

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

FORM 10-Q

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended June 27, 2020
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(s)	Name of each exchange on which registered
Common Stock, \$.01 par value per share	PTC	NASDAQ Global Select Market

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, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act:

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

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

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

There were 116,117,972 shares of our common stock outstanding on August 3, 2020

PTC Inc.
INDEX TO FORM 10-Q
For the Quarter Ended June 27, 2020

	<u>Page Number</u>	
<u>Part I—FINANCIAL INFORMATION</u>		
Item 1.	<u>Unaudited Condensed Consolidated Financial Statements:</u>	
	<u>Consolidated Balance Sheets as of June 27, 2020 and September 30, 2019</u>	<u>1</u>
	<u>Consolidated Statements of Operations for the three and nine months ended June 27, 2020 and June 29, 2019</u>	<u>2</u>
	<u>Consolidated Statements of Comprehensive Income (Loss) for the three and nine months ended June 27, 2020 and June 29, 2019</u>	<u>3</u>
	<u>Consolidated Statements of Cash Flows for the nine months ended June 27, 2020 and June 29, 2019</u>	<u>4</u>
	<u>Consolidated Statements of Stockholders' Equity for the three and nine months ended June 27, 2020 and June 29, 2019</u>	<u>5</u>
	<u>Notes to Condensed Consolidated Financial Statements</u>	<u>7</u>
Item 2.	<u>Management's Discussion and Analysis of Financial Condition and Results of Operations</u>	<u>30</u>
Item 3.	<u>Quantitative and Qualitative Disclosures about Market Risk</u>	<u>42</u>
Item 4.	<u>Controls and Procedures</u>	<u>42</u>
<u>Part II—OTHER INFORMATION</u>		
Item 1A.	<u>Risk Factors</u>	<u>43</u>
Item 6.	<u>Exhibits</u>	<u>43</u>
	<u>Signature</u>	<u>44</u>

ITEM 1. UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

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

	June 27, 2020	September 30, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 377,428	\$ 269,579
Short-term marketable securities	25,830	27,891
Accounts receivable, net of allowance for doubtful accounts of \$632 and \$744 at June 27, 2020 and September 30, 2019, respectively	319,244	372,743
Prepaid expenses	72,630	52,701
Other current assets	52,106	59,707
Total current assets	847,238	782,621
Property and equipment, net	101,617	105,531
Goodwill	1,605,204	1,238,179
Acquired intangible assets, net	247,173	169,949
Long-term marketable securities	31,958	29,544
Deferred tax assets	196,701	198,634
Operating right-of-use lease assets	151,044	—
Other assets	195,234	140,130
Total assets	\$ 3,376,169	\$ 2,664,588
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 29,954	\$ 42,442
Accrued expenses and other current liabilities	97,305	104,028
Accrued compensation and benefits	89,728	88,769
Accrued income taxes	16,707	17,407
Deferred revenue	395,849	385,509
Short-term lease obligations	36,748	—
Total current liabilities	666,291	638,155
Long-term debt	1,124,702	669,134
Deferred tax liabilities	17,097	41,683
Deferred revenue	8,833	11,123
Long-term lease obligations	179,331	—
Other liabilities	52,348	102,495
Total liabilities	2,048,602	1,462,590
Commitments and contingencies (Note 15)		
Stockholders' equity:		
Preferred stock, \$0.01 par value; 5,000 shares authorized; none issued	—	—
Common stock, \$0.01 par value; 500,000 shares authorized; 115,976 and 114,899 shares issued and outstanding at June 27, 2020 and September 30, 2019, respectively	1,160	1,149
Additional paid-in capital	1,552,291	1,502,949
Accumulated deficit	(115,673)	(191,390)
Accumulated other comprehensive loss	(110,211)	(110,710)
Total stockholders' equity	1,327,567	1,201,998
Total liabilities and stockholders' equity	\$ 3,376,169	\$ 2,664,588

