrictions are subject to a number of qualifications and exceptions. The additional indebtedness incurred in compliance with these restrictions could be substantial. In addition, the credit agreement and the indenture governing our Senior Notes due 2025 and 2028, will not prevent us from incurring obligations that do not constitute indebtedness. If new debt is added to our current debt levels, or we incur other obligations, the related risks that we now face could intensify.

We may not be able to generate enough cash to service all our indebtedness and may be forced to take other actions to satisfy our obligations under our indebtedness, which may not be successful, and could harm our business and prospects.

Our ability to make scheduled payments on or refinance our debt obligations depends on our financial condition and operating performance, which are subject to prevailing economic and competitive conditions and to certain financial, business, legislative, regulatory and other factors, some of which are beyond our control. We may be unable to maintain a level of cash flows from operating activities sufficient to permit us to pay the principal, premium, if any, and interest on our indebtedness.

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If our cash flows and capital resources are insufficient to fund our debt service obligations, we could face substantial liquidity problems and could be forced to reduce or delay investments and capital expenditures or to dispose of material assets or operations, seek additional debt or equity capital or restructure or refinance our indebtedness. We may not be able to effect any such alternative measures, if necessary, on commercially reasonable terms or at all and, even if successful, those alternative actions may not allow us to meet our scheduled debt service obligations. Our debt agreements restrict our ability to dispose of assets and use the proceeds from those dispositions and may also restrict our ability to raise debt or equity capital to be used to repay other indebtedness when it becomes due. We may not be able to consummate those dispositions or to obtain proceeds in an amount sufficient to meet any debt service obligations then due.

Our inability to generate sufficient cash flows to satisfy our debt obligations, or to refinance our indebtedness on commercially reasonable terms or at all, would materially and adversely affect our ability to satisfy our debt obligations.

If we cannot make scheduled payments on our debt, we will be in default and the lenders under our credit facility could terminate their commitments to loan money, the lenders could foreclose against the assets securing their borrowings, the holders of our Senior Notes could declare all outstanding principal, premium, if any, and interest to be due and payable, and we could be forced into bankruptcy or liquidation. These events could result in a loss of your investment.

We are required to comply with certain financial and operating covenants under our debt agreements. Any failure to comply with those covenants could cause amounts borrowed to become immediately due and payable and/or prevent us from borrowing under the credit facility.

We are required to comply with specified financial and operating covenants under our debt agreements and to make payments under our debt, which limit our ability to operate our business as we otherwise might operate it. Our failure to comply with any of these covenants or to meet any debt payment obligations could result in an event of default which, if not cured or waived, would result in any amounts outstanding, including any accrued interest and/or unpaid fees, becoming immediately due and payable. We might not have enough working capital or liquidity to satisfy any repayment obligations if those obligations were accelerated. In addition, if we are not in compliance with the financial and operating covenants under the credit facility when we wish to borrow funds, we will be unable to borrow funds to pursue certain corporate initiatives, including strategic acquisitions, which could adversely affect our business and prospects.

V. Risks Related to Our Common Stock

Our stock price has been volatile, which may make it harder to resell shares at a favorable time and price.

Market prices for securities of software companies are generally volatile and are subject to significant fluctuations that may be unrelated or disproportionate to the operating performance of these companies. Accordingly, the trading prices and valuations of software companies' stocks, and of ours, may not be predictable. Negative changes in the public's perception of the prospects of software companies, or of PTC or the markets we serve, could depress our stock price regardless of our operating results.

Also, a large percentage of our common stock is held by institutional investors. Purchases and sales of our common stock by these investors could have a significant impact on the market price of our stock.

If our results of operations do not meet market or analysts' expectations, our stock price could decline.

Our quarterly operating results fluctuate depending on many factors, including the effect of ASC 606 on revenue recognition for the on-premises software subscriptions we offer, variability in the timing of start dates for our subscription and SaaS offerings, length of contracts, and renewals, and significant unexpected expenses in a quarter. Accordingly, our quarterly results are difficult to predict and we may

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be unable to confirm or adjust expectations with respect to our operating results for a quarter until that quarter has closed. If our quarterly operating results do not meet market or analysts' expectations, our stock price could decline.

VI. General Risk Factors

Our international businesses present economic and operating risks, which could adversely affect our business and prospects.

We expect that our international operations will continue to expand and to account for a significant portion of our total revenue. Because we transact business in various foreign currencies, the volatility of foreign exchange rates has had and may in the future have a material adverse effect on our revenue, expenses and operating results.

Other risks inherent in our international operations include, but are not limited to, the following:

- difficulties in staffing and managing foreign sales and development operations;
- exposure of our operations and employees to political instability and armed conflict in the countries and regions in which we operate, including Israel;
- increased financial accounting and reporting burdens and complexities;
- increased regulatory and compliance risks;
- inadequate local infrastructure; and
- greater difficulty in protecting our intellectual property.

We may have exposure to additional tax liabilities and our effective tax rate may increase or fluctuate, which could increase our income tax expense, reduce our net income, and increase our tax payment obligations.

As a multinational organization, we are subject to income taxes as well as non-income based taxes in the U.S. and in various foreign jurisdictions. Significant judgment is required in determining our worldwide income tax provision and other tax liabilities. In the ordinary course of a global business, there are many intercompany transactions and calculations where the ultimate tax determination is uncertain. Our tax returns are subject to review by various taxing authorities. Although we believe that our tax estimates are reasonable, the final determination of tax audits or tax disputes could be different from what is reflected in our historical income tax provisions and accruals.

Our effective tax rate and tax payment obligations can be adversely affected by several factors, many of which are outside of our control, including:

- changes in tax laws (for example, the introduction of an amendment to Section 174 of the U.S. tax legislation), regulations, and interpretations in multiple jurisdictions in which we operate;
- assessments, and any related tax interest or penalties, by taxing authorities;
- changes in the relative proportions of revenues and income before taxes in the various jurisdictions in which we operate that have differing statutory tax rates;
- changes to the financial accounting rules for income taxes;
- unanticipated changes in tax rates; and
- changes to a valuation allowance on net deferred tax assets, if any.

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ITEM 1B. Unresolved Staff Comments

None.

ITEM 2. Properties

We currently have 83 office locations used in operations in the United States and internationally, predominately as sales and/or support offices and for research and development work. Of our total of approximately 1,076,000 square feet of leased facilities used in operations, approximately 421,000 square feet are located in the U.S., including approximately 250,000 square feet at our headquarters facility located in Boston, Massachusetts, and approximately 267,000 square feet are located in India, where a significant amount of our research and development is conducted.

ITEM 3. Legal Proceedings

None.

ITEM 4. Mine Safety Disclosures

Not applicable.

PART II

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

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

On September 30, 2023, the close of our fiscal year, and on November 13, 2023, our common stock was held by 952 and 950 shareholders of record, respectively.

ITEM 6. [Reserved]

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

Operating and Non-GAAP Financial Measures

Our discussion of results includes discussion of our ARR (Annual Run Rate) operating measure, non-GAAP financial measures, and disclosure of our results on a constant currency basis. ARR and our non-GAAP financial measures, including the reasons we use those measures, are described below in *Results of Operations - Operating Measure* and *Results of Operations - Non-GAAP Financial Measures*, respectively. The methodology used to calculate constant currency disclosures is described in *Results of Operations - Impact of Foreign Currency Exchange on Results of Operations*. You should read those sections to understand our operating measure, non-GAAP financial measures, and constant currency disclosures.

Executive Overview

ARR grew 26% (23% constant currency) to \$1.98 billion as of the end of FY'23 compared to FY'22. Organic ARR, which excludes contributions from the ServiceMax business we acquired in Q2'23, grew 15% (13% constant currency) year over year to \$1.81 billion. Organic ARR growth was driven by double-digit growth across all product groups and geographies.

We generated \$611 million of cash from operations in FY'23 compared to \$435 million in FY'22, an increase of 40%. Free cash flow of \$587 million in FY'23 increased 41% from \$416 million in FY'22. Our cash flow growth is attributable to strong collections driven by our solid top-line growth from our subscription business model and operational discipline. Interest payments were \$41 million higher in FY'23 compared to FY'22, while restructuring payments decreased \$39 million year-over-year. We ended FY'23 with cash and cash equivalents of \$288 million and gross debt of \$1.70 billion, with an aggregate weighted average interest rate of 5.2%.

Revenue growth of 8% (12% constant currency) in FY'23 compared to FY'22 was primarily due to the contributions from ServiceMax and Codebeam. The timing of revenue recognition for on-premises subscription revenue can vary significantly, impacting reported revenue and growth rates. Interest expense was \$75 million higher in FY'23 compared to FY'22, which adversely affected our net income and earnings per share results. The increase was driven by debt and liabilities related to the ServiceMax acquisition.

Results of Operations

The following table shows the measures that we consider the most significant indicators of our business performance. In addition to providing operating income, operating margin, diluted earnings per share and cash from operations as calculated under GAAP, we provide our ARR operating measure and non-GAAP operating income, non-GAAP operating margin, non-GAAP diluted earnings per share, and free cash flow for the reported periods. We also provide a view of our actual results on a constant currency basis. Our non-GAAP financial measures exclude the items described in *Non-GAAP Financial Measures* below. Investors should use our non-GAAP financial measures only in conjunction with our GAAP results.

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For discussion of our FY'22 results and comparison to our FY'21 results, refer to *Management's Discussion and Analysis of Financial Conditions and Results of Operations* in our Annual Report on Form 10-K for the year ended September 30, 2022.

(Dollar amounts in millions, except per share data)	Year ended September 30,		Percent Change	
	2023	2022	Actual	Constant Currency⁽¹⁾
ARR as of September 30	\$ 1,978.6	\$ 1,572.0	26 %	23 %
Total recurring revenue ⁽²⁾	\$ 1,907.9	\$ 1,736.2	10 %	13 %
Perpetual license	38.6	34.1	13 %	17 %
Professional services	150.5	163.1	(8)%	(5)%
Total revenue	2,097.1	1,933.3	8 %	12 %
Total cost of revenue	441.0	386.0	14 %	16 %
Gross margin	1,656.0	1,547.4	7 %	11 %
Operating expenses	1,197.6	1,100.0	9 %	11 %
Operating income	\$ 458.5	\$ 447.4	2 %	10 %
Non-GAAP operating income ⁽¹⁾	\$ 758.9	\$ 732.2	4 %	8 %
Operating margin	21.9 %		23.1 %	
Non-GAAP operating margin ⁽¹⁾	36.2 %		37.9 %	
Diluted earnings per share	\$ 2.06	\$ 2.65		
Non-GAAP diluted earnings per share ⁽¹⁾	\$ 4.34	\$ 4.58		
Cash flow from operations ⁽³⁾	\$ 610.9	\$ 435.3		
Capital expenditure	(23.8)	(19.5)		
Free cash flow	\$ 587.0	\$ 415.8		

- (1) See *Non-GAAP Financial Measures* below for a reconciliation of our GAAP results to our non-GAAP measures and *Impact of Foreign Currency Exchange on Results of Operations* below for a description of how we calculate our results on a constant currency basis.
- (2) Recurring revenue is comprised of on-premises subscription, perpetual support, SaaS, and cloud revenue.
- (3) Cash flow from operations for FY'23 and FY'22 includes \$1.5 million and \$40.8 million of restructuring payments, respectively. Cash from operations for FY'23 and FY'22 includes \$19.6 million and \$11.8 million of acquisition and transaction-related payments, respectively.

Impact of Foreign Currency Exchange on Results of Operations

Approximately 50% of our revenue and 35% of our expenses are transacted in currencies other than the U.S. Dollar. Because we report our results of operations in U.S. Dollars, currency translation, particularly changes in the Euro, Yen, Shekel, and Rupee relative to the U.S. Dollar, affects our reported results. Changes in foreign currency exchange rates were a headwind to reported income statement results in FY'23. However, ARR was positively impacted by improvements in currency exchange rates, particularly the Euro to U.S. Dollar exchange rate, as of September 30, 2023 compared to September 30, 2022.

The results of operations in the table above, and the tables and discussions below about revenue by line of business and product group present both actual percentage changes year over year and percentage changes on a constant currency basis. Our constant currency disclosures are calculated by multiplying the results in local currency for FY'23 and FY'22 by the exchange rates in effect on September 30, 2022. If FY'23 reported results were converted into U.S. Dollars using the rates in effect as of September 30, 2022, ARR would have been lower by \$38 million, revenue would have been lower by \$59 million, and expenses would have been lower by \$26 million. If FY'22 reported results were converted into U.S. Dollars using the rates in effect as of September 30, 2022, ARR would have been the same, revenue would have been lower by \$112 million, and expenses would have been lower by \$50 million.

Revenue

Under ASC 606, the volume, mix, and duration of contract types (support, SaaS, on-premises subscription) starting or renewing in any given period can have a material impact on revenue in the period, and as a result can impact the comparability of reported revenue period over period. We recognize revenue for the license portion of on-premises subscription contracts up front when we deliver the licenses to the customer, typically on the start date, and we recognize revenue on the support portion of on-premises subscription contracts and stand-alone support contracts ratably over the term. We continue to convert existing perpetual support contracts to on-premises subscriptions, resulting in a shift to up-front recognition of on-premises subscription license revenue in the period converted compared to ratable recognition for a perpetual support contract. Revenue from our cloud services (primarily SaaS) contracts is recognized ratably. We expect that over time a higher portion of our revenue will be recognized ratably as we continue to expand our SaaS offerings, release additional cloud functionality into our products, and migrate customers from on-premises subscriptions to SaaS. Given the different mix, duration and volume of new and renewing contracts in any period, year-over-year or sequential revenue can vary significantly.

Revenue by Line of Business

(Dollar amounts in millions)

	Year ended September 30,		Percent Change	
	2023	2022	Actual	Constant Currency
License ⁽¹⁾	\$ 747.0	\$ 782.7	(5)%	(1)%
Support and cloud services ⁽²⁾	1,199.5	987.6	21 %	25 %
Total software revenue	1,946.6	1,770.3	10 %	13 %
Professional services	150.5	163.1	(8)%	(5)%
Total revenue	\$ 2,097.1	\$ 1,933.3	8 %	12 %

(1) Includes perpetual licenses and the license portion of on-premises subscription sales.

(2) Includes support on perpetual licenses, the support portion of on-premises subscription sales, SaaS, and cloud services.

Software revenue in FY'23 benefited from contributions from ServiceMax, acquired early in Q2'23, and Codebeamer, acquired in Q3'22. Changes in foreign currency exchange rates were a headwind to year-over-year revenue growth.

Within software revenue, license revenue is impacted by the quantity and size of expiring and renewing multi-year on-premises subscription contracts, along with the duration of those contracts that start in the period. In FY'23, the weighted-average duration of contracts starting in the year decreased compared to FY'22 primarily due to a few high-value renewal contracts in FY'22 that had longer than typical durations. Because longer duration contracts typically have a higher total contract value, which drives the amount of upfront license revenue recognized for on-premises contracts, this year-over-year duration decrease represented a headwind to license revenue growth in FY'23.

Professional services revenue decreased in FY'23 as we continue to execute on our strategy of leveraging partners to deliver services rather than contracting to deliver services ourselves, including the Q3'22 sale of a portion of our PLM services business to ITC Infotech (which branded the business DxP Services). Changes in foreign currency exchange rates also contributed to the year-over-year revenue decline. These decreases were partially offset by ServiceMax professional services revenue.

Our expectation is that professional services revenue will continue to trend down over time as we execute on our partner strategy and deliver products that require less consulting and training services.

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Software Revenue by Product Group

(Dollar amounts in millions)	Year ended September 30,		Percent Change	
	2023	2022	Actual	Constant Currency
Product lifecycle management (PLM)	\$ 1,186.0	\$ 980.5	21 %	24 %
Computer-aided design (CAD)	760.6	789.8	(4) %	0 %
Software revenue	<u>\$ 1,946.6</u>	<u>\$ 1,770.3</u>	10 %	13 %

PLM software revenue growth in FY'23 benefited from contributions from ServiceMax and Codebeamer. Changes in foreign currency exchange rates were a headwind to year-over-year revenue growth. Excluding contributions from ServiceMax and Codebeamer, constant currency revenue growth was driven by Windchill and IIoT in the Americas.

PLM ARR grew 36% (34% constant currency) from Q4'22 to Q4'23, driven by ServiceMax, which contributed \$171 million of ARR; Windchill; IIoT; and Codebeamer.

CAD software revenue was negatively impacted by changes in foreign currency exchange rates. Constant currency revenue growth was flat due to decreases in Creo revenue in Europe due to shorter durations of on-premises subscription contracts, offset by Creo revenue growth in the Americas and Asia Pacific.

CAD ARR grew 12% (10% constant currency) in FY'23 compared to FY'22, driven by Creo.

Gross Margin

(Dollar amounts in millions)	Year ended September 30,		Percent Change	
	2023	2022		
License gross margin	\$ 693.8	\$ 733.4		(5) %
License gross margin percentage	93 %	94 %		
Support and cloud services gross margin	\$ 954.5	\$ 802.8		19 %
Support and cloud services gross margin percentage	80 %	81 %		
Professional services gross margin	\$ 7.7	\$ 11.1		(31) %
Professional services gross margin percentage	5 %	7 %		
Total gross margin	\$ 1,656.0	\$ 1,547.4		7 %
Total gross margin percentage	79 %	80 %		
Non-GAAP gross margin ⁽¹⁾	\$ 1,712.6	\$ 1,595.7		7 %
Non-GAAP gross margin percentage	82 %	83 %		

(1) Non-GAAP financial measures are reconciled to GAAP results under *Non-GAAP Financial Measures* below.

License gross margin decreased in FY'23 compared to FY'22 due to lower license revenue and higher royalty expense.

Support and cloud services gross margin increased in FY'23 compared to FY'22 due to higher support and cloud services revenue, partially offset by increases in cost of support and cloud services, which were driven by higher royalty expenses, compensation costs, higher intangible amortization expense due to the ServiceMax acquisition, and cloud hosting costs.

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Professional services gross margin decreased in FY'23 compared to FY'22 due to lower professional services revenue, offset by lower professional services costs. The decrease in professional services revenue is mainly due to the sale of a portion of our PLM services business in FY'22 and continued execution on our strategy of leveraging partners to deliver services rather than contracting to deliver services ourselves.

Operating Expenses

(Dollar amounts in millions)

	Year ended September 30,		Percent Change
	2023	2022	
Sales and marketing	\$ 530.1	\$ 485.2	9 %
% of total revenue	25 %	25 %	
Research and development	394.4	338.8	16 %
% of total revenue	19 %	18 %	
General and administrative	233.5	204.7	14 %
% of total revenue	11 %	11 %	
Amortization of acquired intangible assets	40.0	35.0	14 %
% of total revenue	2 %	2 %	
Restructuring and other charges (credits), net	(0.5)	36.2	(101) %
% of total revenue	0 %	2 %	
Total operating expenses	<u>\$ 1,197.6</u>	<u>\$ 1,100.0</u>	9 %

Total headcount increased by 11% between FY'22 and FY'23, primarily driven by our acquisition of ServiceMax.

Operating expenses in FY'23 compared to FY'22 increased primarily due to the following:

- a \$90 million increase in compensation expense (including stock-based compensation and benefit costs), primarily due to our acquisition of ServiceMax;
- a \$12 million increase in marketing expense, primarily due to our Q3'23 LiveWorx event;
- an \$11 million increase in software subscriptions and internal hosting costs;
- a \$10 million increase in travel expenses;

partially offset by:

- a \$38 million decrease in restructuring charges, primarily due to the restructuring plan initiated and substantially completed in FY'22.

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Interest Expense

(Dollar amounts in millions)

	Year ended September 30,		Percent Change
	2023	2022	
Interest and debt premium expense	\$ (129.4)	\$ (54.3)	138 %

Interest expense includes interest on our revolving credit facility and term loan, our Senior Notes due 2025 and 2028, and imputed interest on the deferred payment of a portion of the ServiceMax purchase price. The increase in interest expense was driven by higher total debt and higher interest rates in FY'23 compared to FY'22, as well as \$30 million of imputed interest associated with the ServiceMax deferred acquisition payment.

Other Income

(Dollar amounts in millions)

	Year ended September 30,		Percent Change
	2023	2022	
Interest income	\$ 5.4	\$ 2.5	116 %
Other income (expense), net	(1.9)	1.5	(227) %
Other income, net	\$ 3.5	\$ 4.0	(13) %

Other income (expense), net in FY'23 was related to foreign currency exchange losses. Other income (expense), net in FY'22 included \$36 million of recognized gains from the sale of assets, primarily related to the sale of a portion of our PLM services business, offset by a \$35 million loss associated with an equity investment in a publicly traded company.

Income Taxes

(Dollar amounts in millions)

	Year ended September 30,		Percent Change
	2023	2022	
Income before income taxes	\$ 332.6	\$ 397.1	(16) %
Provision for income taxes	87.0	84.0	4 %
Effective income tax rate	26 %	21 %	

The effective tax rate for FY'23 was higher than the effective rate for FY'22, primarily due to tax expense of \$21.8 million related to an uncertain tax position regarding transfer pricing in a foreign jurisdiction where we are currently under audit. Our rate was also impacted by tax expense of \$6.3 million related to non-deductible imputed interest related to the deferred payment on the acquisition of ServiceMax Inc. Additionally, in FY'22, our rate included \$8.1 million of tax expense arising from the basis difference on goodwill related to the sale of a portion of our PLM services business.

In the normal course of business, PTC and its subsidiaries are examined by various taxing authorities, including the IRS in the United States. We regularly assess the likelihood of additional assessments by tax authorities and provide for these matters as appropriate. We are currently under audit by tax authorities in several jurisdictions including Germany, Ireland, and Italy. Audits by tax authorities typically involve examination of the deductibility of certain permanent items, transfer pricing, limitations on net operating losses, and tax credits.

Liquidity and Capital Resources

(in millions)

	September 30,	
	2023	2022
Cash and cash equivalents	\$ 288.1	\$ 272.2
Restricted cash	0.7	0.7
Total	\$ 288.8	\$ 272.9

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(in millions)

	Year ended September 30,	
	2023	2022
Net cash provided by operating activities	\$ 610.9	\$ 435.3
Net cash used in investing activities	\$ (866.1)	\$ (201.2)
Net cash provided by (used in) financing activities	\$ 268.3	\$ (264.1)

Cash, Cash Equivalents and Restricted Cash

We invest our cash with highly rated financial institutions. Cash and cash equivalents include highly liquid investments with original maturities of three months or less.

A significant portion of our cash is generated and held outside the U.S. As of September 30, 2023, we had cash and cash equivalents of \$35 million in the U.S., \$111 million in Europe, \$121 million in Asia Pacific (including India), and \$21 million in other non-U.S. countries. We have substantial cash requirements in the U.S., but believe that the combination of our existing U.S. cash and cash equivalents, our ability to repatriate cash to the U.S., future U.S. operating cash flows, and cash available under our revolving credit facility will be sufficient to meet our ongoing U.S. operating expenses and known capital requirements.