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

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

	Three months ended		Nine months ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Revenue:				
License	\$ 118,248	\$ 62,918	\$ 369,285	\$ 230,116
Support and cloud services	199,146	190,487	586,555	566,053
Total software revenue	317,394	253,405	955,840	796,169
Professional services	34,327	42,081	111,594	124,457
Total revenue	351,721	295,486	1,067,434	920,626
Cost of revenue:				
Cost of license revenue	13,001	13,307	40,047	38,745
Cost of support and cloud services revenue	34,788	33,785	107,980	97,856
Total cost of software revenue	47,789	47,092	148,027	136,601
Cost of professional services revenue	31,435	35,613	101,629	103,360
Total cost of revenue	79,224	82,705	249,656	239,961
Gross margin	272,497	212,781	817,778	680,665
Operating expenses:				
Sales and marketing	104,594	108,202	319,636	316,142
Research and development	61,429	60,590	186,691	182,774
General and administrative	35,709	28,773	113,895	102,008
Amortization of acquired intangible assets	7,302	5,920	21,367	17,786
Restructuring and other charges, net	62	(9)	32,338	45,464
Total operating expenses	209,096	203,476	673,927	664,174
Operating income	63,401	9,305	143,851	16,491
Interest and debt premium expense	(19,660)	(10,816)	(64,376)	(32,475)
Other income (expense), net	775	1,026	(150)	2,501
Income (loss) before income taxes	44,516	(485)	79,325	(13,483)
Provision for income taxes	9,838	14,273	2,036	23,803
Net income (loss)	\$ 34,678	\$ (14,758)	\$ 77,289	\$ (37,286)
Earnings (loss) per share—Basic	\$ 0.30	\$ (0.13)	\$ 0.67	\$ (0.32)
Earnings (loss) per share—Diluted	\$ 0.30	\$ (0.13)	\$ 0.67	\$ (0.32)
Weighted-average shares outstanding—Basic	115,759	116,133	115,521	117,636
Weighted-average shares outstanding—Diluted	116,229	116,133	115,981	117,636

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

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

	Three months ended		Nine months ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Net income (loss)	\$ 34,678	\$ (14,758)	\$ 77,289	\$ (37,286)
Other comprehensive income (loss), net of tax:				
Hedge loss arising during the period, net of tax benefit of \$0.4 million and \$0.2 million in the third quarter of 2020 and 2019, respectively, and \$1.2 million and \$0 million in the first nine months of 2020 and 2019, respectively	(1,148)	(2,644)	(3,790)	(1,818)
Net hedge gain reclassified into earnings, net of tax provision of \$0 million in the third quarter of 2020 and 2019, respectively, and \$0 million and \$0.1 million in the first nine months of 2020 and 2019, respectively	—	—	—	(549)
Realized and unrealized loss on hedging instruments	(1,148)	(2,644)	(3,790)	(2,367)
Foreign currency translation adjustment, net of tax of \$0 for each period	3,089	4,393	2,677	(7,209)
Unrealized gain on marketable securities, net of tax of \$0 for each period	822	175	278	477
Amortization of net actuarial pension gain included in net income, net of tax provision of \$0.3 million and \$0.2 million in the third quarter of 2020 and 2019, respectively, and \$0.8 million and \$0.5 million in the first nine months of 2020 and 2019, respectively	673	418	2,027	1,277
Change in unamortized pension gain (loss) during the period related to changes in foreign currency	(152)	(230)	(693)	395
Other comprehensive income (loss)	3,284	2,112	499	(7,427)
Comprehensive income (loss)	<u>\$ 37,962</u>	<u>\$ (12,646)</u>	<u>\$ 77,788</u>	<u>\$ (44,713)</u>

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

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

	Nine months ended	
	June 27, 2020	June 29, 2019
Cash flows from operating activities:		
Net income (loss)	\$ 77,289	\$ (37,286)
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	60,677	58,634
Amortization of right-of-use lease assets	29,467	—
Stock-based compensation	73,605	71,608
Other non-cash items, net	(2,786)	(2,721)
Changes in operating assets and liabilities, excluding the effects of acquisitions:		
Accounts receivable	54,662	88,254
Accounts payable and accrued expenses	4,255	4,124
Accrued compensation and benefits	878	(23,442)
Deferred revenue	3,357	25,325
Accrued income taxes	(44,445)	(12,777)
Other current assets and prepaid expenses	15,311	(6,336)
Operating lease liabilities	(8,871)	—
Other noncurrent assets and liabilities	(63,565)	64,546
Net cash provided by operating activities	199,834	229,929
Cash flows from investing activities:		
Additions to property and equipment	(15,412)	(59,579)
Purchases of short- and long-term marketable securities	(26,087)	(18,950)
Proceeds from sales of short- and long-term marketable securities	1,521	—
Proceeds from maturities of short- and long-term marketable securities	24,271	20,677
Acquisitions of businesses, net of cash acquired	(468,520)	(86,737)
Purchases of investments	—	(7,500)
Purchase of intangible assets	(11,050)	—
Settlement of net investment hedges	(1,729)	4,509
Net cash used in investing activities	(497,006)	(147,580)
Cash flows from financing activities:		
Proceeds from issuance of Senior Notes	1,000,000	—
Borrowings under credit facility	455,000	205,000
Repayments of Senior Notes	(500,000)	—
Repayments of borrowings under credit facility	(490,125)	(150,000)
Repurchases of common stock	—	(89,995)
Proceeds from issuance of common stock	8,980	4,158
Debt issuance costs	(17,083)	—
Contingent consideration	—	(1,575)
Debt early redemption premium	(15,000)	—
Payments of withholding taxes in connection with stock-based awards	(33,232)	(44,191)
Net cash provided by (used in) financing activities	408,540	(76,603)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(4,127)	2,143
Net change in cash, cash equivalents, and restricted cash	107,241	7,889
Cash, cash equivalents, and restricted cash, beginning of period	270,689	261,093
Cash, cash equivalents, and restricted cash, end of period	\$ 377,930	\$ 268,982