Cash Provided by Operating Activities

Cash provided by operating activities increased by \$175.6 million in FY'23 compared to FY'22. This increase was driven by higher collections, including contributions from ServiceMax, offset by higher vendor disbursements and higher interest payments due to a higher debt burden and higher interest rates. Cash from operations in FY'23 includes \$1.5 million of restructuring payments and \$19.6 million of acquisition and transaction-related payments compared to \$40.8 million of restructuring payments and \$11.8 million of acquisition and transaction-related payments in FY'22.

Cash Used in Investing Activities

Cash used in investing activities in FY'23 was driven by the acquisition of ServiceMax, with \$828.2 million paid in Q2'23. Cash used in investing activities in FY'22 was driven by the acquisition of the Codebeamer business for \$278.1 million, offset by \$46.9 million of proceeds from the sale of an investment and \$32.5 million of proceeds from the sale of a portion of our PLM services business.

Cash Provided by (Used in) Financing Activities

Cash provided by financing activities in FY'23 was primarily related to net new borrowings of \$771.0 million (a \$500.0 million term loan and a \$271.0 million incremental revolving line) to fund the ServiceMax acquisition and net repayments of \$428.0 million on the new revolving facility. Cash used in financing activities in FY'22 includes repayments of \$355.0 million under our credit facility and repurchases of common stock of \$125.0 million, offset by borrowings of \$264.0 million to fund our acquisition of the Codebeamer business.

Outstanding Debt

(in millions)

	September 30, 2023
4.000% Senior Notes due 2028	\$ 500.0
3.625% Senior Notes due 2025	500.0
Credit facility revolver line	202.0
Credit facility term loan	500.0
Total debt	1,702.0
Unamortized debt issuance costs for the Senior Notes	(6.2)
Total debt, net of issuance costs	\$ 1,695.8
Undrawn under credit facility revolver	\$ 1,048.0
Undrawn under credit facility revolver available for borrowing	\$ 384.6

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In addition to the debt shown in the above table, as of September 30, 2023, we had a \$620 million deferred acquisition payment liability related to the fair value of the \$650 million installment paid in October 2023 for the ServiceMax acquisition. Of the \$650 million paid, \$620 million has been recorded as a financing outflow and the \$30 million of imputed interest has been recorded as an operating cash outflow in our Q1'24 financials. To finance this payment and the payment for the acquisition of pure-systems in Q1'24, we borrowed \$740 million under the revolving line of our credit facility. This is described in *Note 18. Subsequent Events of Notes to the Consolidated Financial Statements* in this Annual Report.

As of September 30, 2023, we were in compliance with all financial and operating covenants of the credit facility and the Senior Note indentures. Any failure to comply with such covenants under the credit facility would prevent us from being able to borrow additional funds under the credit facility, and, as with any failure to comply with such covenants under the Senior Note indentures, could constitute a default that could cause all amounts outstanding to become due and payable immediately. Loans under the credit facility bear interest at variable rates which reset every 30 to 180 days. As of September 30, 2023, the annual rates for borrowings outstanding under the credit facility revolver line and term loan were both 7.2%.

Our credit facility and our Senior Notes are described in *Note 9. Debt of Notes to the Consolidated Financial Statements* in this Annual Report.

Expectations for 2024

We believe that existing cash and cash equivalents, together with cash generated from operations and amounts available under our credit facility, will be sufficient to meet our working capital and capital expenditure requirements (which we expect to be approximately \$20 million in FY'24) through at least the next twelve months and to meet our known long-term capital requirements.

For the remainder of FY'24, we expect to use substantially all our cash generated from operating activities to repay debt outstanding under our credit facility revolving line.

Our expected uses and sources of cash could change, our cash position could be reduced, and we could incur additional debt obligations if we decide to retire other debt, engage in strategic transactions, or repurchase shares, any of which could be commenced, suspended, or completed at any time. Any such repurchases or retirement of debt will depend on prevailing market conditions, our liquidity requirements, contractual restrictions and other factors. The amounts involved in any debt retirement or issuance, share repurchases, or strategic transactions may be material.

Contractual Obligations

At September 30, 2023, our future contractual obligations were related to debt, deferred acquisition payments, leases, pension liabilities, unrecognized tax benefits, and purchase obligations. See *Note 6. Acquisitions and Disposition of Businesses, Note 9. Debt, Note 17. Leases, Note 14. Pension Plans, and Note 8. Income Taxes of Notes to Consolidated Financial Statements* in this Annual Report for information about those obligations, which Notes are incorporated by reference into this section. Our purchase obligations were approximately \$164.7 million, with \$75.9 million expected to be paid in FY'24 and \$88.8 million thereafter. Purchase obligations represent minimum commitments due to third parties, including royalty contracts, research and development contracts, telecommunication contracts, information technology maintenance contracts in support of internal-use software and hardware, financing leases, operating leases with original terms of less than 12 months, and other marketing and consulting contracts. Contracts for which our commitment is variable or based on volumes with no fixed minimum quantities and contracts that can be canceled without payment penalties are not included in the purchase obligation amounts above. The purchase obligations included above are in addition to amounts included in Current liabilities and Prepaid expenses recorded on our September 30, 2023 Consolidated Balance Sheet.

As of September 30, 2023, we had letters of credit and bank guarantees outstanding of approximately \$13.1 million (of which \$0.5 million was collateralized).

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Operating Measure

ARR

ARR (Annual Run Rate) represents the annualized value of our portfolio of active subscription software, cloud, SaaS, and support contracts as of the end of the reporting period. We calculate ARR as follows:

- We consider a contract to be active when the product or service contractual term commences (the “start date”) until the right to use the product or service ends (the “expiration date”). Even if the contract with the customer is executed before the start date, the contract will not count toward ARR until the customer right to receive the benefit of the products or services has commenced.
- For contracts that include annual values that increase over time, which we refer to as ramp contracts, we include in ARR only the annualized value of components of the contract that are considered active as of the date of the ARR calculation. We do not include any future committed increases in the contract value as of the date of the ARR calculation.
- As ARR includes only contracts that are active at the end of the reporting period, ARR does not reflect assumptions or estimates regarding future customer renewals or non-renewals.
- Active contracts are annualized by dividing the total active contract value by the contract duration in days (expiration date minus start date), then multiplying that by 365 days (or 366 days for leap years).

We believe ARR is a valuable operating measure to assess the health of a subscription business because it is aligned with the amount that we invoice the customer on an annual basis. We generally invoice customers annually for the current year of the contract. A customer with a one-year contract will typically be invoiced for the total value of the contract at the beginning of the contractual term, while a customer with a multi-year contract will be invoiced for each annual period at the beginning of each year of the contract.

ARR increases by the annualized value of active contracts that commence in a reporting period and decreases by the annualized value of contracts that expire in the reporting period.

As ARR is not annualized recurring revenue, it is not calculated based on recognized or unearned revenue and is not affected by variability in the timing of revenue under ASC 606, particularly for on-premises license subscriptions where a substantial portion of the total value of the contract is recognized as revenue at a point in time upon the later of when the software is made available, or the subscription term commences.

ARR should be viewed independently of recognized and unearned revenue and is not intended to be combined with, or to replace, either of those items. Investors should consider our ARR operating measure only in conjunction with our GAAP financial results.

Non-GAAP Financial Measures

The non-GAAP financial measures presented in the discussion of our results of operations and the respective most directly comparable GAAP measures are:

- free cash flow—cash flow from operations
- non-GAAP gross margin—GAAP gross margin
- non-GAAP operating income—GAAP operating income
- non-GAAP operating margin—GAAP operating margin

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- non-GAAP net income—GAAP net income
- non-GAAP diluted earnings per share—GAAP diluted earnings per share

Free cash flow is cash flow from operations net of capital expenditures, which are expenditures for property and equipment and consist primarily of facility improvements, office equipment, computer equipment, and software. We believe that free cash flow, in conjunction with cash from operations, is a useful measure of liquidity since capital expenditures are a necessary component of ongoing operations.

The non-GAAP financial measures other than free cash flow exclude, as applicable: stock-based compensation expense; amortization of acquired intangible assets; acquisition and transaction-related charges included in General and administrative expenses; restructuring and other charges (credits), net; non-operating charges (credits), net; and income tax adjustments.

The items excluded from these non-GAAP financial measures are normally included in the comparable measures calculated and presented in accordance with GAAP. We do not include these items, which can vary significantly from period to period, when reviewing our operating results internally because we do not consider them to be part of our core operating results. Excluding them facilitates evaluation of our ongoing performance, our earnings trends, and comparisons to the performance of other companies in our industry. Management uses non-GAAP financial measures in conjunction with our GAAP results, as should investors.

Stock-based compensation is a non-cash expense relating to stock-based awards issued to executive officers, employees and outside directors, consisting of restricted stock units. We exclude this expense as it is a non-cash expense and we assess our internal operations excluding this expense and believe it facilitates comparisons to the performance of other companies in our industry.

Amortization of acquired intangible assets is a non-cash expense that is impacted by the timing and magnitude of our acquisitions. We believe the assessment of our operations excluding these costs is relevant to our assessment of internal operations and comparisons to the performance of other companies in our industry.

Acquisition and transaction-related charges included in General and administrative expenses are direct costs of potential and completed acquisitions and expenses related to acquisition integration activities, including transaction fees, due diligence costs, severance and professional fees. Subsequent adjustments to our initial estimated amount of contingent consideration associated with specific acquisitions are also included within acquisition and transaction-related charges. Other transactional charges include third-party costs related to structuring merger and acquisition transactions outside of ordinary business operations. We do not include these costs when reviewing our operating results internally. The occurrence and amount of these costs will vary depending on the timing and size of acquisitions and transactions.

Restructuring and other charges (credits), net includes excess facility restructuring charges (credits); impairment and accretion expense charges related to the lease assets of exited facilities; sublease income from previously impaired facilities; severance charges resulting from reductions of personnel; and third-party professional consulting fees related to modifications of our business strategy. These costs may vary in size based on our restructuring plan.

Non-operating charges (credits), net are gains or losses associated with sales or changes in value of assets or liabilities that are generally investing or financing in nature and are not indicative of our ongoing ordinary operating activities. In FY'23, we recognized a financing charge for a debt commitment agreement associated with our acquisition of ServiceMax. In FY'22, we recorded gains associated with the sale of assets, including the sale of a portion of our PLM services business, and we recorded a loss associated with the reduction in value of an equity investment in a publicly-traded company.

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Income tax adjustments include the tax impact of the items above. Additionally, we exclude other material tax items that we do not include when reviewing our operating results internally. For example, in FY'23, adjustments include a charge related to an uncertain tax position in a foreign jurisdiction.

We use these non-GAAP financial measures, and we believe that they assist our investors, to make period-to-period comparisons of our operational performance because they provide a view of our operating results without items that are not, in our view, indicative of our core operating results. We believe that these non-GAAP financial measures help illustrate underlying trends in our business, and we use the measures to establish budgets and operational goals (communicated internally and externally) for managing our business and evaluating our performance. We believe that providing non-GAAP financial measures also affords investors a view of our operating results that may be more easily compared to the results of other companies in our industry that use similar financial measures to supplement their GAAP results.

The items excluded from the non-GAAP financial measures often have a material impact on our financial results and such items often recur. Accordingly, the non-GAAP financial measures included in this Annual Report should be considered in addition to, and not as a substitute for or superior to, the comparable measures prepared in accordance with GAAP. The following tables reconcile each of these non-GAAP financial measures to its most closely comparable GAAP measure on our financial statements.

(in millions, except per share amounts)

	Year ended September 30,	
	2023	2022
GAAP gross margin	\$ 1,656.0	\$ 1,547.4
Stock-based compensation	20.9	22.8
Amortization of acquired intangible assets included in cost of revenue	35.7	25.6
Non-GAAP gross margin	\$ 1,712.6	\$ 1,595.7
GAAP operating income	\$ 458.5	\$ 447.4
Stock-based compensation	206.5	174.9
Amortization of acquired intangible assets	75.7	60.5
Acquisition and transaction-related charges	18.7	13.2
Restructuring and other charges (credits), net	(0.5)	36.2
Non-GAAP operating income	\$ 758.9	\$ 732.2
GAAP net income	\$ 245.5	\$ 313.1
Stock-based compensation	206.5	174.9
Amortization of acquired intangible assets	75.7	60.5
Acquisition and transaction-related charges	18.7	13.2
Restructuring and other charges (credits), net	(0.5)	36.2
Non-operating charges (credits), net ⁽¹⁾	5.1	(1.4)
Income tax adjustments ⁽²⁾	(33.5)	(55.1)
Non-GAAP net income	\$ 517.6	\$ 541.5
GAAP diluted earnings per share	\$ 2.06	\$ 2.65
Stock-based compensation	1.73	1.48
Total amortization of acquired intangible assets	0.63	0.51
Acquisition and transaction-related charges	0.16	0.11
Restructuring and other charges (credits), net	—	0.31
Non-operating charges (credits), net ⁽¹⁾	0.04	(0.01)
Income tax adjustments ⁽²⁾	(0.28)	(0.47)
Non-GAAP diluted earnings per share	\$ 4.34	\$ 4.58
Cash flow from operations	\$ 610.9	\$ 435.3
Capital expenditure	(23.8)	(19.5)
Free cash flow	\$ 587.0	\$ 415.8

(1) In FY'23, we recognized \$4.2 million of financing charges for a debt commitment agreement associated with our acquisition of ServiceMax. Net credits for FY'22 include a \$29.8 million gain on the sale of a portion of our PLM services business, a \$3.4 million gain on the sale of an asset, and a \$3.0 million gain on the sale of an investment, offset by a \$34.8 million charge from the reduction in value of an equity investment in a publicly-traded company.

(2) Income tax adjustments reflect the tax effects of non-GAAP adjustments which are calculated by applying the applicable tax rate by jurisdiction to the non-GAAP adjustments listed above. In FY'23, non-GAAP expense excludes \$21.8 million related to uncertain tax positions in a foreign jurisdiction.

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Operating margin impact of non-GAAP adjustments:

	Year ended September 30,	
	2023	2022
GAAP operating margin	21.9 %	23.1 %
Stock-based compensation	9.8 %	9.0 %
Total amortization of acquired intangible assets	3.6 %	3.1 %
Acquisition and transaction-related charges	0.9 %	0.7 %
Restructuring and other charges (credits), net	(—)%	1.9 %
Non-GAAP operating margin	36.2 %	37.9 %

Critical Accounting Policies and Estimates

We have prepared our consolidated financial statements in accordance with accounting principles generally accepted in the United States of America. In preparing our financial statements, we make estimates, assumptions and judgments that can have a significant impact on our reported revenues, results of operations, and net income, as well as on the value of certain assets and liabilities on our balance sheet. These estimates, assumptions and judgments are made based on our historical experience and on other assumptions that we believe to be reasonable under the circumstances. These estimates may change as new events occur or additional information is obtained, and we may periodically be faced with uncertainties, the outcomes of which are not within our control and may not be known for a prolonged period of time.

The accounting policies, methods and estimates used to prepare our financial statements are described generally in *Note 2. Summary of Significant Accounting Policies* of Notes to Consolidated Financial Statements in this Annual Report. The most important accounting judgments and estimates that we made in preparing the financial statements involved:

- revenue recognition;
- accounting for income taxes; and
- valuation of assets and liabilities acquired in business combinations.

A critical accounting policy is one that is both material to the presentation of our financial statements and requires us to make subjective or complex judgments that could have a material effect on our financial condition and results of operations. Critical accounting policies require us to make assumptions about matters that are uncertain at the time of the estimate, and different estimates that we could have used, or changes in the estimates that are reasonably likely to occur, may have a material impact on our financial condition or results of operations. Because the use of estimates is inherent in the financial reporting process, actual results could differ from those estimates.

Accounting policies, guidelines and interpretations related to our critical accounting policies and estimates are generally subject to numerous sources of authoritative guidance and are often reexamined by accounting standards rule makers and regulators. These rule makers and/or regulators may promulgate interpretations, guidance or regulations that may result in changes to our accounting policies, which could have a material impact on our financial position and results of operations.

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Revenue Recognition

We record revenues in accordance with the guidance provided by ASC 606, *Revenue from Contracts with Customers*. For a full description of our revenue accounting policy, refer to *Note 2. Summary of Significant Accounting Policies*, included in the Notes to Consolidated Financial Statements in this Annual Report.

Our sources of revenue include: (1) subscriptions, (2) perpetual licenses, (3) support for perpetual licenses, and (4) professional services. Subscriptions include term-based on-premises licenses and related support, Software-as-a-Service (SaaS), and hosting services.

Judgments and Estimates

Determination of performance obligations. Our subscriptions are frequently sold as a bundle of products and services, typically pairing on-premises term software licenses with support and, for certain offerings, cloud services over the same term. Significant judgment is used in determining the performance obligations related to these bundled products and services. On-premises software is typically determined to be a distinct performance obligation and is thus recognized separately from the support and cloud components. On-premises license software revenue is generally recognized at the point in time that the software is made available to the customer, while the support and cloud software revenue components are recognized ratably over the term of the contract. In cases where subscriptions include cloud functionality and on-premises software, an assessment has been performed to determine whether the cloud services are distinct from the on-premises software. In the substantial majority of instances, cloud services provide incremental functionality to customers and have been considered distinct and recognized separately from the on-premises software. This assessment could have a significant impact on the timing of revenue recognition and may change as our product offerings evolve.

Allocation of transaction price. We estimate the standalone selling price of each identified performance obligation and use that estimate to allocate the transaction price among said performance obligations. The estimated standalone selling price is determined using all information reasonably available to us, including market conditions and other observable inputs. Significant judgment is used in determining the standalone selling prices of the on-premises license, support, and cloud components of our subscription products. These estimates are subject to change as our product offerings change and could have a significant impact due to the difference in the timing of revenue recognition for on-premises licenses versus support and cloud.

Right to exchange. Our multi-year, non-cancellable subscription contracts provide customers with an annual right to exchange software within the original subscription with other software. When it applies to on-premises licenses, we account for this right as a liability. For most contracts, we use the expected value method to determine the liability associated with this right across a portfolio of contracts. Where contracts are outside of the standard portfolio of contracts due to contract size, longer contract duration, or other unique contractual terms, we use the most likely amount method to determine the liability for each individual contract. In both circumstances, the transaction price is constrained based on our estimates, which impacts the amount of revenue recognized. Changes in these estimates could significantly impact revenue for any given period.

Accounting for Income Taxes

As part of the process of preparing our consolidated financial statements, we are required to calculate our income tax expense based on taxable income by jurisdiction. There are many transactions and calculations about which the ultimate tax outcome is uncertain; as a result, our calculations involve estimates by management. Some of these uncertainties arise as a consequence of revenue-sharing, cost-reimbursement and transfer pricing arrangements among related entities and the differing tax treatment of revenue and cost items across various jurisdictions. If we were compelled to revise or to account differently for our arrangements, that revision could affect our recorded tax liabilities.

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The income tax accounting process also involves estimating our actual current tax liability, together with assessing temporary differences resulting from differing treatment of items for tax and accounting purposes. These differences result in deferred tax assets and liabilities, which are included within our consolidated balance sheets. We must then assess the likelihood that our deferred tax assets will be recovered from future taxable income and, to the extent we believe that it is more likely than not that all or a portion of our deferred tax assets will not be realized, we must establish a valuation allowance as a charge to income tax expense.

We have unrecognized tax benefits as of September 30, 2023 of \$50.7 million. Although we believe our tax estimates are appropriate, the final determination of tax audits and any related litigation could result in favorable or unfavorable changes in our estimates. We believe it is reasonably possible that within the next 12 months the amount of unrecognized tax benefits related to the resolution of multi-jurisdictional tax positions could be reduced by up to \$26 million as audits close and statutes of limitations expire.

As of September 30, 2023, we have a valuation allowance of \$17.4 million against net deferred tax assets in the U.S. and a valuation allowance of \$4.3 million against net deferred tax assets in certain foreign jurisdictions. The valuation allowance recorded in the U.S. relates to Massachusetts tax credit carryforwards that we do not expect to realize a benefit from prior to expiration.

The valuation allowance recorded against net deferred tax assets of certain foreign jurisdictions is established primarily for our capital loss carryforwards, the majority of which do not expire. However, there are limitations imposed on the utilization of such capital losses that could further restrict the recognition of any tax benefits. We will continue to reassess our valuation allowance requirements each financial reporting period.

Prior to the passage of the U.S. Tax Act, we asserted that substantially all of the undistributed earnings of its foreign subsidiaries were considered indefinitely invested and accordingly, no deferred taxes were provided. Pursuant to the provisions of the U.S. Tax Act, these earnings were subjected to a one-time transition tax and there is therefore no longer a material cumulative basis difference associated with the undistributed earnings. We maintain our assertion to permanently reinvest these earnings outside the U.S. unless repatriation can be done substantially tax-free, with the exception of a foreign holding company formed in 2018 and our Taiwan subsidiary. If we decide to repatriate any additional non-U.S. earnings in the future, we may be required to establish a deferred tax liability on such earnings. The amount of unrecognized deferred tax liability on the undistributed earnings would not be material.

In the normal course of business, PTC and its subsidiaries are examined by various taxing authorities, including the Internal Revenue Service (IRS) in the U.S. We regularly assess the likelihood of additional assessments by tax authorities and provide for these matters as appropriate. We are currently under audit by tax authorities in several jurisdictions. Audits by tax authorities typically involve examination of the deductibility of certain permanent items, transfer pricing, limitations on net operating losses and tax credits. Although we believe our tax estimates are appropriate, the final determination of tax audits and any related litigation could result in material changes in our estimates.

Valuation of Assets and Liabilities Acquired in Business Combinations

In accordance with business combination accounting, we allocate the purchase price of acquired companies to the tangible and intangible assets acquired and liabilities assumed based on their estimated fair values. Determining these fair values requires management to make significant estimates and assumptions, especially with respect to intangible assets.

Our identifiable intangible assets acquired consist of purchased software, tradenames, customer lists and contracts, and software support agreements and related relationships. Purchased software consists of products that have reached technological feasibility and the combination of processes, inventions and trade secrets related to the design and development of acquired products. Customer lists and contracts and software support agreements and related relationships represent the underlying relationships and agreements with customers of the acquired company's installed base. We have

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generally valued intangible assets using discounted cash flow models. Critical estimates in valuing certain of the intangible assets include but are not limited to:

- future expected revenues and costs related to software license sales, customer support agreements, customer contracts and related customer relationships and acquired developed technologies and trademarks and trade names; and
- discount rates used to determine the present value of estimated future cash flows.

In addition, we estimate the useful lives of our intangible assets based upon the expected period over which we anticipate generating economic benefits from the related intangible asset.

Net tangible assets consist of the fair values of tangible assets less the fair values of assumed liabilities and obligations. Except for deferred revenues, net tangible assets were generally valued by us at the respective carrying amounts recorded by the acquired company, if we believed that their carrying values approximated their fair values at the acquisition date. For acquisitions completed prior to FY'22, the values assigned to deferred revenue reflect an amount equivalent to the estimated cost plus an appropriate profit margin to perform the services related to the acquired company's software support contracts. During FY'22, we adopted ASU 2021-08, whereby deferred revenue for acquisitions completed in FY'22 and thereafter reflect the amounts that would have been deferred as of the acquisition date in accordance with ASC 606.

In addition, uncertain tax positions and tax-related valuation allowances assumed in connection with a business combination are initially estimated as of the acquisition date. We reevaluate these items quarterly with any adjustments to our preliminary estimates being recorded to goodwill provided that we are within the measurement period (up to one year from the acquisition date) and we continue to collect information in order to determine their estimated values. Subsequent to the measurement period or our final determination of the estimated value of uncertain tax positions or tax-related valuation allowances, whichever comes first, changes to these uncertain tax positions and tax-related valuation allowances will affect our provision for income taxes in our Consolidated Statements of Operations.

Our estimates of fair value are based upon assumptions believed to be reasonable at that time, but which are inherently uncertain and unpredictable. Assumptions may be incomplete or inaccurate, and unanticipated events and circumstances may occur, which may affect the accuracy or validity of such assumptions, estimates or actual results.

When events or changes in circumstances indicate that the carrying value of a finite-lived intangible asset may not be recoverable, we perform an assessment of the asset for potential impairment. This assessment is based on projected undiscounted future cash flows over the asset's remaining life. If the carrying value of the asset exceeds its undiscounted cash flows, we record an impairment loss equal to the excess of the carrying value over the fair value of the asset, determined using projected discounted future cash flows of the asset.

Recent Accounting Pronouncements

In accordance with recently issued accounting pronouncements, we will be required to comply with certain changes in accounting rules and regulations, none of which are expected to have a material impact on our consolidated financial statements.

Off-Balance Sheet Arrangements

We have not created, and are not party to, any special-purpose or off-balance sheet entities for the purpose of raising capital, incurring debt or operating parts of our business that are not consolidated (to the extent of our ownership interest therein) into our financial statements. We have not entered into any transactions with unconsolidated entities whereby we have subordinated retained interests, derivative instruments or other contingent arrangements that expose us to material continuing risks, contingent liabilities, or any other obligation under a variable interest in an unconsolidated entity that provides financing, liquidity, market risk or credit risk support to us.

ITEM 7A. Quantitative and Qualitative Disclosures about Market Risk

We face exposure to financial market risks, including adverse movements in foreign currency exchange rates and changes in interest rates. These exposures may change over time as business practices evolve and could have a material adverse impact on our financial results.

Foreign currency exchange risk

Our earnings and cash flows are subject to fluctuations due to changes in foreign currency exchange rates. Our most significant foreign currency exposures relate to Eurozone countries, Japan, Sweden, Switzerland, China and India. We enter into foreign currency forward contracts and options to manage our exposure to fluctuations in foreign exchange rates that arise from receivables and payables denominated in foreign currencies. We do not enter into or hold foreign currency derivative financial instruments for trading or speculative purposes.

Our non-U.S. revenues generally are transacted through our non-U.S. subsidiaries and typically are denominated in their local currency. In addition, expenses that are incurred by our non-U.S. subsidiaries typically are denominated in their local currency. Approximately 50% of our revenue and 35% of our expenses were transacted in currencies other than the U.S. Dollar. Currency translation affects our reported results because we report our results of operations in U.S. Dollars. Historically, our most significant currency risk has been changes in the Euro and Japanese Yen relative to the U.S. Dollar. Based on current revenue and expense levels (excluding restructuring charges and stock-based compensation), a \$0.10 change in the USD to EUR exchange rate and a 10 Yen change in the Yen to USD exchange rate would impact operating income by approximately \$30 million and \$6 million, respectively.

Our exposure to foreign currency exchange rate fluctuations arises in part from intercompany transactions, with most intercompany transactions occurring between a U.S. Dollar functional currency entity and a foreign currency denominated entity. Intercompany transactions typically are denominated in the local currency of the non-U.S. Dollar functional currency subsidiary in order to centralize foreign currency risk. Also, both PTC (the parent company) and our non-U.S. subsidiaries may transact business with our customers and vendors in a currency other than their functional currency (transaction risk). In addition, we are exposed to foreign exchange rate fluctuations as the financial results and balances of our non-U.S. subsidiaries are translated into U.S. Dollars (translation risk). If sales to customers outside the United States increase, our exposure to fluctuations in foreign currency exchange rates will increase.

Our foreign currency risk management strategy is principally designed to mitigate the future potential financial impact of changes in the U.S. Dollar value of balances denominated in foreign currency, resulting from changes in foreign currency exchange rates. Our foreign currency hedging program uses forward contracts and options to manage the foreign currency exposures that exist as part of our ongoing business operations. The contracts are primarily denominated in the Euro, Swedish Krona, and Swiss Franc currencies, and have maturities of less than four months.

The majority of our foreign currency forward contracts and options are not designated as hedges for accounting purposes, and changes in the fair value of these instruments are recognized immediately in earnings. Because we enter into these derivative contracts only as an economic hedge, any gain or loss on the underlying foreign-denominated balance would be offset by the loss or gain on the derivative contract. Gains and losses on these derivatives and foreign currency denominated receivables and payables are included in Other income, net.

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As of September 30, 2023 and 2022, we had outstanding forward contracts for derivatives not designated as hedging instruments with notional amounts equivalent to the following:

Currency Hedged (in thousands)	September 30,	
	2023	2022
Canadian Dollar / U.S. Dollar	\$ 5,135	\$ 2,731
Euro / U.S. Dollar	383,227	316,869
British Pound / U.S. Dollar	6,058	7,368
Israeli Shekel / U.S. Dollar	11,852	12,052
Japanese Yen / U.S. Dollar	4,770	25,566
Swiss Franc / U.S. Dollar	32,766	25,559
Swedish Krona / U.S. Dollar	35,085	35,713
Singapore Dollar / U.S. Dollar	—	3,637
Chinese Renminbi / U.S. Dollar	16,660	23,965
New Taiwan Dollar / U.S. Dollar	11,855	13,906
Korean Won / U.S. Dollar	6,157	4,919
Danish Krone / U.S. Dollar	6,731	3,192
Australian Dollar / U.S. Dollar	452	3,269
All other	2,888	4,432
Total	\$ 523,636	\$ 483,178

Debt

In addition to the \$1 billion due under our 2025 and 2028 Senior Notes, as of September 30, 2023, we had \$702 million outstanding under our credit facility. We also had a \$620 million deferred acquisition payment liability related to the fair value of the \$650 million installment for the ServiceMax acquisition, which we paid in October 2023 leveraging financing from our credit facility. Loans under the credit facility bear interest at variable rates which reset every 30 to 180 days depending on the rate and period selected by us. These loans are subject to interest rate risk as interest rates will be adjusted at each rollover date to the extent such amounts are not repaid. As of September 30, 2023, the annual rate on the credit facility loans was 7.18%. If there were a 100 basis point change in interest rates, the annual net impact to earnings and cash flows would be \$7 million. This change in cash flows and earnings has been calculated based on the borrowings outstanding at September 30, 2023 and a 100 basis point per annum change in interest rate applied over a one-year period.

Cash and cash equivalents

As of September 30, 2023, cash equivalents were invested in highly liquid investments with maturities of three months or less when purchased. We invest our cash with highly rated financial institutions in North America, Europe and Asia Pacific and in diversified domestic and international money market mutual funds. At September 30, 2023, we had cash and cash equivalents of \$35 million in the United States, \$111 million in Europe, \$121 million in Asia Pacific (including India), and \$21 million in other non-U.S. countries. Given the short maturities and investment grade quality of the portfolio holdings at September 30, 2023, a hypothetical 10% change in interest rates would not materially affect the fair value of our cash and cash equivalents.

Our invested cash is subject to interest rate fluctuations and, for non-U.S. operations, foreign currency exchange rate risk. In a declining interest rate environment, we would experience a decrease in interest income. The opposite holds true in a rising interest rate environment. Over the past several years, the U.S. Federal Reserve Board, European Central Bank and Bank of England have changed certain benchmark interest rates, which has led to declines and increases in market interest rates. These changes in market interest rates have resulted in fluctuations in interest income earned on our cash and cash equivalents. Interest income will continue to fluctuate based on changes in market interest rates and levels of cash available for investment. Changes in foreign currencies relative to the U.S. Dollar had a favorable impact of \$2.9 million and an unfavorable impact of \$24.2 million on our consolidated cash balances in FY'23 and FY'22, respectively. The impact in FY'23 was due in particular to changes in the Euro and the Korean Won.

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ITEM 8. Financial Statements and Supplementary Data

The consolidated financial statements and notes to the consolidated financial statements are attached as APPENDIX A.

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

Our management maintains disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act") that are designed to provide reasonable assurance that information required to be disclosed in our reports filed or submitted under the Exchange Act is processed, recorded, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer (our principal executive officer and principal financial officer, respectively), as appropriate, to allow for timely decisions regarding required disclosure.

As required by SEC Rule 15d-15(b), we carried out an evaluation, under the supervision and with the participation of management, including our principal executive and principal financial officers, 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. Based on this evaluation, we concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of September 30, 2023.

Management excluded ServiceMax from its assessment of internal control over financial reporting as of September 30, 2023 because it was acquired in a business combination in the current fiscal year. ServiceMax's total assets and total revenues represent approximately 1% (excluding the impact of goodwill and intangibles from the acquisition) and 7%, respectively, of our total assets and total revenues, as of and for the year ended September 30, 2023.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act as a process designed by, or under the supervision of, our principal executive and principal financial officers and effected by our board of directors, management and other personnel, 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 and includes those policies and procedures that:

- Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of our assets;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

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Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. 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.

Our management assessed the effectiveness of our internal control over financial reporting as of September 30, 2023 using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control-Integrated Framework* (2013). Based on this assessment and those criteria, our management concluded that, as of September 30, 2023, our internal control over financial reporting was effective.

The effectiveness of our internal control over financial reporting as of September 30, 2023 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report, which appears under Item 8.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting that occurred during the quarter ended September 30, 2023 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. Other Information

Item 5.02 Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

On November 16, 2023, Michael DiTullio, President and Chief Operating Officer of the Company, Kristian Talvitie, Executive Vice President, Chief Financial Officer, Catherine Kniker, Executive Vice President, Chief Strategy and Marketing Officer, and Aaron von Staats, Executive Vice President, General Counsel entered into new Executive Agreements with PTC Inc. (the "Company"). The new Executive Agreements replace the executives' existing Executive Agreements with the Company.

The Executive Agreements provide certain compensation and employment protections to the executives. Each Executive Agreement provides that, upon a change in control of the Company, (i) all performance measures under any outstanding equity award held by the executive will be deemed to have been met at the target level, and (ii) the executive will receive a payment in an amount equal to the pro-rata portion of the executive's target incentive bonus for the current year. Upon any termination of the executive's employment after a change in control of the Company, (i) all equity awards held by the executive will accelerate and vest in full, (ii) the executive will receive a payment in an amount equal to: (a) 100% of the executive's highest base salary in the six months preceding the termination date, plus (b) 100% of the executive's highest applicable target bonus, and (iii) the executive will be entitled to continued participation in the Company's medical, dental and vision benefit plans (the "Benefit Plans") for one year, or payment of an amount sufficient to purchase substantially equivalent benefits if continued participation is not permitted under the applicable Benefit Plan or if the Benefit Plan is terminated. The Executive Agreement also provides that, upon termination of the executive's employment by the Company without cause (i) the executive will receive a payment in an amount equal to 100% of the executive's highest base salary in the six months preceding the termination date plus 100% of the executive's target bonus for the year in which the termination occurs, (ii) all equity awards held by the executive that would have vested in the twelve months following the termination date will vest, and (iii) the executive will be entitled to continued participation in the Benefit Plans or payment in lieu thereof as described above. The Executive Agreement also provides that upon termination of the executive's employment by the Company due to the executive's death or disability, all equity held by the executive will vest in full. Mr. DiTullio's Executive Agreement also provides that if he voluntarily terminates his employment after September 30, 2025, or if he is terminated without cause, all outstanding equity held by him will continue to vest after such termination in accordance with its terms, which continued equity vesting after termination without cause replaces the equity acceleration described above in the event of termination without cause. To receive the payments and benefits under the Executive Agreement, the

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executive must execute a release of claims in favor of the Company and continue to comply with the terms of the executive's Proprietary Information Agreement with the Company. The preceding description of the Executive Agreements is qualified by reference to the full text of such agreements, copies of which are filed as Exhibits 10.5 and 10.6 of this Form 10-K.

Insider Trading Arrangements

Our Section 16 officers and directors may enter into plans or arrangements for the purchase or sale of our securities that are intended to satisfy the affirmative defense conditions of Rule 10b5-1(c) of the Exchange Act. Such plans and arrangements must comply in all respects with our insider trading policies, including our policy governing entry into and operation of 10b5-1 plans and arrangements.

During the quarter ended September 30, 2023, the following Section 16 officers and directors adopted Rule 10b5-1 trading arrangements (as defined in Item 408 of Regulation S-K of the Exchange Act). All plans adopted covered only sales of PTC common stock. No plans were modified or terminated.

Name and Title of Director or Section 16 Officer	Date of Adoption, Modification, or Termination	Duration of the Plan	Aggregate Number of Shares of Common Stock that may be Sold under the Plan
James Heppelmann , Chairman and Chief Executive Officer	Adopted August 7, 2023	Ends February 12, 2024	35,000
Kristian Talvitie , Executive Vice President, Chief Financial Officer	Adopted August 31, 2023	Ends February 29, 2024	22,240
Catherine Kniker , Executive Vice President, Chief Strategy and Marketing Officer	Adopted August 15, 2023	Ends August 8, 2024	4,857, plus all net vested shares issued for the FY2023 Corporate Incentive Plan, plus all shares purchased under the 2016 Employee Stock Purchase Plan for the offering periods ending on January 31, 2024 and July 31, 2024 ⁽¹⁾⁽²⁾
Aaron von Staats , Executive Vice President, General Counsel	Adopted August 24, 2023	Ends May 31, 2024	3,835, plus all net vested shares issued for the FY2023 Corporate Incentive Plan, plus 40.5% of total shares that vest on November 15, 2023 under the performance-based RSU awards granted on November 17, 2020, November 17, 2021, and November 16, 2022 ⁽¹⁾⁽³⁾

- (1) The total number of shares that would be issued for the FY2023 Corporate Incentive Plan could not be known when the plan was adopted as the FY2023 performance period had not yet ended and attainment of the performance measure was not known.
- (2) The total number of shares that will be purchased under the 2016 Employee Stock Purchase Plan for the offering periods ending January 31, 2024 and July 31, 2024 could not be known when the plan was adopted.
- (3) The total number of shares that would be earned and vested under the performance-based RSU awards for the FY2023 performance period could not be known when the plan was adopted as the FY2023 performance period had not yet ended and attainment of the performance measures was not known.

ITEM 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

ITEM 10. Directors, Executive Officers and Corporate Governance

The information required by this item with respect to our directors and executive officers may be found under the headings "Proposal 1: Election of Directors," "Corporate Governance," "Information About Our Executive Officers," and "Transactions with Related Persons" appearing in our 2024 Proxy Statement. Such information is incorporated herein by reference.

Code of Ethics for Senior Executive Officers

We have adopted a Code of Ethics for Senior Executive Officers that applies to our Chief Executive Officer, President, Chief Financial Officer, and Controller, as well as others. The Code is embedded in our Code of Business Conduct and Ethics applicable to all employees. A copy of the Code of Business Conduct and Ethics is publicly available on our website at www.ptc.com. If we make any substantive amendments to, or grant any waiver from, including any implicit waiver, the Code of Ethics for Senior Executive Officers to or for our Chief Executive Officer, President, Chief Financial Officer or Controller, we will disclose the nature of such amendment or waiver in a current report on Form 8-K.

ITEM 11. Executive Compensation

Information with respect to director and executive compensation may be found under the headings "Director Compensation," "Compensation Discussion and Analysis," "Compensation Committee Report," "Compensation Tables," and "Pay Ratio Disclosure" appearing in our 2024 Proxy Statement. Such information is incorporated herein by reference.

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

Information about our common stock ownership may be found under the heading "Information about PTC Common Stock Ownership" appearing in our 2024 Proxy Statement. Such information is incorporated herein by reference.

EQUITY COMPENSATION PLAN INFORMATION as of September 30, 2023

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans
Equity compensation plans approved by security holders:			
2000 Equity Incentive Plan ⁽¹⁾	2,580,222	—	7,257,075
2016 Employee Stock Purchase Plan ⁽²⁾	—	—	2,223,947
Total	<u>2,580,222</u>	—	<u>9,481,022</u>

(1) All of the shares issuable upon vesting are restricted stock units, which have no exercise price.

(2) This amount represents the total number of shares remaining available under the 2016 Employee Stock Purchase Plan, of which 105,794 shares are subject to purchase during the current offering period.

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

Information with respect to this item may be found under the headings "Independence of Our Directors," "Review of Transactions with Related Persons" and "Transactions with Related Persons" appearing in our 2024 Proxy Statement. Such information is incorporated herein by reference.

ITEM 14. Principal Accounting Fees and Services

Information with respect to this item may be found under the headings "Engagement of Independent Auditor and Approval of Professional Services and Fees" and "PricewaterhouseCoopers LLP Professional Services and Fees" in our 2024 Proxy Statement. Such information is incorporated herein by reference.

[Table of Contents](#)**PART IV****ITEM 15. Exhibits and Financial Statement Schedules****(a) Documents Filed as Part of Form 10-K**

1. Financial Statements

Report of Independent Registered Public Accounting Firm (PricewaterhouseCoopers LLP, Boston, MA, PCAOB ID: 238)	F-1
Consolidated Balance Sheets as of September 30, 2023 and 2022	F-4
Consolidated Statements of Operations for the years ended September 30, 2023, 2022 and 2021	F-5
Consolidated Statements of Comprehensive Income for the years ended September 30, 2023, 2022 and 2021	F-6
Consolidated Statements of Cash Flows for the years ended September 30, 2023, 2022 and 2021	F-7
Consolidated Statements of Stockholders' Equity for the years ended September 30, 2023, 2022 and 2021	F-8
Notes to Consolidated Financial Statements	F-9

2. Financial Statement Schedules

Schedules have been omitted since they are either not required, not applicable, or the information is otherwise included in the Financial Statements per Item 15(a)1 above.

3. Exhibits

The list of exhibits in the Exhibit Index is incorporated herein by reference.

(b) Exhibits

We hereby file the exhibits listed in the attached Exhibit Index.

(c) Financial Statement Schedules

None.

ITEM 16. Form 10-K Summary

None.

EXHIBIT INDEX

Exhibit Number	Exhibit
1.1	— Share Purchase Agreement dated as of November 17, 2022, by and among PTC Inc., ServiceMax JV, LP, and ServiceMax, Inc. (filed as Exhibit 1.1 to our Current Report on Form 8-K filed on November 17, 2022 (File No. 0-18059) and incorporated herein by reference).
3.1	— Restated Articles of Organization of PTC Inc. adopted August 4, 2015 (filed as Exhibit 3.1 to our Annual Report on Form 10-K for the year ended September 30, 2015 (File No. 0-18059) and incorporated herein by reference).
3.2	— Amended and Restated By-Laws of PTC Inc., as amended through June 24, 2021 (filed as Exhibit 3.2 to our Annual Report on Form 10-K for the year ended September 30, 2022 (File No. 0-18059) and incorporated herein by reference).
4.1	— Indenture, dated as of February 13, 2020, between PTC Inc. and Wells Fargo Bank, National Association, as trustee (filed as Exhibit 4.1 to our Current Report on Form 8-K filed on February 13, 2020 (File No. 0-18059) and incorporated herein by reference).
4.2	— Form of 3.625% senior unsecured notes due 2025 (filed as Exhibit 4.2 to our Current Report on Form 8-K filed on February 13, 2020 (File No. 0-18059) and incorporated herein by reference).
4.3	— Form of 4.000% senior unsecured notes due 2028 (filed as Exhibit 4.3 to our Current Report on Form 8-K filed on February 13, 2020 (File No. 0-18059) and incorporated herein by reference).
4.4	— Description of Securities Registered under Section 12 of the Securities Exchange Act of 1934 (filed as Exhibit 4.4 to our Annual Report on Form 10-K for the year ended September 30, 2019 (File No. 0-18059) and incorporated herein by reference).
10.1*	— 2000 Equity Incentive Plan (filed as Exhibit 10.1 to our Current Report on Form 8-K filed on February 21, 2023 (File No. 0-18059) and incorporated herein by reference).
10.1.1	— Form of Restricted Stock Unit Certificate (Non-U.S.) (filed as Exhibit 10.4 to our Quarterly Report on Form 10-Q for the fiscal quarter ended July 2, 2005 (File No. 0-18059) and incorporated herein by reference).
10.1.2*	— Form of Restricted Stock Unit Certificate (Non-Employee Director) (filed as Exhibit 10.1.1 to our Quarterly Report on Form 10-Q for the fiscal quarter ended March 30, 2013 (File No. 0-18059) and incorporated herein by reference).
10.1.3	— Form of Restricted Stock Unit Certificate (U.S.) (filed as Exhibit 10.1.9 to our Annual Report on Form 10-K for the fiscal year ended September 30, 2016 (File No. 0-18059) and incorporated herein by reference).
10.1.4	— Form of Restricted Stock Unit Certificate (U.S.) (filed as Exhibit 10.1.10 to our Annual Report on Form 10-K for the fiscal year ended September 30, 2016 (File No. 0-18059) and incorporated herein by reference).
10.1.5	— Form of Restricted Stock Unit Certificate (U.S.) (filed as Exhibit 10.1.11 to our Annual Report on Form 10-K for the fiscal year ended September 30, 2016 (File No. 0-18059) and incorporated herein by reference).
10.1.6	— Form of Restricted Stock Unit Certificate (U.S. EVP) (filed as Exhibit 10.1.12 to our Annual Report on Form 10-K for the fiscal year ended September 30, 2016 (File No. 0-18059) and incorporated herein by reference).
10.1.7*	— Form of Restricted Stock Unit Certificate (U.S. Section 16) (filed as Exhibit 10.1.13 to our Annual Report on Form 10-K for the fiscal year ended September 30, 2016 (File No. 0-18059) and incorporated herein by reference).
10.1.8	— Form of Restricted Stock Unit Certificate (U.S. EVP) (filed as Exhibit 10.1.14 to our Annual Report on Form 10-K for the fiscal year ended September 30, 2016 (File No. 0-18059) and incorporated herein by reference).
10.1.9	— Form of Restricted Stock Unit Certificate (U.S.) (filed as Exhibit 10.1.15 to our Annual Report on Form 10-K for the fiscal year ended September 30, 2016 (File No. 0-18059) and incorporated herein by reference).
10.1.10*	— Form of Restricted Stock Unit Certificate (U.S. Section 16) (filed as Exhibit 10.1.16 to our Annual Report on Form 10-K for the fiscal year ended September 30, 2016 (File No. 0-18059) and incorporated herein by reference).
10.1.11*	— Form of Restricted Stock Unit Certificate (U.S. Section 16) (filed as Exhibit 10.1.17 to our Annual Report on Form 10-K for the fiscal year ended September 30, 2012 (File No. 0-18059) and incorporated herein by reference).
10.1.12*	— Form of Restricted Stock Unit Certificate (U.S.).
10.1.13*	— Form of Restricted Stock Unit Certificate (U.S. Section 16 and U.S. EVP).
10.1.14*	— Form of Restricted Stock Unit Certificate (U.S. Section 16 and U.S. EVP).
10.2*	— 2016 Employee Stock Purchase Plan (filed as Exhibit 10.2 to our Current Report on Form 8-K filed on February 21, 2023 (File No. 0-18059) and incorporated herein by reference).