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

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

	Three months ended June 27, 2020					
	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Amount				
Balance as of March 28, 2020	115,695	\$ 1,157	\$ 1,536,770	\$ (150,351)	\$ (113,495)	\$ 1,274,081
Common stock issued for employee stock-based awards	412	4	(4)	—	—	—
Shares surrendered by employees to pay taxes related to stock-based awards	(131)	(1)	(9,660)	—	—	(9,661)
Compensation expense from stock-based awards	—	—	25,185	—	—	25,185
Net income	—	—	—	34,678	—	34,678
Unrealized loss on net investment hedges, net of tax	—	—	—	—	(1,148)	(1,148)
Foreign currency translation adjustment	—	—	—	—	3,089	3,089
Unrealized gain on available-for-sale securities, net of tax	—	—	—	—	822	822
Change in pension benefits, net of tax	—	—	—	—	521	521
Balance as of June 27, 2020	<u>115,976</u>	<u>\$ 1,160</u>	<u>\$ 1,552,291</u>	<u>\$ (115,673)</u>	<u>\$ (110,211)</u>	<u>\$ 1,327,567</u>

	Nine months ended June 27, 2020					
	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Amount				
Balance as of September 30, 2019	114,899	\$ 1,149	\$ 1,502,949	\$ (191,390)	\$ (110,710)	\$ 1,201,998
ASU 2016-02 (ASC 842) adoption	—	—	—	(1,572)	—	(1,572)
Common stock issued for employee stock-based awards	1,370	14	(14)	—	—	—
Shares surrendered by employees to pay taxes related to stock-based awards	(449)	(4)	(33,228)	—	—	(33,232)
Common stock issued for employee stock purchase plan	156	1	8,979	—	—	8,980
Compensation expense from stock-based awards	—	—	73,605	—	—	73,605
Net income	—	—	—	77,289	—	77,289
Unrealized loss on net investment hedges, net of tax	—	—	—	—	(3,790)	(3,790)
Foreign currency translation adjustment	—	—	—	—	2,677	2,677
Unrealized gain on available-for-sale securities, net of tax	—	—	—	—	278	278
Change in pension benefits, net of tax	—	—	—	—	1,334	1,334
Balance as of June 27, 2020	<u>115,976</u>	<u>\$ 1,160</u>	<u>\$ 1,552,291</u>	<u>\$ (115,673)</u>	<u>\$ (110,211)</u>	<u>\$ 1,327,567</u>

	Three months ended June 29, 2019					
	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Amount				
Balance as of March 30, 2019	118,098	\$ 1,181	\$ 1,523,949	\$ (182,298)	\$ (95,124)	\$ 1,247,708
Common stock issued for employee stock-based awards	371	4	(4)	—	—	—
Shares surrendered by employees to pay taxes related to stock-based awards	(113)	(1)	(9,699)	—	—	(9,700)
Compensation expense from stock-based awards	—	—	15,234	—	—	15,234
Net loss	—	—	—	(14,758)	—	(14,758)
Repurchases of common stock	(3,245)	(33)	(24,968)	—	—	(25,001)
Unrealized loss on hedging instruments, net of tax	—	—	—	—	(2,644)	(2,644)
Foreign currency translation adjustment	—	—	—	—	4,393	4,393
Unrealized gain on available-for-sale securities, net of tax	—	—	—	—	175	175
Change in pension benefits, net of tax	—	—	—	—	188	188
Balance as of June 29, 2019	<u>115,111</u>	<u>\$ 1,151</u>	<u>\$ 1,504,512</u>	<u>\$ (197,056)</u>	<u>\$ (93,012)</u>	<u>\$ 1,215,595</u>

	Nine months ended June 29, 2019					
	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Amount				
Balance as of September 30, 2018	117,981	\$ 1,180	\$ 1,558,403	\$ (599,409)	\$ (85,585)	\$ 874,589
ASU 2016-16 adoption	—	—	—	72,261	—	72,261
ASC 606 adoption	—	—	—	367,378	—	367,378
Common stock issued for employee stock-based awards	1,479	15	(15)	—	—	—
Shares surrendered by employees to pay taxes related to stock-based awards	(501)	(5)	(44,186)	—	—	(44,191)
Common stock issued	—	—	(140)	—	—	(140)
Common stock issued for employee stock purchase plan	122	1	8,797	—	—	8,798
Compensation expense from stock-based awards	—	—	71,608	—	—	71,608
Net loss	—	—	—	(37,286)	—	(37,286)
Repurchases of common stock	(3,970)	(40)	(89,955)	—	—	(89,995)
Unrealized loss on cash flow hedges, net of tax	—	—	—	—	(385)	(385)
Unrealized loss on net investment hedges, net of tax	—	—	—	—	(1,982)	(1,982)
Foreign currency translation adjustment	—	—	—	—	(7,209)	(7,209)
Unrealized gain on available-for-sale securities, net of tax	—	—	—	—	477	477
Change in pension benefits, net of tax	—	—	—	—	1,672	1,672
Balance as of June 29, 2019	<u>115,111</u>	<u>\$ 1,151</u>	<u>\$ 1,504,512</u>	<u>\$ (197,056)</u>	<u>\$ (93,012)</u>	<u>\$ 1,215,595</u>

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

PTC Inc.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(unaudited)

1. Basis of Presentation

General

The accompanying unaudited condensed consolidated financial statements include the accounts of PTC Inc. and its wholly owned subsidiaries and have been prepared by management in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP) and in accordance with the rules and regulations of the Securities and Exchange Commission regarding interim financial reporting. Accordingly, they do not include all the information and footnotes required by generally accepted accounting principles for complete financial statements. While we believe that the disclosures presented are adequate in order to make the information not misleading, these unaudited quarterly financial statements should be read in conjunction with our annual consolidated financial statements and related notes included in our Annual Report on Form 10-K for the fiscal year ended September 30, 2019. In the opinion of management, the accompanying unaudited condensed consolidated financial statements contain all adjustments, consisting only of those of a normal recurring nature, necessary for a fair statement of our financial position, results of operations and cash flows at the dates and for the periods indicated. The September 30, 2019 Consolidated Balance Sheet included herein is derived from our audited consolidated financial statements.

Unless otherwise indicated, all references to a year mean our fiscal year, which ends on September 30. Our fiscal quarters end on a Saturday following a thirteen-week calendar and may result in different quarter end dates year to year. The third quarter of 2020 ended on June 27, 2020 and the third quarter of 2019 ended on June 29, 2019. The results of operations for the nine months ended June 27, 2020 are not necessarily indicative of the results expected for the remainder of the fiscal year.

Risks and Uncertainties - COVID-19 Pandemic

In December 2019, a novel strain of coronavirus, now referred to as COVID-19, surfaced. The virus has spread globally, including to the United States, and has been declared a pandemic by the World Health Organization. The COVID-19 pandemic has significantly impacted global economic activity and has created future macroeconomic uncertainty.

We had lower new business sales for the three and nine months ended June 27, 2020 compared to the year-ago period, which trend we expect will continue due to the COVID-19 pandemic. We assessed certain accounting matters that generally require consideration of forecasted financial information in context with the information reasonably available to us and the unknown future impacts of the COVID-19 pandemic as of June 27, 2020 and through the date of this report. The accounting matters assessed included, but were not limited to, our allowance for doubtful accounts, stock-based compensation, the carrying value of our goodwill and other long-lived assets, financial assets, valuation allowances for tax assets and revenue recognition. While these assessments did not have a material impact to our consolidated financial statements as of and for the quarter ended June 27, 2020, if our assessments and expectations change in the future relating to the magnitude and duration of the COVID-19 pandemic, as well as other factors, it could result in material impacts to our consolidated financial statements in future reporting periods.

Recent Accounting Pronouncements

Recently Adopted Accounting Pronouncements

Leases

In February 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standard Update (ASU) 2016-02, Leases (Topic 842) (ASC 842), which replaced the existing guidance in ASC 840, Leases. The updated standard aims to increase transparency and comparability among organizations by requiring lessees to recognize lease assets and lease liabilities on the balance sheet and to disclose important information about leasing arrangements. We adopted ASC 842 effective October 1, 2019 (the effective date). ASC 842 requires a modified retrospective transition method that could either be applied at the earliest comparative period in the financial statements or in the period of adoption. We elected to use the period of adoption (October 1, 2019) transition method and therefore did not recast prior periods. Since we adopted the new standard using the period of adoption transition method, we are not required to present 2020 comparative disclosures under ASC 842. However, we are required to present the required annual disclosures under the previous U.S. GAAP lease accounting standard (ASC 840).

We elected the package of practical expedients as permitted under the transition guidance, which allowed us: (1) to carry forward the historical lease classification; (2) not to reassess whether expired or existing contracts are or contain leases; and (3) not to reassess the treatment of initial direct costs for existing leases. In addition, we elected an accounting policy not to recognize leases with an initial term of one year or less on the balance sheet.