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- 10.3.1* — [Executive Agreement by and between the Company and James Heppelmann dated September 30, 2020 \(filed as Exhibit 10.1 to our Current Report on Form 8-K dated September 30, 2020 \(File No. 0-18059\) and incorporated herein by reference\).](#)
- 10.3.2* — [Amendment No. 1 to Executive Agreement by and between the Company and James Heppelmann dated February 16, 2023 \(filed as Exhibit 10.3 to our Current Report on Form 8-K filed on February 21, 2023 \(File No. 0-18059\) and incorporated herein by reference\).](#)
- 10.4.1* — [Offer Letter dated July 24, 2023 by and between the Company and Neil Barua \(filed as Exhibit 10.1 to our Current Report on Form 8-K filed on July 26, 2023 \(File No. 0-18059\) and incorporated herein by reference\).](#)
- 10.4.2* — [Executive Agreement between the Company and Neil Barua dated July 24, 2023 \(filed as Exhibit 10.2 to our Current Report on Form 8-K filed on July 26, 2023 \(File No. 0-18059\) and incorporated herein by reference\).](#)
- 10.5* — [Form of Executive Agreement dated November 16, 2023 by and between PTC Inc. and each of Kristian Talvitie, Catherine Kniker, and Aaron von Staats.](#)
- 10.6* — [Executive Agreement dated November 16, 2023 by and between Michael DiTullio and PTC Inc.](#)
- 10.10 — [Office Lease Agreement dated as of September 7, 2017 by and between PTC Inc. and SCD L2 Seaport Square LLC \(filed as Exhibit 10 to our Current Report on Form 8-K filed on September 7, 2017 \(File No. 0-18059\) and incorporated herein by reference\).](#)
- 10.11 — [First Amendment to Lease dated as of October 5, 2017 by and between PTC Inc. and SCD L2 Seaport Square LLC \(filed as Exhibit 10.23 to our Annual Report on Form 10-K for the period ended September 30, 2017 \(File No. 0-18059\) and incorporated herein by reference\).](#)
- 10.16 — [Fourth Amended and Restated Credit Agreement dated January 3, 2023 by and among PTC, PTC \(IFSC\) Limited, JPMorgan Chase Bank, N.A., as administrative agent, and the Lenders named therein \(filed as Exhibit 4.4 to our Current Report on Form 8-K filed on January 3, 2023 \(File No. 0-18059\) and incorporated herein by reference\).](#)
- 21.1 — [Subsidiaries of PTC Inc.](#)
- 23.1 — [Consent of PricewaterhouseCoopers LLP, an independent registered public accounting firm.](#)
- 31.1 — [Certification of the Chief Executive Officer Pursuant to Exchange Act Rules 13\(a\)-14\(a\) and 15d-14\(a\).](#)
- 31.2 — [Certification of the Chief Financial Officer Pursuant to Exchange Act Rules 13\(a\)-14\(a\) and 15d-14\(a\).](#)
- 32** — [Certification of Periodic Financial Report Pursuant to 18 U.S.C. Section 1350.](#)
- 101 — The following materials from PTC Inc.'s Annual Report on Form 10-K for the year ended September 30, 2023, formatted in Inline XBRL (eXtensible Business Reporting Language): (i) Consolidated Balance Sheets as of September 30, 2023 and 2022; (ii) Consolidated Statements of Operations for the years ended September 30, 2023, 2022 and 2021; (iii) Consolidated Statements of Comprehensive Income for the years ended September 30, 2023, 2022 and 2021; (iv) Consolidated Statements of Cash Flows for the years ended September 30, 2023, 2022 and 2021; (v) Consolidated Statements of Stockholders' Equity for the years ended September 30, 2023, 2022 and 2021; and (vi) Notes to Consolidated Financial Statements.
- 104 — The cover page of the Annual Report on Form 10-K formatted in Inline XBRL (included in Exhibit 101).

* Identifies a management contract or compensatory plan or arrangement in which an executive officer or director of PTC participates.

** Indicates that the exhibit is being furnished with this report and is not filed as a part of it.

*** Certain information has been excluded from this exhibit because it is not material and would likely cause competitive harm to the registrant if publicly disclosed.

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 on the 17th day of November, 2023.

PTC Inc.

By: _____ /s/ JAMES HEPPELMANN

James Heppelmann
Chairman of the Board and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities indicated below, on the 17th day of November, 2023.

<u>Signature</u>	<u>Title</u>
(i) Principal Executive Officer: _____ <u>/s/ JAMES HEPPELMANN</u> James Heppelmann	Chief Executive Officer
(ii) Principal Financial and Accounting Officer: _____ <u>/s/ KRISTIAN TALVITIE</u> Kristian Talvitie	Executive Vice President and Chief Financial Officer
(iii) Board of Directors: _____ <u>/s/ JAMES HEPPELMANN</u> James Heppelmann	Chairman of the Board
_____ <u>/s/ JANICE CHAFFIN</u> Janice Chaffin	Lead Independent Director
_____ <u>/s/ NEIL BARUA</u> Neil Barua	Director
_____ <u>/s/ MARK BENJAMIN</u> Mark Benjamin	Director
_____ <u>/s/ MICHAL KATZ</u> Michal Katz	Director
_____ <u>/s/ PAUL LACY</u> Paul Lacy	Director
_____ <u>/s/ CORINNA LATHAN</u> Corinna Lathan	Director
_____ <u>/s/ JANESH MOORJANI</u> Janesh Moorjani	Director
_____ <u>/s/ ROBERT SCHECHTER</u> Robert Schechter	Director

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of PTC Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of PTC Inc. and its subsidiaries (the "Company") as of September 30, 2023 and 2022, and the related consolidated statements of operations, of comprehensive income, of stockholders' equity and of cash flows for each of the three years in the period ended September 30, 2023, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of September 30, 2023, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of September 30, 2023 and 2022, and the results of its operations and its cash flows for each of the three years in the period ended September 30, 2023 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of September 30, 2023, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Annual Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

As described in Management's Annual Report on Internal Control over Financial Reporting, management has excluded ServiceMax, Inc. from its assessment of internal control over financial reporting as of

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September 30, 2023 because it was acquired by the Company in a purchase business combination during fiscal 2023. We have also excluded ServiceMax, Inc. from our audit of internal control over financial reporting. ServiceMax, Inc. is a wholly-owned subsidiary whose total assets and total revenues excluded from management's assessment and our audit of internal control over financial reporting represent 1% and 7%, respectively, of the related consolidated financial statement amounts as of and for the year ended September 30, 2023.

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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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.

Critical Audit Matters

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

Revenue Recognition - Identification of Distinct Performance Obligations

As described in Note 2 to the consolidated financial statements, the Company's sources of revenue include: (1) subscriptions, (2) perpetual licenses, (3) support for perpetual licenses and (4) professional services. Revenue is derived from the licensing of computer software products, cloud-based offerings, and related support and professional services contracts. During the year ended September 30, 2023, the Company recognized revenue from contracts with customers of \$2,097 million. The Company's contracts with customers for subscriptions typically include commitments to transfer term-based, on-premises software licenses bundled with support and/or cloud services. On-premises software is determined to be a distinct performance obligation from support. As disclosed by management, significant judgment is used in determining the performance obligations related to these bundled products and services. The corresponding revenues are recognized as the related performance obligations are satisfied.

The principal considerations for our determination that performing procedures relating to revenue recognition - identification of distinct performance obligations, is a critical audit matter are the (i) significant judgment by management when identifying the distinct performance obligations, and (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating audit evidence related to management's identification of distinct performance obligations within contracts with

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customers.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the revenue recognition process, including controls over the identification of distinct performance obligations. These procedures also included, among others (i) evaluating the Company's revenue recognition accounting policy and (ii) testing management's identification of distinct performance obligations in its contracts with customers by examining revenue contracts on a sample basis and evaluating whether these performance obligations are satisfied at a point in time or satisfied over time.

Acquisition of ServiceMax, Inc. – Valuation of the Customer Relationships and Purchased Software Intangible Assets

As described in Note 6 to the consolidated financial statements, the Company completed its acquisition of ServiceMax, Inc. on January 3, 2023, for purchase consideration of \$1,448.2 million, net of cash acquired. The Company has accounted for the acquisition of ServiceMax, Inc. as a business combination. Assets acquired and liabilities assumed have been recorded at their estimated fair values as of the acquisition date. The purchase price allocation resulted in \$512.7 million of customer relationships and \$106.9 million of purchased software being recorded. Management estimated the fair value of the customer relationships and purchased software intangible assets using discounted cash flow models which included significant estimates and assumptions related to future revenues, costs and an applicable discount rate.

The principal considerations for our determination that performing procedures relating to the valuation of the customer relationships and purchased software intangible assets in the acquisition of ServiceMax, Inc. is a critical audit matter are (i) the significant judgment by management when developing the fair value estimate of the customer relationships and purchased software acquired, (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's significant assumptions related to future revenues, costs and the discount rate for the customer relationships and future revenues and the discount rate for the purchased software intangible assets; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the acquisition accounting, including controls over management's valuation of the customer relationships and purchased software acquired. These procedures also included, among others (i) reading the purchase agreement; (ii) testing management's process for developing the fair value estimate of the customer relationships and purchased software acquired; (iii) evaluating the appropriateness of the discounted cash flow models used by management to develop the fair value estimates; (iv) testing the completeness and accuracy of the underlying data used in the discounted cash flow models used by management to develop the fair value estimates; and (v) evaluating the reasonableness of the significant assumptions used by management related to future revenues, costs and the discount rate for the customer relationships and future revenues and the discount rate for the purchased software intangible assets. Evaluating management's assumptions related to future revenues, costs and the discount rate for the customer relationships intangible asset and the future revenues and the discount rate for the purchased software intangible asset involved considering (i) the consistency with external economic and industry data, (ii) the past performance of the acquired business, and (iii) whether these assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in evaluating the appropriateness of the discounted cash flow models and the reasonableness of the discount rate assumptions.

/s/ PricewaterhouseCoopers LLP
Boston, Massachusetts
November 17, 2023

We have served as the Company's auditor since 1992.

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PTC Inc.
CONSOLIDATED BALANCE SHEETS
(in thousands, except per share data)

	September 30,	
	2023	2022
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 288,103	\$ 272,182
Accounts receivable, net of allowance for doubtful accounts of \$429 and \$362 at September 30, 2023 and September 30, 2022, respectively	811,398	636,556
Prepaid expenses	96,016	88,854
Other current assets	81,849	71,065
Total current assets	<u>1,277,366</u>	<u>1,068,657</u>
Property and equipment, net	88,391	98,101
Goodwill	3,358,511	2,353,654
Acquired intangible assets, net	941,249	382,718
Deferred tax assets	123,319	256,091
Operating right-of-use lease assets	143,028	137,780
Other assets	356,978	390,267
Total assets	<u>\$ 6,288,842</u>	<u>\$ 4,687,268</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 43,480	\$ 40,153
Accrued expenses and other current liabilities	132,841	117,158
Accrued compensation and benefits	160,431	104,022
Accrued income taxes	14,919	5,142
Current portion of long-term debt	9,375	—
Deferred acquisition payments	620,040	—
Deferred revenue	665,362	503,781
Short-term lease obligations	<u>24,737</u>	<u>22,002</u>
Total current liabilities	<u>1,671,185</u>	<u>792,258</u>
Long-term debt	1,686,410	1,350,628
Deferred tax liabilities	29,508	28,396
Long-term deferred revenue	16,188	16,552
Long-term lease obligations	168,455	167,573
Other liabilities	<u>39,806</u>	<u>35,827</u>
Total liabilities	<u>3,611,552</u>	<u>2,391,234</u>
Commitments and contingencies (Note 10)		
Stockholders' equity:		
Preferred stock, \$0.01 par value; 5,000 shares authorized; none issued	—	—
Common stock, \$0.01 par value; 500,000 shares authorized; 118,846 and 117,472 shares issued and outstanding at September 30, 2023 and September 30, 2022, respectively	1,188	1,175
Additional paid-in capital	1,820,905	1,720,580
Retained earnings	973,277	727,737
Accumulated other comprehensive loss	<u>(118,080)</u>	<u>(153,458)</u>
Total stockholders' equity	<u>2,677,290</u>	<u>2,296,034</u>
Total liabilities and stockholders' equity	<u>\$ 6,288,842</u>	<u>\$ 4,687,268</u>

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

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PTC Inc.
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share data)

	Year ended September 30,		
	2023	2022	2021
Revenue:			
License	\$ 747,022	\$ 782,680	\$ 738,053
Support and cloud services	1,199,536	987,573	911,288
Total software revenue	1,946,558	1,770,253	1,649,341
Professional services	150,495	163,094	157,818
Total revenue	2,097,053	1,933,347	1,807,159
Cost of revenue:			
Cost of license revenue	53,200	49,240	61,750
Cost of support and cloud services revenue	245,027	184,789	164,108
Total cost of software revenue	298,227	234,029	225,858
Cost of professional services revenue	142,779	151,951	145,244
Total cost of revenue	441,006	385,980	371,102
Gross margin	1,656,047	1,547,367	1,436,057
Operating expenses:			
Sales and marketing	530,125	485,247	517,779
Research and development	394,370	338,822	299,917
General and administrative	233,516	204,732	206,006
Amortization of acquired intangible assets	40,022	34,970	29,396
Restructuring and other charges (credits), net	(460)	36,234	2,211
Total operating expenses	1,197,573	1,100,005	1,055,309
Operating income	458,474	447,362	380,748
Interest and debt premium expense	(129,417)	(54,268)	(50,478)
Other income, net	3,509	4,004	61,485
Income before income taxes	332,566	397,098	391,755
Provision (benefit) for income taxes	87,026	84,017	(85,168)
Net income	<u>\$ 245,540</u>	<u>\$ 313,081</u>	<u>\$ 476,923</u>
Earnings per share—Basic	\$ 2.07	\$ 2.67	\$ 4.08
Earnings per share—Diluted	\$ 2.06	\$ 2.65	\$ 4.03
Weighted-average shares outstanding—Basic	118,341	117,194	116,836
Weighted-average shares outstanding—Diluted	119,334	118,233	118,367

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

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PTC Inc.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in thousands)

	Year ended September 30,		
	2023	2022	2021
Net income	\$ 245,540	\$ 313,081	\$ 476,923
Other comprehensive income (loss), net of tax:			
Hedge gain (loss) arising during the period, net of tax of \$2.5 million, \$(5.8) million, and \$(0.4) million in 2023, 2022, and 2021, respectively	(7,516)	17,556	1,248
Foreign currency translation adjustment, net of tax of \$0 for each period	45,692	(92,768)	1,613
Unrealized loss on marketable securities, net of tax of \$0 for each period	—	—	(307)
Amortization of net actuarial pension loss included in net income, net of tax of \$(0.1) million, \$(0.4) million, and \$(1.2) million in 2023, 2022, and 2021, respectively	161	1,010	2,930
Pension net gain (loss) and plan amendments arising during the period, net of tax of \$1.3 million, \$(6.1) million, and \$(0.7) million in 2023, 2022, and 2021, respectively	(2,642)	15,027	1,891
Change in unamortized pension loss during the period related to changes in foreign currency, net of tax of \$0.1 million, \$(0.6) million, and \$0.0 million in 2023, 2022, and 2021, respectively	(317)	1,581	135
Other comprehensive income (loss)	35,378	(57,594)	7,510
Comprehensive income	<u>\$ 280,918</u>	<u>\$ 255,487</u>	<u>\$ 484,433</u>

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

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PTC Inc.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Year ended September 30,		
	2023	2022	2021
Cash flows from operating activities:			
Net income	\$ 245,540	\$ 313,081	\$ 476,923
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	104,760	87,694	85,239
Amortization of right-of-use lease assets	32,402	34,346	37,295
Stock-based compensation	206,459	174,863	177,289
Loss (gain) on investment	—	31,854	(68,829)
Gain on divestiture of business	—	(29,808)	—
Other non-cash items, net	(4,065)	(4,560)	(1,381)
Provision (benefit) from deferred income taxes	16,676	42,963	(158,105)
Changes in operating assets and liabilities, excluding the effects of acquisitions:			
Accounts receivable	(98,607)	(165,006)	(119,418)
Accounts payable and accrued expenses	15,918	6,957	25,096
Accrued compensation and benefits	7,845	(6,645)	16,775
Deferred revenue	56,572	57,586	58,702
Accrued income taxes	4,639	(15,329)	13,979
Other current assets and prepaid expenses	6,974	(40,643)	(14,206)
Operating lease liabilities	(1,929)	(13,610)	(7,129)
Other noncurrent assets and liabilities	17,677	(38,417)	(153,421)
Net cash provided by operating activities	<u>610,861</u>	<u>435,326</u>	<u>368,809</u>
Cash flows from investing activities:			
Additions to property and equipment	(23,814)	(19,496)	(24,713)
Purchases of short- and long-term marketable securities	—	—	(7,562)
Proceeds from sales of short- and long-term marketable securities	—	—	56,170
Proceeds from maturities of short- and long-term marketable securities	—	—	9,861
Acquisitions of businesses, net of cash acquired	(828,271)	(282,943)	(718,030)
Proceeds from sale of investments	349	46,906	—
Purchases of investments	(5,823)	—	(4,000)
Purchase of intangible assets	(800)	(6,451)	(550)
Settlement of net investment hedges	(7,602)	24,857	965
Divestitures of businesses and assets, net	(154)	32,518	—
Other investing activities	—	3,408	—
Net cash used in investing activities	<u>(866,115)</u>	<u>(201,201)</u>	<u>(687,859)</u>
Cash flows from financing activities:			
Borrowings under credit facility	1,540,000	264,000	600,000
Repayments of borrowings under credit facility	(1,197,000)	(355,000)	(168,000)
Repurchases of common stock	—	(125,000)	(30,000)
Proceeds from issuance of common stock	21,652	21,207	21,575
Payments of withholding taxes in connection with stock-based awards	(82,448)	(68,991)	(52,957)
Payments of principal for financing leases	(536)	(297)	(354)
Credit facility origination costs	(13,355)	—	—
Net cash provided by (used in) financing activities	<u>268,313</u>	<u>(264,081)</u>	<u>370,264</u>
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	2,851	(24,203)	(127)
Net change in cash, cash equivalents, and restricted cash	15,910	(54,159)	51,087
Cash, cash equivalents, and restricted cash, beginning of period	272,888	327,047	275,960
Cash, cash equivalents, and restricted cash, end of period	<u>\$ 288,798</u>	<u>\$ 272,888</u>	<u>\$ 327,047</u>

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

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PTC Inc.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands)

	Common Stock		Additional Paid-In Capital	Retained Earnings (Accumu- lated Deficit)	Accumulat- ed Other Comprehen- sive Loss	Total Stockhol- ders' Equity
	Shares	Amount				
Balance as of September 30, 2020	116,125	\$ 1,161	1,602,728	\$ (62,267)	\$ (103,374)	\$ 1,438,248
Common stock issued for employee stock-based awards	1,490	15	(15)	—	—	—
Shares surrendered by employees to pay taxes related to stock-based awards	(466)	(4)	(53,073)	—	—	(53,077)
Common stock issued for employee stock purchase plan	240	2	21,573	—	—	21,575
Compensation expense from stock-based awards	—	—	177,289	—	—	177,289
Net income	—	—	—	476,923	—	476,923
Repurchases of common stock	(226)	(2)	(29,998)	—	—	(30,000)
Gain on net investment hedges, net of tax	—	—	—	—	1,248	1,248
Foreign currency translation adjustment	—	—	—	—	1,613	1,613
Unrealized loss on available-for-sale securities, net of tax	—	—	—	—	(307)	(307)
Change in pension benefits, net of tax	—	—	—	—	4,956	4,956
Balance as of September 30, 2021	117,163	\$ 1,172	1,718,504	\$ 414,656	\$ (95,864)	\$ 2,038,468
Common stock issued for employee stock-based awards	1,737	18	(18)	—	—	—
Shares surrendered by employees to pay taxes related to stock-based awards	(597)	(6)	(68,985)	—	—	(68,991)
Common stock issued for employee stock purchase plan	215	2	21,205	—	—	21,207
Compensation expense from stock-based awards	—	—	174,863	—	—	174,863
Net income	—	—	—	313,081	—	313,081
Repurchases of common stock	(1,046)	(11)	(124,989)	—	—	(125,000)
Gain on net investment hedges, net of tax	—	—	—	—	17,556	17,556
Foreign currency translation adjustment	—	—	—	—	(92,768)	(92,768)
Change in pension benefits, net of tax	—	—	—	—	17,618	17,618
Balance as of September 30, 2022	117,472	\$ 1,175	1,720,580	\$ 727,737	\$ (153,458)	\$ 2,296,034
Common stock issued for employee stock-based awards	1,798	18	(18)	—	—	—
Shares surrendered by employees to pay taxes related to stock-based awards	(620)	(7)	(82,761)	—	—	(82,768)
Common stock issued for employee stock purchase plan	196	2	21,650	—	—	21,652
Compensation expense from stock-based awards	—	—	161,454	—	—	161,454
Net income	—	—	—	245,540	—	245,540
Loss on net investment hedges, net of tax	—	—	—	—	(7,516)	(7,516)
Foreign currency translation adjustment	—	—	—	—	45,692	45,692
Change in pension benefits, net of tax	—	—	—	—	(2,798)	(2,798)
Balance as of September 30, 2023	118,846	\$ 1,188	1,820,905	\$ 973,277	\$ (118,080)	\$ 2,677,290

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

PTC Inc.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Description of Business and Basis of Presentation

Business

PTC Inc. was incorporated in 1985 and is headquartered in Boston, Massachusetts. PTC is a global software company that provides a portfolio of innovative digital solutions that work together to transform how physical products are engineered, manufactured, and serviced.