Upon the adoption of this standard on October 1, 2019, we recognized an operating lease liability of \$224.0 million, representing the present value of the minimum lease payments remaining as of the adoption date, and a right-of-use asset in the amount of \$167.9 million. The right-of-use asset reflects adjustments for derecognition of deferred leasing incentives. We also recorded a \$1.6 million decrease to retained earnings as a result of the change in scheduling of reversal of temporary tax differences due to the adoption of ASC 842.

Pending Accounting Pronouncements

Goodwill and Other—Internal-Use Software

In August 2018, the FASB issued Accounting Standards Update (ASU) 2018-15, Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That is a Service Contract, which aligns the requirements for capitalizing implementation costs in cloud computing arrangements with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. The new standard will be effective for us in the first quarter of 2021. Entities can choose to adopt the new guidance prospectively or retrospectively. We plan to adopt this standard using the prospective adoption approach. We are currently evaluating the effects of this accounting standard on our consolidated financial statements.

Fair Value Measurement

In August 2018, the FASB issued ASU 2018-13, Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement, which eliminates, modifies and adds disclosure requirements for fair value measurements. The new standard will be effective for us in the first quarter of 2021. We do not expect this accounting standard to have a material impact on our consolidated financial statements.

Financial Instruments—Credit Losses

In June 2016, the FASB issued ASU 2016-13, Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, along with subsequent amendments, which replace the incurred loss impairment methodology in current U.S. GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information when recording credit loss estimates. The new standard will be effective for us in the first quarter of 2021. We are currently evaluating the impact the standard will have on our consolidated financial statements, but at this time we do not expect it to be material.

2. Revenue from Contracts with Customers

Contract Assets and Contract Liabilities

<i>(in thousands)</i>	June 27, 2020	September 30, 2019
Contract asset	\$ 18,642	\$ 21,038
Deferred revenue	\$ 404,682	\$ 396,632

As of June 27, 2020, \$14.1 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 long-term assets and expected to be transferred within the next 24 months. Approximately \$13.3 million of the September 30, 2019 contract asset balance was transferred to receivables during the nine months ended June 27, 2020 as a result of the right to payment becoming unconditional. The majority of the contract asset balance relates to two large professional services contracts with invoicing terms based on performance milestones. The net decrease in contract assets of \$2.4 million includes an increase of approximately \$10.9 million related to revenue recognized in the period, net of billings. There were no impairments of contract assets during the nine months ended June 27, 2020.

During the nine months ended June 27, 2020, we recognized \$344.5 million of revenue that was included in deferred revenue as of September 30, 2019 and there were additional deferrals of \$349.9 million during the nine months ended June 27, 2020, primarily related to new billings. In addition, deferred revenue increased by an immaterial amount as a result of the acquisition of Onshape. The balance of total short- and long-term receivables as of September 30, 2019 was \$412.5 million, compared to total short- and long-term receivables as of June 27, 2020 of \$405.1 million.

Our multi-year, non-cancellable on-premise subscription contracts provide customers with an annual right to exchange software within the 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 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, where there are 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 June 27, 2020 and September 30, 2019, the total refund liability was \$31.6 million and \$22.9 million, respectively, primarily associated with the annual right to exchange on-premise subscription software.

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 five 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 June 27, 2020 and September 30, 2019, deferred costs of \$31.1 million and \$27.7 million, respectively, were included in other current assets and \$65.0 million and \$64.8 million, respectively, were included in other assets (non-current).

Remaining Performance Obligations

Our contracts with customers include amounts allocated to performance obligations that will be satisfied at a later date. As of June 27, 2020, the amounts include additional performance obligations of \$404.7 million recorded in deferred revenue and \$592.6 million that are not yet recorded in the consolidated balance sheets. We expect to recognize approximately 90% of the total \$997.3 million over the next 24 months, with the remaining amount thereafter. Certain of our multi-year subscription contracts with start dates on or after October 1, 2018 contain a limited annual cancellation right. For

such cancellable subscription contracts, we consider each annual period a discrete contract. Early in the fourth quarter of 2019, we discontinued offering the cancellation right for substantially all new contracts. Remaining performance obligations do not include the cancellable value for subscriptions which contain this clause.

Disaggregation of Revenue

(in thousands)

	Three months ended		Nine months ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Total recurring revenue	\$ 310,621	\$ 244,192	\$ 931,852	\$ 734,815
Perpetual license	6,773	9,213	23,988	61,354
Professional services	34,327	42,081	111,594	124,457
Total revenue	\$ 351,721	\$ 295,486	\$ 1,067,434	\$ 920,626

For further disaggregation of revenue by geographic region and product group see *Note 11. Segment and Geographic Information*.

3. Restructuring and Other Charges

Restructuring and other charges, net includes restructuring charges (credits), headquarters relocation charges and impairment and accretion expense charges related to the lease assets of exited facilities. Refer to *Note 14. Leases* for additional information about exited facilities.

For the three months ended June 27, 2020, restructuring and other charges, net totaled \$0.1 million, of which \$(0.2) million is attributable to restructuring charges and \$0.3 million is attributable to accelerated depreciation related to the planned exit of a facility. For the nine months ended June 27, 2020, restructuring and other charges, net totaled \$32.3 million, of which \$26.8 million is attributable to restructuring charges, \$4.9 million is attributable to impairment and accretion expense related to exited lease facilities, and \$0.6 million to accelerated depreciation related to the planned exit of a facility.

For the nine months ended June 29, 2019, restructuring and other charges totaled \$45.5 million, of which \$43.0 million is attributable to restructuring charges and \$2.5 million is related to headquarters relocation charges.

Restructuring Charges

During the first quarter of 2020, we initiated a restructuring program as part of a realignment associated with expected synergies and operational efficiencies related to the Onshape acquisition. During the nine months ended June 27, 2020, we incurred \$31.3 million in connection with this restructuring plan for termination benefits associated with approximately 255 employees.

During the first quarter of 2019, we initiated a restructuring plan to realign our workforce to shift investment to support Industrial Internet of Things and Augmented Reality strategic opportunities. As this was a realignment of resources rather than a cost-savings initiative, it did not result in significant cost savings. The restructuring plan was completed in the first quarter of 2019 and resulted in restructuring charges of \$16.3 million for termination benefits associated with approximately 240 employees, substantially all of which has been paid. In the first nine months of 2020, we recorded \$0.2 million of credits related to this restructuring plan.

During the second quarter of 2019, we relocated our worldwide headquarters to the Boston Seaport District. We incurred a restructuring charge for the former headquarters lease, which will not expire until November 2022. During the nine months ended June 27, 2020, we reversed \$4.5 million of accrued variable operating facility restructuring charges associated with the exit of a portion of our former headquarters lease under a partial buy-out agreement with the landlord.

The following table summarizes restructuring accrual activity for the nine months ended June 27, 2020:

<i>(in thousands)</i>	Employee severance and related benefits	Facility closures and related costs	Total
October 1, 2019	\$ 298	\$ 30,788	\$ 31,086
ASC 842 adoption	—	(16,462)	(16,462)
Charges to operations, net	31,155	(4,391)	26,764
Cash disbursements	(21,890)	(3,746)	(25,636)
Other non-cash	—	164	164
Foreign exchange impact	165	3	168
Accrual, June 27, 2020	<u>\$ 9,728</u>	<u>\$ 6,356</u>	<u>\$ 16,084</u>

The following table summarizes restructuring accrual activity for the nine months ended June 29, 2019:

<i>(in thousands)</i>	Employee severance and related benefits	Facility closures and related costs	Total
October 1, 2018	\$ —	\$ 2,415	\$ 2,415
Charges to operations, net	15,719	27,243	42,962
Cash disbursements	(15,397)	(6,009)	(21,406)
Foreign exchange impact	6	(18)	(12)
Other non-cash charges	—	4,812	4,812
Accrual, June 29, 2019	<u>\$ 328</u>	<u>\$ 28,443</u>	<u>\$ 28,771</u>

The accrual for employee severance and related benefits is included in accrued compensation and benefits in the Consolidated Balance Sheets.

Upon adoption of ASC 842, \$16.5 million of accrued expenses and other current liabilities, representing the present value of lease commitments net of estimated sublease income, were reclassified to lease assets and obligations: \$7.6 million to lease assets, \$9.2 million to short-term lease obligations and \$14.9 million to long-term lease obligations.

As of June 27, 2020, the remaining restructuring facility accrual of \$6.4 million relates to variable non-lease costs not subject to ASC 842, of which, \$2.6 million is included in accrued expenses and other current liabilities and \$3.8 million is included in other liabilities in the Consolidated Balance Sheets.

Of the accrual for facility closures and related costs, as of June 29, 2019, \$12.1 million is included in accrued expenses and other current liabilities and \$16.3 million is included in other liabilities in the Consolidated Balance Sheets.

Other - Headquarters Relocation Charges

Headquarters relocation charges represent other expenses associated with exiting our prior Needham headquarters facility and relocating to our new worldwide headquarters in the Boston Seaport District. In the first nine months of 2019, we recorded \$1.9 million of accelerated depreciation expense related to shortening the estimated useful lives of leasehold improvements related to the Needham location. Headquarters relocation charges in the first nine months of 2019 also include \$0.6 million of rental expense for the Needham facility that overlapped with rental expense for the new Seaport headquarters.

4. Stock-based Compensation

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

For performance-based awards, we recognize stock-based compensation based on expected achievement of performance criteria. We measure the cost of employee services received in exchange for RSU awards based on the fair value of the RSU awards on the date of grant. That cost is recognized over the period during which an employee is required to provide service in exchange for the award. We account for forfeitures as they occur, rather than estimate expected forfeitures.