Basis of Presentation

Our fiscal year-end is September 30. The consolidated financial statements include PTC Inc. (the parent company) and its wholly-owned subsidiaries, including those operating outside the United States. All intercompany balances and transactions have been eliminated in the consolidated financial statements.

We prepare our financial statements under generally accepted accounting principles in the United States that require management to make estimates and assumptions that affect the amounts reported and the related disclosures. Actual results could differ from these estimates.

2. Summary of Significant Accounting Policies

Foreign Currency Translation

For our non-U.S. operations where the functional currency is the local currency, we translate assets and liabilities at exchange rates in effect at the balance sheet date and record translation adjustments in stockholders' equity. For our non-U.S. operations where the U.S. Dollar is the functional currency, we remeasure monetary assets and liabilities using exchange rates in effect at the balance sheet date and non-monetary assets and liabilities at historical rates and record resulting exchange gains or losses in Other income, net in the Consolidated Statements of Operations. We translate income statement amounts at average rates for the period. Transaction gains and losses are recorded in Other income, net in the Consolidated Statements of Operations.

Revenue Recognition

Nature of Products and Services

Our sources of revenue include: (1) subscriptions, (2) perpetual licenses, (3) support for perpetual licenses and (4) professional services. Subscriptions include term-based on-premises licenses and related support, Software-as-a-Service (SaaS), and hosting services. Revenue is derived from the licensing of computer software products, cloud-based offerings, and related support and professional services contracts. In accordance with ASC 606, *Revenue from Contracts with Customers*, revenue is recognized when a customer obtains control of promised products or services. The amount of revenue recognized reflects the consideration that we expect to be entitled to receive in exchange for these products or services. To achieve the core principle of this standard, we apply the following five steps:

- (1) identify the contract with the customer,
- (2) identify the performance obligations in the contract,
- (3) determine the transaction price,
- (4) allocate the transaction price to performance obligations in the contract, and
- (5) recognize revenue when or as we satisfy a performance obligation.

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We enter into contracts that include combinations of licenses, support, cloud-based offerings, and professional services, each of which are accounted for as separate performance obligations with differing revenue recognition patterns referenced below.

Performance Obligation	When Performance Obligation is Typically Satisfied
Term-based subscriptions	
On-premises software licenses	Point in Time: Upon the later of when the software is made available or the subscription term commences
Support and cloud-based offerings (including SaaS)	Over Time: Ratably over the contractual term; commencing upon the later of when the software is made available or the subscription term commences
Perpetual software licenses	Point in Time: when the software is made available
Support for perpetual software licenses	Over Time: Ratably over the contractual term
Professional services	Over Time: As services are provided

Judgments and Estimates

Our contracts with customers for subscriptions typically include commitments to transfer term-based, on-premises software licenses bundled with support and/or cloud services. Significant judgment is used in determining the performance obligations related to these bundled products and services. On-premises software is determined to be a distinct performance obligation from support which is sold for the same term of the subscription. For subscription arrangements which include cloud services and on-premises licenses, we assess whether the cloud component is highly interrelated with the on-premises term-based software licenses. Other than a limited population of subscriptions, the cloud component is not currently deemed to be interrelated with the on-premises term software and, as a result, cloud services are accounted for as a distinct performance obligation from the software and support components of the subscription.

Judgment is required to allocate the transaction price to each performance obligation. We use the estimated standalone selling price method to allocate the transaction price for items that are not sold separately. The estimated standalone selling price is determined using all information reasonably available to us, including market conditions and other observable inputs. The corresponding revenues are recognized as the related performance obligations are satisfied. Where subscriptions include on-premises software and support only, we determined that approximately 55% of the estimated standalone selling price for subscriptions is attributable to software licenses and approximately 45% is attributable to support for those licenses. Some of our subscription offerings include a combination of on-premises and cloud-based technology. In such cases, the cloud-based technology is generally considered distinct and receives an allocation of approximately 5% to 50% of the estimated standalone selling price of the subscription. The amounts allocated to cloud are based on assessment of the relative value of the cloud functionality in the subscription, with the remaining amounts allocated between software and support.

Our multi-year, non-cancellable subscription contracts provide customers with an annual right to exchange software within the original subscription with other software. Although the exchange right is limited to software products within a similar product grouping, the exchange right is not limited to products with substantially similar features and functionality as those originally delivered. We determined that, for on-premises licenses, this right to exchange previously delivered software for different software represents variable consideration to be accounted for as a liability. We have identified a standard portfolio of contracts with common characteristics and applied the expected value method of determining variable consideration associated with this right. Additionally, in isolated situations that are outside of the standard portfolio of contracts due to contract size, longer contract duration, or other unique contractual terms, we use the most likely amount method to determine the amount of variable consideration. In both circumstances, the variable consideration included in the transaction price is constrained to the extent it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. As of September 30, 2023 and 2022, the total liability was \$23.7 million and \$34.2 million, respectively, primarily associated with the annual right to exchange on-premises subscription software.

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Practical Expedients

We have elected certain practical expedients associated with our revenue recognition policy. We do not account for significant financing components if the period between revenue recognition and when the customer pays for the products or services is one year or less. Additionally, we recognize revenue equal to the amount we have a right to invoice when the amount corresponds directly with the value to the customer of our performance to date.

Cash Equivalents

Our cash equivalents are invested in money market accounts and time deposits of financial institutions. We have established guidelines relative to credit ratings, diversification and maturities that are intended to maintain safety and liquidity. Cash equivalents include highly liquid investments with maturity periods of three months or less when purchased.

Marketable Securities

As of September 30, 2023, we did not hold any marketable securities. In December 2020, we sold all our marketable securities to partially fund the Arena acquisition, resulting in proceeds of \$56.2 million. Neither gross realized gains nor gross realized losses related to the sale were material.

Equity Securities

In July 2021, a company in which we were a preferred equity investor, Matterport, Inc., completed a business combination with a public company. The carrying value of our investment, which was classified as a non-marketable equity investment, was approximately \$8.7 million prior to the business combination. Our preferred shares were converted into common shares of Matterport, which were restricted from sale until January 2022. For the year ended September 30, 2021, we recorded an unrealized gain of \$68.8 million on the appreciation of the value of the shares in Other income, net in the Consolidated Statement of Operations. In 2022, we sold all shares held for a total of \$42.7 million. The shares sold included those held as of September 30, 2021, as well as additional shares that we earned based on contingent earn-outs. In the year ended September 30, 2022, we recognized a net loss of \$34.8 million in Other income, net in the Consolidated Statements of Operations. The aggregate realized gain from the original investment of \$8.7 million was \$34.0 million. As of and subsequent to September 30, 2022, PTC held no shares in Matterport.

Concentration of Credit Risk and Fair Value of Financial Instruments

The amounts reflected in the Consolidated Balance Sheets for Cash and cash equivalents, Accounts receivable and Accounts payable approximate their fair value due to their short maturities. Financial instruments that potentially subject us to concentration of credit risk consist primarily of investments, trade accounts receivable and foreign currency derivative instruments. Our cash, cash equivalents, and foreign currency derivatives are placed with financial institutions with high credit standings. Our credit risk for derivatives is also mitigated due to the short-term nature of the contracts. Our customer base consists of many geographically diverse customers dispersed across many industries. No individual customer comprised more than 10% of our trade accounts receivable as of September 30, 2023 or 2022 or more than 10% of our revenue for the years ended September 30, 2023, 2022 or 2021.

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Fair Value Measurements

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. When determining the fair value measurements for assets and liabilities required to be recorded at fair value, we consider assumptions that market participants would use when pricing the asset or liability, such as inherent risk, transfer restrictions, and risk of nonperformance.

The valuation hierarchy for disclosure of assets and liabilities reported at fair value prioritizes the inputs for such valuations into three broad levels:

- Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2: quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument; or
- Level 3: unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. The hierarchy requires us to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value.

Allowance for Doubtful Accounts

We maintain allowances for doubtful accounts for estimated losses resulting from the inability of our customers to make required payments. In determining the adequacy of the allowance for doubtful accounts, we analyze specific individual accounts receivable, historical bad debts, customer concentrations, customer credit-worthiness, current economic conditions, and accounts receivable aging trends.

Derivatives

Generally accepted accounting principles require all derivatives, whether designated in a hedging relationship or not, to be recorded on the balance sheet at fair value. Our earnings and cash flows are subject to fluctuations due to changes in foreign currency exchange rates. Our most significant foreign currency exposures relate to Eurozone countries, Japan, Sweden, Switzerland, China and India. Our foreign currency risk management strategy is principally designed to mitigate the future potential financial impact of changes in the U.S. Dollar value of anticipated transactions and balances denominated in foreign currencies resulting from changes in foreign currency exchange rates. We enter into derivatives transactions, specifically foreign currency forward contracts and options, to manage our exposure to foreign currency exchange risk in order to reduce earnings volatility. We do not enter into derivatives transactions for trading or speculative purposes. For a description of our non-designated hedge and net investment hedge activity see *Note 16. Derivative Financial Instruments*.

Non-Designated Hedges

We hedge our net foreign currency monetary assets and liabilities primarily resulting from foreign currency denominated receivables and payables with foreign exchange forward contracts to reduce the risk that our earnings and cash flows will be adversely affected by changes in foreign currency exchange rates. These contracts have maturities of up to approximately four months. Generally, we do not designate these foreign currency forward contracts as hedges for accounting purposes and changes in the fair value of these instruments are recognized immediately in earnings. Because we enter into forward contracts only as an economic hedge, any gain or loss on the underlying foreign-denominated balance would be offset by the loss or gain on the forward contract. Gains and losses on forward contracts and foreign denominated receivables and payables are included in Other income, net.

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We hedge our forecasted U.S. Dollar cash flows with foreign exchange options to reduce the risk that they will be adversely affected by changes in Euro or Japanese Yen exchange rates. We did not hold any foreign currency option contracts as of September 30, 2023. We do not designate these foreign currency options as hedges for accounting purposes and changes in the fair value of these instruments are recognized immediately in earnings. Because we enter into options as an economic hedge, currency impacts on the Euro or Japanese Yen-denominated operations as compared to the forecasted plan rate may be partially offset by gains on the options. Gains and losses on foreign exchange options are included in Other income, net.

Net Investment Hedges

We translate balance sheet accounts of subsidiaries with foreign functional currencies into the U.S. Dollar using the exchange rate at each balance sheet date. Resulting translation adjustments are reported as a component of Accumulated other comprehensive loss on the Consolidated Balance Sheets. We designate certain foreign exchange forward contracts as net investment hedges against exposure on translation of balance sheet accounts of Euro and Japanese Yen functional subsidiaries. Net investment hedges partially offset the impact of foreign currency translation adjustment recorded in Accumulated other comprehensive loss on the Consolidated Balance Sheets. All foreign exchange forward contracts are carried at fair value on the Consolidated Balance Sheets and the maximum duration of net investment hedge foreign exchange forward contracts is approximately three months.

Net investment hedge relationships are designated at inception, and effectiveness is assessed retrospectively on a quarterly basis using the net equity position of Euro and Japanese Yen functional subsidiaries. As the forward contracts are highly effective in offsetting exchange rate exposure, we record changes in these net investment hedges in Accumulated other comprehensive loss and subsequently upon contract maturity reclassify them to Foreign currency translation adjustment in Accumulated other comprehensive loss. Changes in the fair value of foreign exchange forward contracts due to changes in time value are excluded from the assessment of effectiveness. Our derivatives are not subject to any credit contingent features. We manage credit risk with counterparties by trading among several counterparties, and we review our counterparties' credit at least quarterly.

Leases

We determine if an arrangement is a lease at inception. Operating leases are included in Operating right-of-use lease assets, Short-term lease obligations, and Long-term lease obligations on our Consolidated Balance Sheets. Our operating leases are primarily for office space, automobiles, servers, and office equipment. We made an election not to separate lease components from non-lease components for office space, servers and office equipment. We combine fixed payments for non-lease components with lease payments and account for them together as a single lease component which increases the amount of our lease assets and liabilities. Finance leases are included in Property and equipment, Accrued expenses and other current liabilities, and Other liabilities on our Consolidated Balance Sheets.

Right-of-use assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the leases. Right-of-use assets and liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. As most of our leases do not provide an implicit rate, we generally use our incremental borrowing rate based on the estimated rate of interest for collateralized borrowing over a similar term as that of the lease payments at the commencement date. The right-of-use assets include any lease payments made and exclude lease incentives received. Operating lease expense is recognized on a straight-line basis over the lease term.

Our lease terms include periods under options to extend or terminate the lease when it is reasonably certain that we will exercise that option. We generally use the base non-cancellable lease term when determining the lease assets and liabilities.

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Certain lease agreements contain variable payments, which are expensed as incurred and not included in the lease assets and liabilities. These variable payments include insurance, taxes, consumer price index payments, and payments for maintenance and utilities.

Our operating leases expire at various dates through 2037.

Property and Equipment

Property and equipment are recorded at cost and depreciated using the straight-line method over their estimated useful lives. Computer hardware and software are typically amortized over three to five years, and furniture and fixtures over three to twelve years. Leasehold improvements are amortized over the shorter of their useful lives or the remaining terms of the related leases. Maintenance and repairs are charged to expense when incurred; additions and improvements are capitalized. When an item is sold or retired, the cost and related accumulated depreciation is relieved, and the resulting gain or loss, if any, is recognized in income.

Software Development Costs

We incur costs to develop computer software to be licensed or otherwise marketed to customers. Our research and development expenses consist principally of salaries and benefits, costs of computer software and equipment, and facility expenses. Research and development costs are expensed as incurred, except for costs of internally developed or externally purchased software that qualify for capitalization. Development costs for software to be sold externally incurred subsequent to the establishment of technological feasibility, but prior to the general release of the product, are capitalized and, upon general release, are amortized using the greater of either the straight-line method over the expected life of the related products or based upon the pattern in which economic benefits related to such assets are realized. The straight-line method is used if it approximates the same amount of expense as that calculated using the ratio that current period gross product revenues bear to total anticipated gross product revenues. No internal development costs for software to be sold externally were capitalized in 2023, 2022 or 2021. We purchased software of \$1.0 million, \$6.0 million, and \$0.6 million in 2023, 2022, and 2021, respectively. Additionally, we acquired capitalized software through business combinations (for further detail, see Note 6. *Acquisitions and Disposition of Businesses*). These assets are included in Acquired intangible assets, net in the accompanying Consolidated Balance Sheets.

Business Combinations

We allocate the purchase price of acquisitions to the tangible and intangible assets acquired and liabilities assumed based on their estimated fair value. Goodwill is measured as the excess of the purchase price over the value of net identifiable assets acquired. While best estimates and assumptions are used to accurately value assets acquired and liabilities assumed at the acquisition date as well as contingent consideration, where applicable, our estimates are inherently uncertain and subject to refinement. Any adjustments to estimated fair value are recorded to goodwill, provided that we are within the measurement period (up to one year from the acquisition date) and that we continue to collect information to determine estimated fair value. Subsequent to the measurement period or our final determination of estimated fair value, whichever comes first, adjustments are recorded in the Consolidated Statements of Operations.

Segments

In the third quarter of 2023, we reevaluated our operating segments to better align with how our chief operating decision maker ("CODM"), who is our Chief Executive Officer, evaluates performance and allocates resources, which resulted in a change from two operating segments—Software Products and Professional Services—to a single operating segment. The key factors evaluated included our organization structure, financial results reviewed by the CODM, and compensation structure, among others. This change reflects our strategy to focus our professional services business on high-value services and to

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leverage partners to provide services, while delivering products that require fewer consulting and training services. Based on this change, we determined we have a single reportable segment.

Goodwill, Acquired Intangible Assets and Long-lived Assets

Goodwill is the amount by which the purchase price in a business acquisition exceeds the fair value of net identifiable assets on the date of purchase.

Goodwill is evaluated for impairment annually as of the end of the third quarter, or more frequently if events or changes in circumstances indicate that the asset might be impaired. Factors we consider important, on an overall company basis and segment basis, when applicable, that could trigger an impairment review include significant under-performance relative to historical or projected future operating results, significant changes in our use of the acquired assets or the strategy for our overall business, significant negative industry or economic trends, a significant decline in our stock price for a sustained period and a reduction of our market capitalization relative to net book value.

Our annual goodwill impairment test is based on either a quantitative or qualitative assessment. A quantitative assessment compares the fair value of the reporting unit to its carrying value. If the reporting unit's carrying value exceeds its fair value, we record an impairment loss equal to the difference between the carrying value of goodwill and its estimated fair value. We estimate the fair values of our reporting units using discounted cash flow valuation models. Those models require estimates of future revenues, profits, capital expenditures, working capital, terminal values based on revenue multiples, and discount rates for each reporting unit. We estimate these amounts by evaluating historical trends; current budgets and operating plans; and industry data. A qualitative assessment is designed to determine whether we believe it is more likely than not that the fair values of our reporting units exceed their carrying values. Qualitative assessment includes a review of qualitative factors, including company-specific (financial performance and long-range plans), industry, and macroeconomic factors, and a consideration of the fair value of each reporting unit at the last valuation date.

In the third quarter of 2023, we reevaluated our operating segments to better align with how our CODM evaluates performance and allocates resources, which resulted in a change from two operating segments—Software Products and Professional Services—to a single operating segment. As part of this reevaluation, we determined that our reporting unit is the same as our operating segment.

Before combining the reporting units, we performed a step zero qualitative assessment of the Software Products reporting unit and a step one quantitative assessment of the Professional Services reporting unit. As of June 30, 2023 (prior to the reporting unit change), goodwill attributable to the Software Products segment was \$3,367.5 million and to the Professional Services segment was \$9.8 million. Based on our qualitative assessment, we concluded it was more likely than not that the fair value of our Software Products reporting unit exceeded its carrying value and no further impairment testing was required. Based on a comparison of the estimated fair value to the carrying value of the Professional Services reporting unit as of June 30, 2023, no impairment was required.

After combining the reporting units, we performed a step zero qualitative assessment on the combined goodwill balance and determined that it is more likely than not that the fair value of the combined reporting unit exceeds its carrying value and no further impairment testing is required. Through September 30, 2023, there were no events or changes in circumstances that indicated that the carrying values of goodwill or acquired intangible assets may not be recoverable.

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Long-lived assets primarily include property and equipment and acquired intangible assets with finite lives (including purchased software, customer lists and trademarks). Purchased software is amortized over periods up to 16 years, customer lists are amortized over periods up to 20 years and trademarks are amortized over periods up to 15 years. We review long-lived assets for impairment when events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable or that the useful lives of those assets are no longer appropriate. An impairment test is based on a comparison of the undiscounted cash flows to the recorded value of the asset or asset group. If impairment is indicated, the asset is written down to its estimated fair value based on a discounted cash flow analysis.

Advertising Expenses

Advertising costs are expensed as incurred. Total advertising expenses incurred were \$11.7 million, \$8.6 million and \$7.1 million in 2023, 2022 and 2021, respectively and are included in Sales and marketing expenses in the accompanying Consolidated Statements of Operations.

Income Taxes

Our income tax expense includes U.S. and international income taxes. Certain items of income and expense are not reported in tax returns and financial statements in the same year. The tax effects of these differences are reported as deferred tax assets and liabilities. Deferred tax assets are recognized for the estimated future tax effects of deductible temporary differences and tax operating loss and credit carryforwards. Changes in deferred tax assets and liabilities are recorded in the provision for income taxes. We assess the likelihood that our deferred tax assets will be recovered from future taxable income and, to the extent we believe that it is more likely than not that all or a portion of deferred tax assets will not be realized, we establish a valuation allowance. To the extent we establish a valuation allowance or increase this allowance in a period, we include an expense within Provision (benefit) for income taxes in the Consolidated Statements of Operations.

Comprehensive Income

Comprehensive income consists of Net income and Other comprehensive income (loss), which includes foreign currency translation adjustments, changes in unrecognized actuarial gains and losses (net of tax) related to pension benefits, unrealized gains and losses on hedging instruments and unrealized gains and losses on marketable securities. We do not record tax provisions or benefits for the net changes in the foreign currency translation adjustment, as we intend to reinvest permanently undistributed earnings of our foreign subsidiaries. Accumulated other comprehensive loss is reported as a component of Stockholders' equity and comprised the following as of September 30, 2023: cumulative translation adjustment losses of \$114.5 million, unrecognized actuarial losses related to pension benefits of \$9.6 million (\$6.7 million net of tax), and accumulated net gains from net investment hedges of \$6.9 million (\$3.1 million net of tax). As of September 30, 2022, Accumulated other comprehensive loss comprised the following: cumulative translation adjustment losses of \$160.2 million, unrecognized actuarial losses related to pension benefits of \$5.4 million (\$3.9 million net of tax), and accumulated net gains from net investment hedges of \$16.9 million (\$10.6 million net of tax).

Earnings per Share (EPS)

Basic EPS is calculated by dividing net income by the weighted average number of shares outstanding during the period. Diluted EPS is calculated by dividing net income by the weighted average number of shares outstanding plus the dilutive effect, if any, of outstanding stock options, restricted shares and restricted stock units using the treasury stock method. The calculation of the dilutive effect of outstanding equity awards under the treasury stock method includes consideration of proceeds from the assumed exercise of stock options, unrecognized compensation expense and any tax benefits as additional proceeds. Anti-dilutive shares excluded from the calculations of diluted EPS were immaterial in the years ended September 30, 2023, 2022, and 2021.

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The following table presents the calculation for both basic and diluted EPS:

(in thousands, except per share data)

	Year ended September 30,		
	2023	2022	2021
Net income	\$ 245,540	\$ 313,081	\$ 476,923
Weighted average shares outstanding	118,341	117,194	116,836
Dilutive effect of employee stock options, restricted shares and restricted stock units	993	1,039	1,531
Diluted weighted average shares outstanding	119,334	118,233	118,367
Earnings per share—Basic	\$ 2.07	\$ 2.67	\$ 4.08
Earnings per share—Diluted	\$ 2.06	\$ 2.65	\$ 4.03

Stock-Based Compensation

We measure the compensation cost of employee services received in exchange for an award of equity based on the grant-date fair value of the award. That cost is recognized over the period during which an employee is required to provide service in exchange for the award. See Note 12, *Equity Incentive Plans* for a description of the types of equity awards granted, the compensation expense related to such awards and detail of such awards outstanding. See Note 8, *Income Taxes* for detail of the tax benefit related to stock-based compensation recognized in the Consolidated Statements of Operations.

3. Revenue from Contracts with Customers

Receivables, Contract Assets, and Contract Liabilities

(in thousands)

	September 30,	
	2023	2022
Short-term and long-term receivables	\$ 997,490	\$ 870,962
Contract asset	\$ 16,465	\$ 21,096
Deferred revenue	\$ 681,550	\$ 520,333

As of September 30, 2023, \$16.1 million of our contract assets are expected to be transferred to receivables within the next 12 months and therefore are included in Other current assets. The remainder is included in Other assets and expected to be transferred within the next 24 months. As of September 30, 2022, \$16.9 million of our contract asset balance was included in Other current assets with the remainder included in Other assets.

Approximately \$14.7 million of the September 30, 2022 contract asset balance was transferred to receivables during the year ended September 30, 2023 as a result of the right to payment becoming unconditional. Additions to contract asset of approximately \$10.0 million primarily related to revenue recognized in the period, net of billings. There were no impairments of contract assets in the year ended September 30, 2023.

During the year ended September 30, 2023, we recognized \$509.1 million of revenue that was included in deferred revenue as of September 30, 2022. There were additional deferrals of \$572.5 million, primarily related to new billings. In addition, the acquisition of ServiceMax added \$97.8 million of deferred revenue. For subscription contracts, we generally invoice customers annually.

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Costs to Obtain or Fulfill a Contract

We recognize an asset for the incremental costs of obtaining a contract with a customer if the benefit of those costs is expected to be longer than one year. These deferred costs (primarily commissions) are amortized proportionately related to revenue over 5 years, which is generally longer than the term of the initial contract because of anticipated renewals as commissions for renewals are not commensurate with commissions related to our initial contracts. As of September 30, 2023 and September 30, 2022, deferred costs of \$41.8 million and \$40.7 million, respectively, were included in Other current assets and \$78.7 million and \$77.0 million, respectively, were included in Other assets. Amortization expense related to costs to obtain a contract with a customer was \$53.4 million and \$50.9 million in the years ended September 30, 2023 and 2022, respectively. There were no substantial impairments of the contract cost asset in the years ended September 30, 2023 and 2022.

Remaining Performance Obligations

Our contracts with customers include transaction price amounts allocated to performance obligations that will be satisfied and recognized as revenue at a later date. As of September 30, 2023, the transaction price amounts include additional performance obligations of \$681.6 million recorded in deferred revenue and \$1,369.4 million that are not yet recorded in the Consolidated Balance Sheets. We expect to recognize approximately 59% of the total \$2,051.0 million over the next 12 months, with the remaining amount thereafter.

Disaggregation of Revenue

(in thousands)

	Year ended September 30,		
	2023	2022	2021
Recurring revenue ⁽¹⁾	\$ 1,907,918	\$ 1,736,188	\$ 1,616,328
Perpetual license	38,640	34,065	33,013
Professional services	150,495	163,094	157,818
Total revenue	\$ 2,097,053	\$ 1,933,347	\$ 1,807,159

(1) Recurring revenue is comprised of on-premises subscription, perpetual support, SaaS, and cloud services revenue.

We report revenue by the following two product groups:

(in thousands)

	Year ended September 30,		
	2023	2022	2021
Product lifecycle management (PLM)	1,330,316	1,137,016	1,012,120
Computer-aided design (CAD)	766,737	796,331	795,039
Total revenue	\$ 2,097,053	\$ 1,933,347	\$ 1,807,159

We license products to customers worldwide. Our sales and marketing operations outside the United States are conducted principally through our international sales subsidiaries throughout Europe and the Asia Pacific region. Our international revenue is presented based on the location of our customer. Revenue for the geographic regions in which we operate is presented below.

(in thousands)

	Year ended September 30,		
	2023	2022	2021
Americas ⁽¹⁾	\$ 1,023,273	\$ 895,095	\$ 766,021
Europe ⁽²⁾	753,796	714,216	722,977
Asia Pacific	319,984	324,036	318,161
Total revenue	\$ 2,097,053	\$ 1,933,347	\$ 1,807,159

(1) Includes revenue in the United States totaling \$993.8 million, \$864.7 million, and \$741.3 million for 2023, 2022 and 2021, respectively.

(2) Includes revenue in Germany totaling \$292.0 million, \$318.5 million, and \$290.7 million for 2023, 2022 and 2021, respectively.

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4. Restructuring and Other Charges (Credits), Net

Restructuring and other charges (credits), net includes restructuring charges (credits) and impairment and accretion expense charges related to the lease assets of exited facilities.

In 2023, Restructuring and other charges (credits), net and related payments were immaterial.

In 2022, Restructuring and other charges (credits), net totaled \$36.2 million, of which \$32.4 million is attributable to restructuring charges primarily related to employee termination benefits, \$5.1 million is attributable to other charges for professional fees included in restructuring related to our SaaS transformation, offset by a \$1.3 million credit attributable to sublease income and the reversal of lease liabilities related to exited lease facilities. These charges substantially relate to a plan to restructure our workforce and consolidate select facilities to align our customer facing and product-related functions with SaaS industry best practices and accelerate the opportunity for our on-premises customers to move to the cloud. We made cash payments related to restructuring charges of \$40.8 million (\$34.0 million related to employee charges, \$2.5 million in payments for other professional fees, and \$4.3 million in net payments for variable costs related to restructured facilities).

In 2021, Restructuring and other charges (credits), net totaled \$2.2 million, of which \$2.1 million was attributable to restructuring charges and \$0.1 million was attributable to impairment and accretion expense related to exited lease facilities. We made cash payments related to restructuring charges of \$6.7 million (\$3.9 million related to the 2020 restructuring and \$2.8 million in rent payments for the restructured facilities).

The following table summarizes restructuring accrual activity for the three years ended September 30, 2023:

(in thousands)	Employee severance and related benefits	Facility closures and other costs	Consolidated total
Balance, September 30, 2020	\$ 3,992	\$ 5,995	\$ 9,987
Charges to operations, net	1,887	249	2,136
Cash disbursements	(3,925)	(2,756)	(6,681)
Foreign exchange impact	27	17	44
Balance, September 30, 2021	1,981	3,505	5,486
Charges (credits) to operations, net	32,971	(561)	32,410
Cash disbursements	(34,023)	(2,355)	(36,378)
Foreign exchange impact	(583)	—	(583)
Balance, September 30, 2022	346	589	935
Credits to operations, net	(143)	(281)	(424)
Cash disbursements	(121)	(304)	(425)
Foreign exchange impact	21	—	21
Balance, September 30, 2023	<u><u>\$ 103</u></u>	<u><u>\$ 4</u></u>	<u><u>\$ 107</u></u>

As of September 30, 2023 and 2022, the accrual for employee severance and related benefits was included in Accrued compensation and benefits in the Consolidated Balance Sheets.

As of September 30, 2023 and 2022, the accrual for facility closures and related costs was included in Accrued expenses and other current liabilities in the Consolidated Balance Sheets.

5. Property and Equipment

Property and equipment consisted of the following:

(in thousands)	September 30,	
	2023	2022
Computer hardware and software	\$ 304,045	\$ 364,762
Furniture and fixtures	20,042	29,744
Leasehold improvements	77,703	95,383
Gross property and equipment	401,790	489,889
Accumulated depreciation and amortization	(313,399)	(391,788)
Net property and equipment	<u><u>\$ 88,391</u></u>	<u><u>\$ 98,101</u></u>

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Depreciation expense was \$29.0 million, \$27.1 million and \$26.1 million in 2023, 2022 and 2021, respectively.

Property and equipment additions which were accrued and unpaid as of September 30, 2023, 2022, and 2021 were \$1.8 million, \$6.8 million, and \$0.6 million, respectively.

Our material long-lived assets primarily reside in the United States in 2023, 2022 and 2021.

6. Acquisitions and Disposition of Businesses

Acquisition and transaction-related costs were \$18.7 million, \$13.2 million and \$15.0 million in 2023, 2022 and 2021, respectively. Acquisition and transaction-related costs include direct costs of potential and completed acquisitions (e.g., investment banker fees and professional fees, including legal and valuation services) and expenses related to acquisition integration activities (e.g., professional fees and severance). Other transactional charges include third-party costs related to structuring unusual transactions, such as the divestiture of a portion of our business. These costs are classified in General and administrative expenses in the accompanying Consolidated Statements of Operations.

Our results of operations include or exclude, as applicable, the results of acquired or sold businesses beginning on their respective acquisition or sale date.

The acquisitions described below have been accounted for as business combinations. Assets acquired and liabilities assumed have been recorded at their estimated fair values as of the respective acquisition date. The fair values of intangible assets were based on valuations using discounted cash flow models which require the use of significant estimates and assumptions, including estimating future revenues, future costs, and an applicable discount rate. The excess of the purchase price over the tangible assets, identifiable intangible assets and assumed liabilities was recorded as goodwill.

ServiceMax

On January 3, 2023, we acquired ServiceMax, Inc. pursuant to a Share Purchase Agreement dated November 17, 2022 by and among PTC, ServiceMax, Inc., and ServiceMax JV, LP. ServiceMax develops and licenses cloud-native, product-centric field service management (FSM) software, which is included within our PLM product group. The purchase price of \$1,448.2 million, net of cash acquired, was payable in two installments. Upon closing of the transaction, PTC paid the first installment of \$828.2 million, as adjusted for working capital, indebtedness, cash, and transaction expenses as set forth in the Share Purchase Agreement. The remaining installment of \$650.0 million, of which \$620.0 million represents the fair value as of the acquisition date and \$30.0 million is imputed interest, was paid in October 2023. The fair value of the deferred acquisition payment was calculated based on our borrowing rate at the time of the acquisition.

PTC borrowed \$630 million under the revolving line of our new credit facility and \$500 million under the term loan of the new credit facility to repay amounts under the prior credit facility and to pay the closing purchase price and transaction expenses related to the acquisition. ServiceMax had approximately 500 employees on the close date. In the year ended September 30, 2023, ServiceMax revenue was \$137.6 million and ServiceMax earnings were immaterial.

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The following table sets forth the purchase price allocation for ServiceMax. The purchase price allocation includes the finalization of measurement period adjustments related to intangibles and deferred tax liabilities that resulted in a \$3.5 million increase in customer relationships, a \$3.2 million increase in net tax liability, and a \$0.3 million decrease in goodwill compared to the balances reported as of March 31, 2023. We have also recorded a liability of \$620.0 million related to the fair value of the \$650.0 million deferred purchase price payment.

(in thousands)

Goodwill	\$	974,850
Customer relationships		512,700
Purchased software		106,900
Accounts receivable		58,722
Trademarks		9,000
Other net assets		5,540
Net tax liability		(121,656)
Deferred revenue		(97,829)
Total	\$	1,448,227

The acquired customer relationships, purchased software, and trademarks are being amortized over useful lives of 20 years, 10 years, and 10 years, respectively, based on the expected economic benefit pattern of the assets. The acquired goodwill will not be deductible for income tax purposes. The amount of goodwill resulting from the purchase price allocation reflects expected future growth as ServiceMax expands our closed-loop product lifecycle management (PLM) strategy.

Unaudited Pro Forma Financial Information

The unaudited pro forma financial information in the table below summarizes the combined results of operations for PTC and ServiceMax. The unaudited pro forma financial information for all periods presented includes adjustments to reflect certain business combination effects, including: amortization of acquired intangible assets and the elimination of related ServiceMax expenses; acquisition-related costs incurred by both parties; reversal of certain costs incurred by ServiceMax which would not have been incurred had the acquisition occurred at the beginning of fiscal 2022; interest expense under the new combined capital structure; stock-based compensation charges; and the related tax effects as though ServiceMax was acquired as of the beginning of fiscal 2022. The unaudited pro forma financial information as presented below is for informational purposes only and is not necessarily indicative of the results of operations that would have been achieved if the acquisition had taken place at the beginning of fiscal 2022.

The unaudited pro forma financial information for the years ended September 30, 2023 and 2022 presented below combines the historical results of PTC for those periods, the historical results of ServiceMax for the year ended October 31, 2022 and the three months ended January 31, 2023, and the effects of the pro forma adjustments listed above.

(in thousands)	Pro forma year ended September 30,	
	2023	2022
Revenue	\$ 2,140,738	\$ 2,101,796
Net income	\$ 239,437	\$ 230,655

The impact from acquisitions other than ServiceMax for the reported periods if presented on a pro forma basis would not differ materially from our reported results.

Intland Software

On April 29, 2022, we acquired Intland Software, GmbH, and Eger Invest GmbH (together, "Intland Software") pursuant to a Share Sale and Purchase Agreement. Intland Software developed and marketed the Codebeamer Application Lifecycle Management (ALM) family of software products. The purchase price of the acquisition was \$278.1 million, net of cash acquired, which was financed with cash

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on hand and \$264 million borrowed under our existing credit facility. Intland Software had approximately 150 employees on the close date.

The following table sets forth the purchase price allocation for Intland Software. The purchase price allocation includes the finalization of measurement period adjustments, which resulted in a \$0.9 million increase in goodwill from \$240.0 million as of June 30, 2022, driven by completion of working capital adjustments.

(in thousands)

Goodwill	\$	240,971
Customer relationships		38,800
Purchased software		19,100
Accounts receivable		6,506
Trademarks		1,300
Net tax liability		(20,811)
Deferred revenue		(6,925)
Other net liabilities		(818)
Total	\$	278,123

The acquired customer relationships, purchased software, and trademarks are being amortized over useful lives of 11 years, 10 years, and 10 years, respectively, based on the expected economic benefit pattern of the assets. The acquired goodwill was allocated to our software products segment and will not be deductible for income tax purposes. The resulting amount of goodwill reflects the expected value that will be created by expanding our ALM offerings, which are complementary to our PLM offerings.

Arena

On January 15, 2021, we acquired Arena Holdings, Inc. ("Arena") pursuant to an Agreement and Plan of Merger dated as of December 12, 2020 by and among PTC, Arena, Astronauts Merger Sub, Inc., and the Representative named therein. We paid approximately \$715 million, net of cash acquired of \$11.1 million, for Arena, which amount was financed with cash on hand and \$600 million borrowed under our existing credit facility. Arena had approximately 170 employees on the close date. The acquisition of Arena added revenue of approximately \$29.8 million in FY'21, which was net of approximately \$9.1 million in fair value adjustments related to purchase accounting for the acquisition.

The following table sets forth the purchase price allocation for Arena.

(in thousands)

Goodwill	\$	562,838
Customer relationships		155,000
Purchased software		38,300
Accounts receivable		11,392
Trademarks		4,200
Net tax liability		(41,256)
Deferred revenue		(15,500)
Other net liabilities		(369)
Total	\$	714,605

The acquired customer relationships, purchased software, and trademarks are being amortized over useful lives of 13 years, 9 years, and 12 years, respectively, based on the expected economic benefit pattern of the assets. The acquired goodwill was allocated to our software products segment and will not be deductible for income tax purposes. The resulting amount of goodwill reflects the expected value that will be created by participation in expected future growth of the PLM SaaS market and expansion into the mid-market for PLM, where SaaS solutions are becoming the standard.

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PLM Services Business Disposition

On June 1, 2022, we sold a portion of our PLM services business to ITC Infotech India Limited pursuant to a Strategic Partner Agreement dated as of April 20, 2022 by and between PTC and ITC Infotech. Consideration received from ITC Infotech for the sale was approximately \$60.4 million, consisting of \$32.5 million cash paid on closing and \$28.0 million of services to be provided by ITC Infotech to PTC for no additional charge.

We recognized a gain on the sale of \$29.8 million, which is included within Other income, net. The recognized gain consists of \$60.4 million of consideration received, less net assets of the business of \$30.6 million. Net assets include \$33.0 million of goodwill allocated to the business, less \$2.4 million of liabilities associated with approximately 160 employees who transferred to ITC Infotech. Goodwill was allocated to the sold business based on a relative fair value allocation of total goodwill of the Professional Services segment.

Additional future contingent consideration of up to \$20 million may be received by PTC based on certain performance milestones. We have elected to defer the recognition of gains associated with contingent consideration until they become realizable.

7. Goodwill and Acquired Intangible Assets

Goodwill and acquired intangible assets consisted of the following:

(in thousands)	September 30, 2023			September 30, 2022		
	Gross Carrying Amount	Accumulated Amortization	Net Book Value	Gross Carrying Amount	Accumulated Amortization	Net Book Value
Goodwill (not amortized)			3,358, \$ 511			\$ 2,353,654
Intangible assets with finite lives (amortized) ⁽¹⁾ :						
Purchased software	\$ 615,915	\$ 395,109	\$ 220,80 6	\$ 502,859	\$ 355,857	\$ 147,002
Capitalized software	22,877	22,877	—	22,877	22,877	—
Customer lists and relationships	1,116,11 7	413,125	702,99 2	594,970	369,390	225,580
Trademarks and trade names	36,851	19,400	17,451	27,546	17,410	10,136
Other	3,867	3,867	—	3,766	3,766	—
	1,795,62 \$ 7	\$ 854,378	\$ 941,24 9	1,152,01 8	\$ 769,300	\$ 382,718
Total goodwill and acquired intangible assets			4,299, \$ 760			\$ 2,736,372

- (1) The weighted-average useful lives of purchased software, customer lists and relationships, and trademarks and trade names with a remaining net book value are 11 years, 17 years, and 11 years, respectively. The weighted-average useful life for all intangible assets in total is 15 years.

The changes in the carrying amounts of goodwill from September 30, 2022 to September 30, 2023 are due to the impact of acquisitions and to foreign currency translation adjustments related to those asset balances that are recorded in non-U.S. currencies.

Changes in goodwill were as follows:

(in thousands)	
Balance, September 30, 2021	\$ 2,191,887
Intland Software acquisition	240,971
Other acquisitions	691
Divestiture of business	(32,992)
Foreign currency translation adjustments	(46,903)
Balance, September 30, 2022	\$ 2,353,654
ServiceMax acquisition	974,850
Other acquisitions	—
Foreign currency translation adjustments	30,007
Balance, September 30, 2023	\$ 3,358,511

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The aggregate amortization expense for intangible assets with finite lives recorded for the years ended September 30, 2023, 2022 and 2021 was reflected in our Consolidated Statements of Operations as follows:

(in thousands)

	Year ended September 30,		
	2023	2022	2021
Amortization of acquired intangible assets	\$ 40,022	\$ 34,970	\$ 29,396
Cost of revenue	35,694	25,578	29,769
Total amortization expense	<u>\$ 75,716</u>	<u>\$ 60,548</u>	<u>\$ 59,165</u>

The estimated aggregate future amortization expense for intangible assets with finite lives remaining as of September 30, 2023 is \$79.8 million for 2024, \$76.6 million for 2025, \$76.5 million for 2026, \$75.9 million for 2027, \$72.8 million for 2028 and \$559.6 million thereafter.

8. Income Taxes

Our Income (loss) before income taxes consisted of the following:

(in thousands)

	Year ended September 30,		
	2023	2022	2021
Domestic	\$ (49,193)	\$ 97,460	\$ 41,199
Foreign	381,759	299,638	350,556
Total income before income taxes	<u>\$ 332,566</u>	<u>\$ 397,098</u>	<u>\$ 391,755</u>

Our Provision (benefit) for income taxes consisted of the following:

(in thousands)

	Year ended September 30,		
	2023	2022	2021
Current:			
Federal	\$ 7,311	\$ 767	\$ 4,774
State	10,020	6,675	1,609
Foreign	53,019	33,612	66,554
	<u>70,350</u>	<u>41,054</u>	<u>72,937</u>
Deferred:			
Federal	(11,821)	25,730	(152,311)
State	(10,028)	(3,177)	(27,228)
Foreign	38,525	20,410	21,434
	<u>16,676</u>	<u>42,963</u>	<u>(158,105)</u>
Provision (benefit) for income taxes	<u>\$ 87,026</u>	<u>\$ 84,017</u>	<u>\$ (85,168)</u>

Taxes computed at the statutory federal income tax rates are reconciled to the Provision (benefit) for income taxes as follows:

(in thousands)

	Year ended September 30,					
	2023	2022	2021			
Statutory federal income tax rate	\$ 69,839	21%	\$ 83,391	21%	\$ 82,268	21%
Change in valuation allowance	—	—	—	—	(134,695)	(34)%
State income taxes, net of federal tax benefit	577	0%	6,518	2%	(28,768)	(8)%
Federal research and development credits	(7,751)	(2)%	(7,477)	(2)%	(5,764)	(2)%
Uncertain tax positions	23,302	7%	2,418	1%	3,398	1%
Foreign tax credit	(11,415)	(3)%	(9,078)	(2)%	(35,368)	(9)%
Foreign rate differences	(20,829)	(6)%	(8,982)	(2)%	(34,584)	(9)%
Foreign tax on U.S. provision	11,415	3%	9,078	2%	5,931	2%
Excess tax benefits from restricted stock	(6,963)	(2)%	(8,278)	(2)%	(6,141)	(2)%
Audits and settlements	—	—	—	—	33,370	9%
U.S. permanent items	5,341	2%	3,453	—	7,449	2%
Non-deductible compensation	8,344	3%	11,851	3%	10,940	3%
Base Erosion Anti-Abuse Tax (BEAT)	—	—	—	—	2,936	1%
GILTI, net of foreign tax credits	17,861	5%	2,705	1%	18,217	4%
Foreign-Derived Intangible Income (FDII)	(8,987)	(3)%	(6,848)	(2)%	(4,428)	(1)%
Non-deductible imputed interest	6,292	2%	—	—	—	—
Sale of a portion of the PLM services business	—	—	6,844	2%	—	—
Other, net	—	(1)%	(1,578)	(1)%	71	—
Provision (benefit) for income taxes	<u>\$ 87,026</u>	<u>26%</u>	<u>\$ 84,017</u>	<u>21%</u>	<u>\$ (85,168)</u>	<u>(22)%</u>

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In 2023, 2022, and 2021, our effective tax rate is impacted by our corporate structure in which our foreign taxes are at a net effective tax rate lower than the U.S. rate. A significant amount of our foreign earnings is generated by our subsidiaries organized in Ireland and the Cayman Islands. In 2023, 2022, and 2021, the foreign rate differential predominantly relates to these earnings. In addition to the foreign rate differential, our tax rate differed from the U.S. statutory federal income tax due to the net effects of the Global Intangible Low-Taxed Income (GILTI) and Foreign Derived Intangible Income (FDII) regimes (together referred to as U.S. Tax reform), and the excess tax benefit related to stock-based compensation.

Additionally in 2023, our results include tax expense of \$21.8 million relating to an uncertain tax position regarding transfer pricing in a foreign jurisdiction where we are currently under audit. Our rate was also impacted by non-deductible imputed interest related to the deferred payment on the acquisition of ServiceMax, Inc.

In 2022, our results include tax expense relating to the book over tax basis difference in goodwill disposed of as part of the sale of a portion of the PLM services business.

In 2021, our tax rate includes a benefit due to the release of the valuation allowance on the majority of our U.S. net deferred tax assets and the tax impact related to the effects of a tax matter in the Republic of Korea (South Korea).