Our employee stock purchase plan (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 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.

	Number of RSUs (in thousands)	Weighted- Average Grant Date Fair Value Per RSU
Restricted stock unit activity for the nine months ended June 27, 2020		
Balance of outstanding restricted stock units, October 1, 2019	3,232	\$ 80.52
Granted	2,361	\$ 77.04
Vested	(1,369)	\$ 71.42
Forfeited or not earned	(580)	\$ 84.01
Balance of outstanding restricted stock units, June 27, 2020	3,644	\$ 81.11

<i>(in thousands)</i>	Restricted Stock Units		
	Performance- based RSUs(1)	Service-based RSUs(2)	Total Shareholder Return RSUs(3)
Grant Period			
First nine months of 2020	101	2,159	101

- (1) The performance-based RSUs were granted to our executives and are eligible to vest based upon annual increasing performance measures over a three-year period. RSUs not earned in either of the first two measurement periods may be earned in the third period. To the extent earned, those performance-based RSUs will vest in three substantially equal installments on November 15, 2020, November 15, 2021 and November 15, 2022, 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 (a maximum aggregate of 202 thousand RSUs).
- (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 Total Shareholder Return RSUs (TSR RSUs) were granted to our executives pursuant to the terms described below.

The number of TSR RSUs that vest over the three-year period will be determined 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 three measurement periods ending on September 30, 2020, 2021 and 2022, respectively. The RSUs earned for each period will vest on November 15 following each measurement period, up to a maximum of two times the number of TSR RSUs eligible to be earned for the period (up to a maximum aggregate of 202 thousand RSUs). No vesting will occur in a period unless an annual threshold requirement is achieved. If the return to PTC shareholders is negative but still meets or exceeds the peer group indexed return, a maximum of 100% of the TSR RSUs will vest for the measurement period. TSR RSUs not earned in either of the first two measurement periods are eligible to be earned in the third measurement period.

The weighted-average fair value of the TSR RSUs was \$106.69 per target RSU on the grant date. The fair value of the TSR 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 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 TSR 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:

Average volatility of peer group	28.0%
Risk free interest rate	1.59%
Dividend yield	—%

Compensation expense recorded for our stock-based awards was classified in our Consolidated Statements of Operations as follows:

<i>(in thousands)</i>	Three months ended		Nine months ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Cost of license revenue	\$ 11	\$ 78	\$ 22	\$ 448
Cost of support and cloud services revenue	1,569	1,141	4,579	3,274
Cost of professional services revenue	1,585	1,345	4,607	5,065
Sales and marketing	9,407	5,870	24,005	25,114
Research and development	5,583	4,761	17,280	14,851
General and administrative	7,030	2,039	23,112	22,856
Total stock-based compensation expense	<u>\$ 25,185</u>	<u>\$ 15,234</u>	<u>\$ 73,605</u>	<u>\$ 71,608</u>

Stock-based compensation expense includes \$1.4 million and \$4.2 million in the third quarter and first nine months of 2020, respectively, and \$1.5 million and \$4.1 million in the third quarter and first nine months of 2019, respectively, related to the ESPP.

5. Earnings per Share (EPS) and Common Stock

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 RSUs using the treasury stock method. The calculation of the dilutive effect of outstanding equity awards under the treasury stock method includes consideration of unrecognized compensation expense as additional proceeds.

Calculation of Basic and Diluted EPS (in thousands, except per share data)	Three months ended		Nine months ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Net income (loss)	\$ 34,678	\$ (14,758)	\$ 77,289	\$ (37,286)
Weighted-average shares outstanding—Basic	115,759	116,133	115,521	117,636
Dilutive effect of restricted stock units	470	—	460	—
Weighted-average shares outstanding—Diluted	116,229	116,133	115,981	117,636
Earnings (loss) per share—Basic	\$ 0.30	\$ (0.13)	\$ 0.67	\$ (0.32)
Earnings (loss) per share—Diluted	\$ 0.30	\$ (0.13)	\$ 0.67	\$ (0.32)

There were 258,256 and 130,086 anti-dilutive shares for the three and nine months ended June 27, 2020. For the three and nine months ended June 29, 2019, 886,072 and 1,027,559 potentially dilutive shares, respectively, were excluded from diluted EPS as we had a net loss in each period.

Common Stock Repurchases

Our Articles of Organization authorize us to issue up to 500 million shares of our common stock. Our Board of Directors has authorized us to repurchase up to \$1,500 million of our common stock in the period October 1, 2017 through September 30, 2020. We did not repurchase any shares in the third quarter and first nine months of 2020. We repurchased \$25 million and \$90 million of our common stock in the third quarter and first nine months of 2019, respectively. All shares of our common stock repurchased are automatically restored to the status of authorized and unissued.