At September 30, 2023 and 2022, income taxes payable and income tax accruals recorded on the accompanying Consolidated Balance Sheets were \$30.4 million (\$14.9 million in Accrued income taxes, \$4.8 million in Accrued expenses and other current liabilities and \$10.7 million in Other liabilities) and \$17.3 million (\$5.1 million in Accrued income taxes, \$5.6 million in Accrued expenses and other current liabilities and \$6.6 million in Other liabilities), respectively. At September 30, 2023 and 2022, prepaid taxes recorded in Prepaid expenses on the accompanying Consolidated Balance Sheets were \$22.7 million and \$25.8 million, respectively. We made net income tax payments of \$65.9 million, \$55.0 million and \$56.0 million in 2023, 2022 and 2021, respectively.

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The significant temporary differences that created deferred tax assets and liabilities are shown below:

(in thousands)	September 30,	
	2023	2022
Deferred tax assets:		
Net operating loss carryforwards	\$ 22,272	\$ 40,419
Foreign tax credits	3,750	14,527
Capitalized research and development	83,748	23,274
Pension benefits	5,327	7,639
Prepaid expenses	15,040	15,886
Deferred revenue	5,902	2,146
Stock-based compensation	19,684	19,486
Other reserves not currently deductible	19,604	14,689
Amortization of intangible assets	90,888	130,825
Research and development and other tax credits	64,618	78,862
Lease liabilities	50,102	46,672
Fixed assets	83,796	78,249
Capital loss carryforward	3,700	3,955
Other	2,279	1,256
Gross deferred tax assets	<u>470,710</u>	<u>477,885</u>
Valuation allowance	\$ (21,695)	\$ (22,283)
Total deferred tax assets	<u>449,015</u>	<u>455,602</u>
Deferred tax liabilities:		
Acquired intangible assets not deductible	\$ (263,178)	\$ (118,360)
Lease assets	(37,332)	(36,940)
Pension prepayments	(1,808)	(2,622)
Deferred revenue	(17,400)	(35,193)
Depreciation	(5,779)	(6,937)
Deferred income	(8,656)	(5,991)
Prepaid commissions	(13,757)	(13,356)
Other	(7,294)	(8,508)
Total deferred tax liabilities	<u>(355,204)</u>	<u>(227,907)</u>
Net deferred tax assets	<u>\$ 93,811</u>	<u>\$ 227,695</u>

We reassess our valuation allowance requirements each financial reporting period. We assess available positive and negative evidence to estimate whether sufficient future taxable income will be generated to use our existing deferred tax assets.

For U.S. tax return purposes, net operating loss (NOL) carryforwards and tax credits are generally available to be carried forward to future years, subject to certain limitations. At September 30, 2023, we had U.S. federal tax effected NOL carryforwards from acquisitions of \$6.4 million, of which \$1.2 million expire in 2025 to 2034. The remaining carryforwards of \$5.2 million do not expire. The use of these NOL carryforwards is limited as a result of the change in ownership rules under Internal Revenue Code Section 382.

As of September 30, 2023, we had federal R&D credit carryforwards of \$46.7 million, which expire beginning in 2025 and ending in 2043, and Massachusetts R&D credit carryforwards of \$27.3 million, which expire beginning in 2024 and ending in 2038. We also had foreign tax credits of \$3.7 million, which expire beginning in 2030 and ending in 2033.

We also have tax effected NOL carryforwards in non-U.S. jurisdictions totaling \$6.8 million, the majority of which do not expire, and non-U.S. tax credit carryforwards of \$2.3 million that expire beginning in 2030 and ending in 2041. Additionally, we have tax effected amortization carryforwards of \$85.3 million in a foreign jurisdiction. There are limitations imposed on the use of such attributes that could restrict the recognition of any tax benefits.

As of September 30, 2023, we have a valuation allowance of \$17.4 million against net deferred tax assets in the United States and a valuation allowance of \$4.3 million against net deferred tax assets in certain foreign jurisdictions. The \$17.4 million U.S. valuation allowance relates to Massachusetts tax credit carryforwards which we do not expect to realize a benefit from prior to expiration. The valuation allowance recorded against net deferred tax assets of certain foreign jurisdictions is established primarily

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for our capital loss carryforwards, the majority of which do not expire. However, there are limitations imposed on the utilization of such capital losses that could restrict the recognition of any tax benefits.

The changes to the valuation allowance were primarily due to the following:

(in thousands)	Year ended September 30,		
	2023	2022	2021
Valuation allowance, beginning of year	\$ 22,283	\$ 52,085	\$ 205,423
Net release of valuation allowance ⁽¹⁾	—	—	(134,235)
Net decrease in deferred tax assets with a full valuation allowance ⁽²⁾	(588)	(29,802)	(19,103)
Valuation allowance, end of year	\$ 21,695	\$ 22,283	\$ 52,085

(1) In 2021, this is attributable to the release in the United States.

(2) In 2022, this change included the loss of foreign attributes upon liquidation of a foreign subsidiary. In 2021, this change includes the loss of state attributes upon merger of two wholly-owned subsidiaries.

Our policy is to record estimated interest and penalties related to the underpayment of income taxes as a component of our income tax provision. In 2023, 2022 and 2021 we recorded interest expense of \$0.5 million, \$0.2 million and \$2.2 million, respectively. In 2023 and 2022 we had no penalty expenses in our income tax provision. In 2021 we had \$2.0 million tax penalty expense in our income tax provision. As of September 30, 2023 and 2022, we had accrued \$1.4 million and \$0.9 million of net estimated interest expense, respectively. We had no accrued tax penalties as of September 30, 2023, 2022 or 2021.

Unrecognized tax benefits (in thousands)	Year ended September 30,		
	2023	2022	2021
Unrecognized tax benefit, beginning of year	\$ 23,923	\$ 21,166	\$ 16,107
Tax positions related to current year:			
Additions	7,075	3,144	4,844
Tax positions related to prior years:			
Additions	20,855	785	30,130
Reductions	—	(1,172)	(478)
Settlements	—	—	(29,437)
Statute expirations	(1,111)	—	—
Unrecognized tax benefit, end of year	\$ 50,742	\$ 23,923	\$ 21,166

If all of our unrecognized tax benefits as of September 30, 2023 were to become recognizable in the future, we would record a benefit to the income tax provision of \$50.7 million (which would be partially offset by an increase in the U.S. valuation allowance of \$5.7 million). Although we believe our tax estimates are appropriate, the final determination of tax audits and any related litigation could result in favorable or unfavorable changes in our estimates. We believe it is reasonably possible that within the next 12 months the amount of unrecognized tax benefits related to the resolution of multi-jurisdictional tax positions could be reduced by up to \$26 million as audits close and statutes of limitations expire.

Our results for the year ended September 30, 2021 include a charge of \$37.3 million related to the effects of a tax matter in the Republic of Korea (South Korea) of \$34.4 million, and the resulting impact on U.S. income taxes of \$2.9 million, and additional payments of approximately \$20 million to South Korea in settlement of the amounts previously accrued.

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In the normal course of business, PTC and its subsidiaries are examined by various taxing authorities, including the IRS in the United States. We regularly assess the likelihood of additional assessments by tax authorities and provide for these matters as appropriate. We are currently under audit by tax authorities in several jurisdictions, including Germany, Ireland, and Italy. Audits by tax authorities typically involve examination of the deductibility of certain permanent items, transfer pricing, limitations on net operating losses and tax credits. Although we believe our tax estimates are appropriate, the final determination of tax audits and any related litigation could result in material changes in our estimates. As of September 30, 2023, we remained subject to examination in the following major tax jurisdictions for the tax years indicated:

Major Tax Jurisdiction	Open Years
United States	2020 through 2023
Germany	2015 through 2023
France	2020 through 2023
Japan	2018 through 2023
Ireland	2019 through 2023

Additionally, net operating loss and tax credit carryforwards from certain earlier periods in these jurisdictions may be subject to examination to the extent they are used in later periods.

We incurred expenses related to stock-based compensation in 2023, 2022 and 2021 of \$206.5 million, \$174.9 million and \$177.3 million, respectively. Accounting for the tax effects of stock-based awards requires that we establish a deferred tax asset as the compensation is recognized for financial reporting prior to recognizing the tax deductions. The tax benefit recognized in the Consolidated Statements of Operations related to stock-based compensation totaled \$33.4 million, \$27.1 million and \$39.9 million in 2023, 2022 and 2021, respectively. Upon vesting of the stock-based awards, the actual tax deduction is compared with the cumulative financial reporting compensation cost and any excess tax deduction is considered a windfall tax benefit and is recorded to the tax provision. In 2023, 2022 and 2021, net windfall tax benefits of \$7.8 million, \$5.2 million and \$9.9 million were recorded to the tax provision.

Prior to the passage of the U.S. Tax Cuts and Jobs Act in December of 2017 (the Tax Act), we asserted that substantially all of the undistributed earnings of our foreign subsidiaries were considered indefinitely reinvested and accordingly, no deferred taxes were provided. Pursuant to the provisions of the U.S. Tax Act, these earnings were subjected to U.S. federal taxation via a one-time transition tax, and there is therefore no longer a material cumulative basis difference associated with the undistributed earnings. We maintain our assertion of our intention to permanently reinvest these earnings outside the United States unless repatriation can be done substantially tax-free, with the exception of a foreign holding company formed in 2018 and our Taiwan subsidiary. If we decide to repatriate any additional non-U.S. earnings in the future, we may be required to establish a deferred tax liability on such earnings. The amount of unrecognized deferred tax liability on the undistributed earnings would not be material.

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9. Debt

As of September 30, 2023 and 2022, we had the following short- and long-term debt obligations:

(in thousands)

	September 30,	
	2023	2022
4.000% Senior Notes due 2028	\$ 500,000	\$ 500,000
3.625% Senior Notes due 2025	500,000	500,000
Credit facility revolver line ⁽¹⁾⁽²⁾	202,000	359,000
Credit facility term loan ⁽¹⁾⁽²⁾	500,000	—
Total debt	1,702,000	1,359,000
Unamortized debt issuance costs for the Senior Notes ⁽³⁾	(6,215)	(8,372)
Total debt, net of issuance costs⁽⁴⁾	\$ 1,695,785	\$ 1,350,628

- (1) Unamortized debt issuance costs related to the credit facility were \$2.3 million included in Other current assets and \$7.5 million included in Other assets on the Consolidated Balance Sheet as of September 30, 2023 and \$2.7 million included in Other assets on the Consolidated Balance Sheet as of September 30, 2022.
- (2) Both the revolving line and the term loan will mature and all amounts then outstanding will become due and payable on January 3, 2028, unless the 2025 notes have not been either refinanced to mature on or after April 3, 2028 or repaid, in which case the amounts will become due on November 16, 2024. The term loan will begin amortizing in March 2024, with payments of \$9.4 million in 2024, \$21.9 million in 2025, \$25.0 million in 2026 and 2027, and \$418.7 million in 2028.
- (3) Unamortized debt issuance costs for the Senior Notes were included in Long-term debt on the Consolidated Balance Sheets.
- (4) As of September 30, 2023, \$9.4 million of debt associated with the credit facility term loan was classified as short term with the remaining balance classified as long term. As of September 30, 2022, all debt was classified as long term.

Senior Unsecured Notes

In February 2020, we issued \$500 million in aggregate principal amount of 4.0% senior, unsecured long-term debt at par value, due in 2028 (the 2028 notes) and \$500 million in aggregate principal amount of 3.625% senior, unsecured long-term debt at par value, due in 2025 (the 2025 notes).

As of September 30, 2023, the total estimated fair value of the 2028 and 2025 notes was approximately \$450.2 million and \$480.6 million, respectively, based on quoted prices for the notes on that date.

We were in compliance with all the covenants for all our Senior Notes as of September 30, 2023.

Terms of the 2028 and 2025 Notes

Interest on the 2028 and 2025 notes is payable semi-annually on February 15 and August 15. The debt indenture for the 2028 and 2025 notes includes covenants that limit our ability to, among other things, incur additional debt, grant liens on our properties or capital stock, enter into sale and leaseback transactions or asset sales, and make capital distributions.

We may, on one or more occasions, redeem the 2028 and 2025 notes in whole or in part at specified redemption prices. In certain circumstances constituting a change of control, we will be required to make an offer to repurchase the notes at a purchase price equal to 101% of the aggregate principal amount of the notes, plus accrued and unpaid interest. Our ability to repurchase the notes upon such event may be limited by law, by the indenture associated with the notes, by our then-available financial resources or by the terms of other agreements to which we may be party at such time. If we fail to repurchase the notes as required by the indenture, it would constitute an event of default under the indenture which, in turn, may also constitute an event of default under other obligations.

Credit Agreement

In January 2023, we entered into an amended and restated credit agreement for a new secured multi-currency bank credit facility with a syndicate of banks. Pursuant to the agreement, all revolving commitments under the prior credit agreement were replaced with the revolving commitments under the new credit facility. The new credit facility consists of (i) a \$1.25 billion revolving credit facility, (ii) a \$500 million term loan credit facility, and (iii) an incremental facility pursuant to which we may incur additional term loan tranches or increase the revolving credit facility. As of September 30, 2023, unused

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commitments under our credit facility were approximately \$1,048.0 million and amounts available for borrowing were \$384.6 million.

As of September 30, 2023, the fair value of our credit facility approximates its book value.

PTC Inc. and certain eligible foreign subsidiaries are eligible borrowers under the credit facility. Any borrowings by PTC Inc. under the credit facility would be guaranteed by PTC Inc.'s material domestic subsidiaries that become parties to the subsidiary guaranty, if any. As of the filing of this Form 10-K, ServiceMax, Inc. was the only subsidiary guarantor. Any borrowings by eligible foreign subsidiary borrowers would be guaranteed by PTC Inc. and any subsidiary guarantors and secured, subject to exceptions, by a first priority perfected security interest in substantially all existing and after-acquired personal property owned by PTC Inc. and its material domestic subsidiaries (except for certain indirect material domestic subsidiaries). As of September 30, 2023, all funds borrowed under the revolving credit facility were borrowed by an eligible foreign subsidiary borrower. Subsequent to September 30, 2023, we borrowed an additional \$739.8 million under the revolving credit facility, including \$650.0 million to finance the deferred payment related to the ServiceMax acquisition and \$89.8 million borrowed by the subsidiary borrower for our acquisition of pure-systems. Refer to *Note 18. Subsequent Events* for more detail.

Loans under the credit facility bear interest at variable rates that reset every 30 to 180 days depending on the base rate (for USD borrowings, either the adjusted Daily Simple RFR or adjusted Term SOFR) and period selected by us. The spread over the base rate depends on our total leverage ratio. As of September 30, 2023, the annual rate for borrowings outstanding was 7.18%. A quarterly revolving commitment fee on the undrawn portion of the revolving credit facility is required, ranging from 0.175% to 0.325% per annum, based upon our total leverage ratio.

The credit facility limits our ability to, among other things: incur additional indebtedness; incur liens or guarantee obligations; pay dividends and make other distributions; make investments and enter into joint ventures; dispose of assets; and engage in transactions with affiliates, except on an arms-length basis. Under the credit facility, PTC Inc. and its material domestic subsidiaries may not invest cash or property in, or loan amounts to, PTC Inc.'s foreign subsidiaries in aggregate amounts exceeding \$100 million for purposes other than acquisitions of businesses. The credit facility also requires that we maintain certain financial ratios. As of September 30, 2023, we were in compliance with all financial and operating covenants of the credit facility.

In 2023, we incurred \$13.4 million in financing costs in connection with the January 2023 credit facility and related arrangements, of which \$4.2 million (related to a since-extinguished bridge loan) was expensed in the period and \$9.2 million was recorded as deferred debt issuance costs and included in Other assets and Other current assets on the Consolidated Balance Sheet. Deferred debt issuance costs are expensed over the term of the obligations.

Interest

In 2023, 2022 and 2021, we incurred interest expense of \$129.4 million, \$54.3 million, and \$50.5 million, respectively, and paid \$89.8 million, \$48.5 million and \$45.2 million, respectively, of interest on our debt. Interest expense in the year ended 2023 includes \$30.0 million of interest imputed on the \$650.0 million deferred acquisition payment related to the ServiceMax acquisition. The average interest rate on borrowings outstanding during 2023, 2022 and 2021 was approximately 4.9%, 3.4% and 3.3%, respectively.

10. Commitments and Contingencies

As of September 30, 2023 and 2022, we had letters of credit and bank guarantees outstanding of \$13.1 million (of which \$0.5 million was collateralized) and \$15.0 million (of which \$0.5 million was collateralized), respectively, primarily related to our corporate headquarters lease.

Legal and Regulatory Matters

With respect to legal proceedings and claims, we record an accrual for a contingency when it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated.

We are subject to legal proceedings and claims against us in the ordinary course of business. As of September 30, 2023, we estimate that the range of possible outcomes for such matters is immaterial and we do not believe that resolving them will have a material adverse impact on our financial condition, results of operations or cash flows. However, the results of legal proceedings cannot be predicted with certainty. Should any of these legal proceedings and claims be resolved against us, the operating results for a reporting period could be adversely affected.

Guarantees and Indemnification Obligations

We enter into standard indemnification agreements with our customers and business partners in the ordinary course of our business. Under such agreements, we typically indemnify, hold harmless, and agree to reimburse the indemnified party for losses suffered or incurred by the indemnified party, in connection with patent, copyright or other intellectual property infringement claims by any third party with respect to our products. Indemnification may also cover other types of claims, including claims relating to certain data breaches. These agreements typically limit our liability with respect to indemnification claims other than intellectual property infringement claims. Historically, our costs to defend lawsuits or settle claims relating to such indemnity agreements have been minimal and, accordingly, we believe the estimated fair value of liabilities under these agreements is immaterial.

We warrant that our software products will perform in all material respects in accordance with our standard published specifications during the term of the license. Additionally, we generally warrant that our consulting services will be performed consistent with generally accepted industry standards and, in the case of fixed price services, the agreed-upon specifications. In most cases, liability for these warranties is capped. If necessary, we would provide for the estimated cost of product and service warranties based on specific warranty claims and claim history; however, we have not incurred significant cost under our product or services warranties. As a result, we believe the estimated fair value of these liabilities is immaterial.

11. Stockholders' Equity

Preferred Stock

We may issue up to 5.0 million shares of our preferred stock in one or more series. Of these shares, 0.5 million are designated as Series A Junior Participating Preferred Stock. Our Board of Directors is authorized to fix the rights and terms for any series of preferred stock without additional shareholder approval.

Common Stock

Our Articles of Organization authorize us to issue up to 500 million shares of our common stock. Our Board of Directors had authorized us to repurchase up to \$1 billion of our common stock in the period October 1, 2020 through September 30, 2023. We used cash from operations and borrowings under our credit facility to make such repurchases. All shares of our common stock repurchased were automatically restored to the status of authorized and unissued.

We did not repurchase any shares in 2023. In 2022 and 2021, we repurchased 1.05 million shares for \$125 million and 0.23 million shares for \$30 million, respectively.

12. Equity Incentive Plans

We have two equity incentive plans, our 2000 Equity Incentive Plan and our 2016 Employee Stock Purchase Plan (ESPP).

Our 2000 Equity Incentive Plan provides for grants of nonqualified and incentive stock options, common stock, restricted stock, restricted stock units and stock appreciation rights to employees, directors, officers and consultants. We award restricted stock units (RSUs) as the principal equity incentive awards, including certain performance-based awards that are earned based on achieving performance criteria established by the Compensation Committee of our Board of Directors on or prior to the grant date. Each RSU represents the contingent right to receive one share of our common stock.

Our ESPP allows eligible employees to contribute up to 10% of their base salary, up to a maximum of \$25,000 per year and subject to any other plan limitations, toward the purchase of our common stock at a discounted price. The purchase price of the shares on each purchase date is equal to 85% of the lower of the fair market value of our common stock on the first and last trading days of each offering period. The ESPP is qualified under Section 423 of the Internal Revenue Code. We estimate the fair value of each purchase right under the ESPP on the date of grant using the Black-Scholes option valuation model and use the straight-line attribution approach to record the expense over the six-month offering period.

The following table shows total stock-based compensation expense recorded in our Consolidated Statements of Operations:

(in thousands)	Year ended September 30,		
	2023	2022	2021
Cost of license revenue	\$ 145	\$ 272	\$ 100
Cost of support and cloud services revenue	12,801	11,022	9,900
Cost of professional services revenue	7,928	11,481	9,263
Sales and marketing	56,394	49,467	53,712
Research and development	58,931	41,944	34,272
General and administrative	70,260	60,677	70,042
Total stock-based compensation expense	\$ 206,459	\$ 174,863	\$ 177,289

Stock-based compensation expense in 2023, 2022 and 2021 includes \$6.8 million, \$6.4 million, and \$7.3 million respectively, related to our ESPP.

2000 Equity Incentive Plan Accounting and Stock-Based Compensation Expense

The fair value of RSUs granted in 2023, 2022 and 2021 was based on the fair market value of our stock on the date of grant for service- and certain performance- based RSUs and based on a Monte Carlo simulation model for relative total shareholder return (rTSR) performance RSUs. The weighted average fair value per share of RSUs granted in 2023, 2022 and 2021 was \$130.64, \$114.31 and \$111.48, respectively.

We account for forfeitures as they occur, rather than estimate expected forfeitures.

As of September 30, 2023, total unrecognized compensation cost related to unvested RSUs expected to vest was approximately \$204.4 million and the weighted average remaining recognition period for unvested RSUs was 17 months. As of September 30, 2023, the weighted average remaining vesting term for outstanding awards is 1.0 years.

As of September 30, 2023, 7.3 million shares of common stock were available for grant under the equity incentive plan and 2.6 million shares of common stock were reserved for issuance upon vesting of RSUs granted and outstanding.

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The following table sets forth the restricted stock unit activity for the year ended September 30, 2023.

<i>(in thousands, except grant date fair value data)</i>	Shares	Weighted Average Grant Date Fair Value	Aggregate Intrinsic Value
Balance of outstanding RSUs at October 1, 2022	2,754	\$ 105.07	
Granted ⁽¹⁾	1,767	\$ 130.64	
Vested	(1,800)	\$ 104.00	
Forfeited or not earned	(140)	\$ 114.67	
Balance of outstanding RSUs at September 30, 2023	<u>2,581</u>	\$ 122.82	\$ 365,619

- (1) RSUs granted includes 38 shares from prior period rTSR awards that were earned upon achievement of the performance criteria and vested in November 2022 and 61 shares from prior period performance-based awards that were earned upon achievement of the performance criteria and vested in November 2022.

The following table presents the number of RSU awards granted by award type:

<i>(in thousands)</i>	Year ended September 30, 2023
Performance-based RSUs ⁽¹⁾	69
Service-based RSUs ⁽²⁾	1,530
Relative Total Shareholder Return RSUs ⁽³⁾	69

- (1) The performance-based RSUs are primarily made up of RSUs granted to our executives and are eligible to vest based upon annual performance measures over a three-year period. To the extent earned, those performance-based RSUs will vest in three substantially equal installments on November 15, 2023, November 15, 2024, and November 15, 2025, or the date the Compensation Committee determines the extent to which the applicable performance criteria have been achieved for each performance period. Up to a maximum of two times the number of RSUs can be earned.
- (2) The service-based RSUs were granted to employees, including our executive officers. Substantially all service-based RSUs will vest in three substantially equal annual installments on or about the anniversary of the date of grant.
- (3) The rTSR RSUs were granted to our executives and are eligible to vest based on the performance of PTC stock relative to the stock performance of an index of PTC peer companies established as of the grant date, as determined at the end of the measurement period ending on September 30, 2025. The RSUs earned will vest on November 15, 2025. Up to a maximum of two times the number of rTSR RSUs eligible to be earned for the period may vest. If the stock price as of the beginning of the period is below the stock price at the end of the period, a maximum of 100% of the rTSR RSUs may vest.

The weighted-average fair value of the rTSR RSUs was \$179.60 per target RSU on the grant date. The fair value of the rTSR RSUs was determined using a Monte Carlo simulation model, a generally accepted statistical technique used to simulate a range of possible future stock prices for PTC and the peer group. The method uses a risk-neutral framework to model future stock price movements based upon the risk-free rate of return, the historical volatility of each entity, and the pairwise correlations of each entity being modeled. The fair value for each simulation is the product of the payout percentage determined by PTC's rTSR rank against the peer group, the projected price of PTC stock, and a discount factor based on the risk-free rate.

The significant assumptions used in the Monte Carlo simulation model were as follows:

	2023	2022	2021
Average volatility of peer group	41.54 %	34.67 %	41.52 %
Risk-free interest rate	4.12 %	0.81 %	0.21 %
Dividend yield	— %	— %	— %
Expected term (in years)	2.87	2.87	2.87

Total value on vest date of RSUs vested are as follows:

<i>(in thousands)</i>	Year ended September 30,		
	2023	2022	2021
Total value of restricted stock unit awards at vest	\$ 240,066	\$ 199,738	\$ 171,316

In 2023, shares issued upon vesting of restricted stock units were net of 0.6 million shares retained by us to cover employee tax withholdings of \$82.8 million. In 2022, shares issued upon vesting of restricted stock units were net of 0.6 million shares retained by us to cover employee tax withholdings of \$69.0 million. In 2021, shares issued upon vesting of restricted stock and restricted stock units were net of 0.5 million shares retained by us to cover employee tax withholdings of \$53.1 million.

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As of September 30, 2023, we had liability-classified awards related to stock-based compensation based on a fixed monetary amount of \$44.9 million.

13. Employee Benefit Plan

We offer a savings plan to eligible U.S. employees. The plan is qualified under Section 401(k) of the Internal Revenue Code. Participating employees may defer a portion of their pre-tax compensation, as defined, but not more than statutory limits. We contribute 50% of the amount contributed by the employee, up to a maximum of 3% of the employee's earnings. Our matching contributions vest immediately. We made matching contributions of \$8.6 million, \$7.8 million and \$7.8 million in 2023, 2022 and 2021, respectively.

14. Pension Plans

We maintain several international defined benefit pension plans primarily covering certain employees of Computervision, which we acquired in 1998, and CoCreate, which we acquired in 2008, and covering employees in Japan. Benefits are based upon length of service and average compensation with vesting after one to five years of service. The pension cost was actuarially computed using assumptions applicable to each subsidiary plan and economic environment. We adjust our pension liability related to our plans due to changes in actuarial assumptions and performance of plan investments, as shown below. Effective in 1998, benefits under one of the international plans were frozen indefinitely.

The following table presents the actuarial assumptions used in accounting for the pension plans:

	2023	2022	2021
Weighted average assumptions used to determine benefit obligations at September 30 measurement date:			
Discount rate	4.2 %	3.7 %	1.0 %
Rate of increase in future compensation	3.0 %	3.6 %	2.8 %
Weighted average assumptions used to determine net periodic pension cost for fiscal years ended September 30:			
Discount rate	3.7 %	1.0 %	1.1 %
Rate of increase in future compensation	3.6 %	2.8 %	2.8 %
Rate of return on plan assets	4.8 %	5.0 %	5.0 %

In selecting the expected long-term rate of return on assets, we considered the current investment portfolio, and the investment return goals in the plans' investment policy statements. We, with input from the plans' professional investment managers and actuaries, also considered the average rate of earnings expected on the funds invested or to be invested to provide plan benefits. This process included determining expected returns for the various asset classes that comprise the plans' target asset allocation. This basis for selecting the long-term asset return assumptions is consistent with the prior year. Using generally accepted diversification techniques, the plans' assets, in aggregate and at the individual portfolio level, are invested so that the total portfolio risk exposure and risk-adjusted returns best meet the plans' long-term liabilities to employees. Plan asset allocations are reviewed periodically and rebalanced to achieve target allocation among the asset categories when necessary. The discount rate is based on yield curves for highly rated corporate fixed income securities matched against cash flows for each future year.

The weighted long-term rate of return assumption, together with the assumptions used to determine the benefit obligations as of September 30, 2023 in the table above, will be used to determine our 2024 net periodic pension cost, which we expect to be approximately \$0.1 million.

As of September 30, 2023, the weighted average interest credit rate used in our two cash balance pension plans is 4.2%.

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All non-service net periodic pension costs are presented in Other income, net on the Consolidated Statement of Operations. The actuarially computed components of net periodic pension cost recognized in our Consolidated Statements of Operations for each year are shown below:

(in thousands)	Year ended September 30,		
	2023	2022	2021
Interest cost of projected benefit obligation	\$ 2,126	\$ 550	\$ 692
Service cost	690	1,016	1,127
Expected return on plan assets	(3,541)	(3,712)	(3,643)
Amortization of prior service cost	—	(4)	(5)
Recognized actuarial loss	241	1,425	4,139
Settlement gain	—	(82)	—
Net periodic pension (benefit) cost	\$ (484)	\$ (807)	\$ 2,310

The following tables display the change in benefit obligation and the change in the plan assets and funded status of the plans as well as the amounts recognized in our Consolidated Balance Sheets:

(in thousands)	Year ended September 30,	
	2023	2022
Change in benefit obligation:		
Projected benefit obligation, beginning of year	\$ 58,129	\$ 96,512
Service cost	690	1,016
Interest cost	2,126	550
Actuarial gain	(1,589)	(22,616)
Foreign exchange impact	3,714	(12,949)
Participant contributions	96	96
Benefits paid	(2,968)	(2,343)
Plan amendments	235	—
Divestiture of business	—	(1,184)
Settlements	—	(953)
Projected benefit obligation, end of year	\$ 60,433	\$ 58,129
Change in plan assets and funded status:		
Plan assets at fair value, beginning of year	\$ 67,581	\$ 78,385
Actual return (loss) on plan assets	(1,919)	2,348
Employer contributions	1,343	3,007
Participant contributions	96	96
Foreign exchange impact	4,593	(12,959)
Settlements	—	(953)
Benefits paid	(2,968)	(2,343)
Plan amendments	149	—
Plan assets at fair value, end of year	68,875	67,581
Projected benefit obligation, end of year	\$ 60,433	\$ 58,129
Underfunded status	\$ (10,693)	\$ (9,782)
Overfunded status	\$ 19,135	\$ 19,234
Accumulated benefit obligation, end of year	\$ 59,602	\$ 57,310
Amounts recognized in the balance sheet:		
Non-current asset	\$ 19,135	\$ 19,234
Non-current liability	\$ (10,419)	\$ (9,434)
Current liability	\$ (274)	\$ (348)
Amounts in accumulated other comprehensive loss:		
Unrecognized actuarial loss	\$ 9,573	\$ 5,408

As of September 30, 2023 and 2022, two of our pension plans had projected benefit obligations and accumulated benefit obligations in excess of plan assets. Three international plans were overfunded.

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The following table shows the change in Accumulated other comprehensive loss:

(in thousands)	Year ended September 30,	
	2023	2022
Accumulated other comprehensive loss, beginning of year	\$ 5,408	\$ 30,213
Recognized during year - net actuarial losses	(241)	(1,421)
Occurring during year - settlement gain	—	82
Occurring during year - net actuarial losses (gains)	3,871	(21,253)
Plan amendments	91	—
Foreign exchange impact	444	(2,213)
Accumulated other comprehensive loss, end of year	\$ 9,573	\$ 5,408

In 2023, our actuarial losses were impacted by volatility in capital markets and the impact of rising interest rates. In 2022, our actuarial gains were impacted by the change in discount rate from 1.0% in 2021 to 3.7% in 2022.

The following table shows the percentage of total plan assets for each major category of plan assets:

Asset category	September 30,	
	2023	2022
Equity securities	31 %	33 %
Fixed income securities	42 %	33 %
Commodities	7 %	1 %
Insurance company funds	10 %	10 %
Options	0 %	2 %
Cash	10 %	21 %
	100 %	100 %

We periodically review the pension plans' investments in the various asset classes. For the CoCreate plans in Germany, assets are actively allocated between equity and fixed income securities to achieve target return. For the other international plans, assets are allocated 100% to fixed income securities. The fixed income securities for the other international plans primarily include investments held with insurance companies with fixed returns. The plans' investment managers are provided specific guidelines under which they are to invest the assets assigned to them. In general, investment managers are expected to remain fully invested in their asset class with further limitations on risk as related to investments in a single security, portfolio turnover and credit quality.

The German CoCreate plan's investment policy prohibits the use of derivatives associated with leverage and speculation or investments in securities issued by PTC, except through index-related strategies and/or commingled funds. An investment committee oversees management of the pension plans' assets. Plan assets consist primarily of investments in equity and fixed income securities.

In 2023, 2022 and 2021, our actual return (loss) on plan assets was \$(1.9) million, \$2.3 million and \$7.4 million, respectively.

Based on actuarial valuations and additional voluntary contributions, we contributed \$1.3 million, \$3.0 million and \$3.0 million in 2023, 2022 and 2021, respectively, to the plans. In 2024, we expect to contribute \$0.6 million to the plans and to directly pay \$3.2 million in benefits.

As of September 30, 2023, benefit payments expected to be paid over the next ten years are as follows:

(in thousands)	Future Benefit Payments
2024	\$ 4,158
2025	3,782
2026	3,898
2027	4,485
2028	4,694
2029 to 2033	23,443

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Fair Value of Plan Assets

The international plan assets are comprised primarily of investments in a trust and an insurance company. The underlying investments in the trust are primarily publicly-traded equities and governmental fixed income securities. They are classified as Level 1 because the underlying units of the trust are traded in open public markets. The fair value of the underlying investments in equity securities and fixed income are based upon publicly-traded exchange prices.

(in thousands)

	September 30, 2023				Total
	Level 1	Level 2	Level 3		
Fixed income securities:					
Government	\$ 27,322	\$ —	\$ —	\$ 27,322	
Corporate investment grade	1,632	—	—	—	1,632
Large capitalization stocks	20,864	—	—	—	20,864
Commodities	4,977	—	—	—	4,977
Insurance company funds ⁽¹⁾	—	7,102	—	—	7,102
Cash	6,978	—	—	—	6,978
Total plan assets	<u>\$ 61,773</u>	<u>\$ 7,102</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 68,875</u>

(in thousands)

	September 30, 2022				Total
	Level 1	Level 2	Level 3		
Fixed income securities:					
Government	\$ 20,430	\$ —	\$ —	\$ 20,430	
Corporate investment grade	2,038	—	—	—	2,038
Large capitalization stocks	22,379	—	—	—	22,379
Commodities	599	—	—	—	599
Insurance company funds ⁽¹⁾	—	6,823	—	—	6,823
Options	1,430	—	—	—	1,430
Cash	13,882	—	—	—	13,882
Total plan assets	<u>\$ 60,758</u>	<u>\$ 6,823</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 67,581</u>

- (1) These investments are comprised primarily of funds invested with an insurance company in Japan with a guaranteed rate of return. The insurance company invests these assets primarily in government and corporate bonds.

15. Fair Value Measurements

Money market funds, time deposits and corporate notes/bonds are classified within Level 1 of the fair value hierarchy because they are valued based on quoted market prices in active markets.

The principal market in which we execute our foreign currency forward contracts is the institutional market in an over-the-counter environment with a relatively high level of price transparency. The market participants usually are large financial institutions. Our foreign currency derivatives' valuation inputs are based on quoted prices and quoted pricing intervals from public data sources and do not involve management judgment. These contracts are typically classified within Level 2 of the fair value hierarchy.

Our significant financial assets and liabilities measured at fair value on a recurring basis as of September 30, 2023 and 2022 were as follows:

(in thousands)	September 30, 2023			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Cash equivalents ⁽¹⁾	\$ 72,754	\$ —	\$ —	\$ 72,754
Convertible note	—	—	2,000	2,000
Forward contracts	—	7,340	—	7,340
	<u>\$ 72,754</u>	<u>\$ 7,340</u>	<u>\$ 2,000</u>	<u>\$ 82,094</u>
Financial liabilities:				
Forward contracts	—	3,158	—	3,158
	<u>\$ —</u>	<u>\$ 3,158</u>	<u>\$ —</u>	<u>\$ 3,158</u>
(in thousands)	September 30, 2022			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Cash equivalents ⁽¹⁾	\$ 102,313	\$ —	\$ —	\$ 102,313
Convertible note	—	—	2,000	2,000
Forward contracts	—	9,058	—	9,058
	<u>\$ 102,313</u>	<u>\$ 9,058</u>	<u>\$ 2,000</u>	<u>\$ 113,371</u>
Financial liabilities:				
Forward contracts	—	2,908	—	2,908
	<u>\$ —</u>	<u>\$ 2,908</u>	<u>\$ —</u>	<u>\$ 2,908</u>

(1) Money market funds and time deposits.

Level 3 Investments

Convertible Note

In the fourth quarter of 2021, we invested \$2.0 million in a non-marketable convertible note. This debt security is classified as available-for-sale and is included in Other assets on the Consolidated Balance Sheets. There were no changes in the fair value of this level 3 investment in the twelve months ended September 30, 2023.

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16. Derivative Financial Instruments

The following table shows our derivative instruments measured at gross fair value as reflected in the Consolidated Balance Sheets:

(in thousands)	Fair Value of Derivatives Designated As Hedging Instruments		Fair Value of Derivatives Not Designated As Hedging Instruments	
			September 30,	
	2023	2022	2023	2022
Derivative assets:⁽¹⁾				
Forward contracts	\$ 3,770	\$ 1,960	\$ 3,570	\$ 7,098
Derivative liabilities:⁽²⁾				
Forward contracts	\$ —	\$ —	\$ 3,158	\$ 2,908

(1) As of September 30, 2023 and 2022, current derivative assets of \$7.3 million and \$9.1 million, respectively, are recorded in Other current assets on the Consolidated Balance Sheets.

(2) As of September 30, 2023 and 2022, current derivative liabilities of \$3.2 million and \$2.9 million, respectively, are recorded in Accrued expenses and other current liabilities on the Consolidated Balance Sheets.

Non-Designated Hedges

As of September 30, 2023 and 2022, we had outstanding forward contracts not designated as hedging instruments with notional amounts equivalent to the following:

Currency Hedged (in thousands)	September 30,		
	2023	2022	
Canadian Dollar / U.S. Dollar	\$ 5,135	\$ 2,731	
Euro / U.S. Dollar	383,227	316,869	
British Pound / U.S. Dollar	6,058	7,368	
Israeli Shekel / U.S. Dollar	11,852	12,052	
Japanese Yen / U.S. Dollar	4,770	25,566	
Swiss Franc / U.S. Dollar	32,766	25,559	
Swedish Krona / U.S. Dollar	35,085	35,713	
Singapore Dollar / U.S. Dollar	—	3,637	
Chinese Renminbi / U.S. Dollar	16,660	23,965	
New Taiwan Dollar / U.S. Dollar	11,855	13,906	
Korean Won / U.S. Dollar	6,157	4,919	
Danish Krone / U.S. Dollar	6,731	3,192	
Australian Dollar / U.S. Dollar	452	3,269	
All other	2,888	4,432	
Total	\$ 523,636	\$ 483,178	

The following table shows the effect of our non-designated hedges, including forward contracts and options, on the Consolidated Statements of Operations for the years ended September 30, 2023, 2022 and 2021:

(in thousands)	Location of Gain (Loss)	Year ended September 30,		
		2023	2022	2021
Net realized and unrealized gain (loss), excluding the underlying foreign currency exposure being hedged	Other income, net	\$ (11,757)	\$ 14,603	\$ (6,055)

In 2023, 2022 and 2021, foreign currency losses, net were \$2.1 million, \$0.9 million and \$8.0 million, respectively.

Net Investment Hedges

As of September 30, 2023 and 2022, we had outstanding forward contracts designated as net investment hedges with notional amounts equivalent to the following:

Currency Hedged (in thousands)	September 30,		
	2023	2022	
Euro / U.S. Dollar	\$ 337,923	\$ 110,466	
Japanese Yen / U.S. Dollar	10,285	—	
Total	\$ 348,208	\$ 110,466	

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The following table shows the effect of our derivative instruments designated as net investment hedges on the Consolidated Statements of Operations for the years ended September 30, 2023, 2022, and 2021:

(in thousands)	Location of Gain (Loss)	Year ended September 30,		
		2023	2022	2021
Gain (loss) recognized in OCI	OCI	\$ (10,033)	\$ 23,379	\$ 1,660
Gain (loss) reclassified from OCI to earnings	n/a	\$ -	\$ -	\$ -
Gain recognized, excluded portion	Other income, net	\$ 4,241	\$ 1,797	\$ 1,249

As of September 30, 2023, we estimate that all amounts reported in Accumulated other comprehensive loss will be applied against exposed balance sheet accounts upon translation within the next three months.

Offsetting Derivative Assets and Liabilities

We have entered into master netting arrangements for our forward contracts that allow net settlements under certain conditions. Although netting is permitted, it is currently our policy and practice to record all derivative assets and liabilities on a gross basis in the Consolidated Balance Sheets.

The following table sets forth the offsetting of derivative assets as of September 30, 2023:

(in thousands)	Gross Amounts Offset in the Consolidated Balance Sheets			Gross Amounts Not Offset in the Consolidated Balance Sheets		
	Gross Amount of Recognized Assets	Gross Amounts Offset in the Consolidated Balance Sheets	Net Amounts of Assets Presented in the Consolidated Balance Sheets	Financial Instruments	Cash Collateral Received	Net Amount
As of September 30, 2023						
Forward Contracts	\$ 7,340	\$ —	\$ 7,340	\$ (3,158)	\$ —	\$ 4,182

The following table sets forth the offsetting of derivative liabilities as of September 30, 2023:

(in thousands)	Gross Amounts Offset in the Consolidated Balance Sheets			Gross Amounts Not Offset in the Consolidated Balance Sheets		
	Gross Amount of Recognized Liabilities	Gross Amounts Offset in the Consolidated Balance Sheets	Net Amounts of Liabilities Presented in the Consolidated Balance Sheets	Financial Instruments	Cash Collateral Pledged	Net Amount
As of September 30, 2023						
Forward Contracts	\$ 3,158	\$ —	\$ 3,158	\$ (3,158)	\$ —	\$ —

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17. Leases

Our headquarters are located at 121 Seaport Boulevard, Boston, Massachusetts. The lease is for approximately 250,000 square feet and runs through June 30, 2037. We have subleased a portion of the leased space through January 31, 2024. Base rent for the first year of the lease was \$11.0 million and increases by \$1 per square foot per year thereafter (\$0.3 million per year). Base rent first became payable on July 1, 2020. In addition to the base rent, we are required to pay our pro rata portions of building operating costs and real estate taxes (together, "Additional Rent"). Annual Additional Rent is estimated to be approximately \$8.1 million.

The components of lease cost reflected in the Consolidated Statements of Operations for the years ended September 30, 2023, 2022, and 2021 were as follows:

(in thousands)

	Year ended September 30,		
	2023	2022	2021
Operating lease cost	\$ 32,402	\$ 34,346	\$ 37,295
Short-term lease cost	5,411	2,653	2,452
Variable lease cost	10,945	10,095	9,808
Sublease income	(4,749)	(4,600)	(4,438)
Total lease cost	<u>\$ 44,009</u>	<u>\$ 42,494</u>	<u>\$ 45,117</u>

Supplemental cash flow information for the years ended September 30, 2023, 2022, and 2021 was as follows:

	2023	2022	2021
Cash paid for amounts included in the measurement of lease liabilities:			
Operating cash flows from operating leases	\$ 36,038	\$ 38,709	\$ 50,299
Financing cash flows from financing leases	\$ 536	\$ 297	\$ 354
Right-of-use assets obtained in exchange for new lease obligations:			
Operating leases ⁽¹⁾	\$ 28,257	\$ 15,431	\$ 9,576
Financing leases ⁽²⁾	\$ 40	\$ —	\$ 1,146

- (1) In the year ended September 30, 2023, operating lease additions included \$4.0 million related to the ServiceMax acquisition.
(2) In the year ended September 30, 2023, all financing lease additions related to the ServiceMax acquisition.

Supplemental balance sheet information related to the leases as of September 30, 2023 and 2022 was as follows:

	2023	2022
Weighted-average remaining lease term - operating leases	10.9 years	11.8 years
Weighted-average remaining lease term - financing leases	1 year	2 years
Weighted-average discount rate - operating leases	5.2 %	5.4 %
Weighted-average discount rate - financing leases	3.7 %	3.0 %

Maturities of lease liabilities as of September 30, 2023 are as follows:

(in thousands)	Operating Leases
2024	\$ 34,247
2025	28,490
2026	23,523
2027	19,738
2028	17,874
Thereafter	134,033
Total future lease payments	257,905
Less: imputed interest	(64,713)
Total lease liability	\$ 193,192

As of September 30, 2023, we had operating leases that had not yet commenced. The leases will commence in 2024 with a lease term of 7.75 years and we will make future lease payments of approximately \$2.4 million.

18. Subsequent Events

In October 2023, we made a payment of \$650 million to settle the ServiceMax deferred acquisition payment liability, of which \$620 million is purchase consideration and \$30 million is imputed interest. To finance this payment, we borrowed the full amount under the revolving line of our existing credit facility.

In October 2023, we acquired pure-systems GmbH, a leading provider of product and software variant management solutions, for approximately \$98 million. We borrowed EUR 85 million, the USD equivalent of which was approximately \$90 million, under the revolving line of our existing credit facility to fund the acquisition.

Subsequent to September 30, 2023, we have made aggregate payments of \$45 million on the revolving credit facility.