6. Acquisitions

Acquisition-related costs in the third quarter and first nine months of 2020 totaled \$0.7 million and \$8.1 million, respectively, compared to \$0.4 million and \$1.2 million, respectively, in the third quarter and first nine months of 2019. Acquisition-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). In addition, subsequent adjustments to our initial estimated amount of contingent consideration associated with specific acquisitions are included within acquisition-related charges. These costs are classified in general and administrative expenses in the accompanying Consolidated Statements of Operations.

Our results of operations include the results of acquired businesses beginning on their respective acquisition date. Our results of operations for the reported periods if presented on a pro forma basis would not differ materially from our reported results.

Onshape

On November 1, 2019, we completed our acquisition of Onshape Inc. pursuant to the Agreement and Plan of Merger dated as of October 23, 2019 by and among Onshape Inc., OPAL Acquisition Corporation and the Stockholder Representative named therein, the material terms of which are described in the Form 8-K filed by PTC on October 23, 2019 and which is filed as Exhibit 1.1 to that Form 8-K. PTC paid approximately \$469 million, net of cash acquired, for Onshape, which amount we borrowed under our existing credit facility. Onshape is not expected to be material to our 2020 results.

The acquisition of Onshape has been accounted for as a business combination. Assets acquired and liabilities assumed have been recorded at their estimated fair values as of the acquisition date. The fair values of intangible assets were based on valuations using a discounted cash flow model which requires the use of significant estimates and assumptions, including estimating future revenues and costs. The excess of the purchase price over the tangible assets, identifiable intangible assets and assumed liabilities was recorded as goodwill.

The purchase price allocation resulted in \$364.9 million of goodwill, \$56.8 million of customer relationships, \$47.3 million of purchased software, \$3.6 million of trademarks and \$4.1 million of other net liabilities. The acquired customer relationships, purchased software, and trademarks are being amortized over useful lives of 10 years, 16 years, and 15 years, respectively, based on the expected 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 accelerating CAD and PLM growth, especially in the low-end of the market and participating in future growth in the CAD and PLM SaaS market.

Frustum

On November 19, 2018, we acquired Frustum Inc. for \$69.5 million (net of cash acquired of \$0.7 million). We financed the acquisition with borrowings under our credit facility. Frustum is engaged in next-generation computer-aided design, including generative design, an approach that leverages artificial intelligence to generate design options. At the time of the acquisition, Frustum had approximately 12 employees and historical annualized revenues were not material.

The acquisition of Frustum was accounted for as a business combination. Assets acquired and liabilities assumed were recorded at their estimated fair values as of the acquisition date. The fair values of intangible assets were based on valuations using a discounted cash flow model which requires the use of significant estimates and assumptions, including estimating future revenues and costs. The excess of the purchase price over the tangible assets, identifiable intangible assets and assumed liabilities was recorded as goodwill.

The purchase price allocation resulted in \$53.7 million of goodwill, \$17.9 million of purchased software and \$2.1 million of other net liabilities. The acquired technology is being amortized over a useful life of 15 years based on the expected 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 integrating Frustum generative design technology into our CAD solutions.

7. Goodwill and Intangible Assets

We have two operating and reportable segments: (1) Software Products and (2) Professional Services. We assess goodwill for impairment at the reporting unit level. Our reporting units are determined based on the components of our operating segments that constitute a business for which discrete financial information is available and for which operating results are regularly reviewed by segment management. Our reporting units are the same as our operating segments.

As of June 27, 2020, goodwill and acquired intangible assets in the aggregate attributable to our Software Products segment was \$1,807.3 million and attributable to our Professional Services segment was \$45.1 million. As of September 30, 2019, goodwill and acquired intangible assets in the aggregate attributable to our Software Products segment was \$1,362.4 million and attributable to our Professional Services segment was \$45.7 million. Acquired intangible assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying value of the asset may not be recoverable. We evaluate goodwill for impairment in the third quarter of our fiscal year, or on an interim basis if an event occurs or circumstances change that would, more likely than not, reduce the fair value of a reporting segment below its carrying value. 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.

We completed our annual goodwill impairment review as of June 27, 2020 based on a quantitative assessment. To conduct these tests of goodwill, the fair value of the reporting unit is compared 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, including consideration of the impact of the COVID-19 pandemic on our future results, and industry data. The estimated fair value of each reporting unit significantly exceeds its carrying value as of June 27, 2020.

Goodwill and acquired intangible assets consisted of the following:

(in thousands)	June 27, 2020			September 30, 2019		
	Gross Carrying Amount	Accumulated Amortization	Net Book Value	Gross Carrying Amount	Accumulated Amortization	Net Book Value
Goodwill (not amortized)			\$ 1,605,204			\$ 1,238,179
Intangible assets with finite lives (amortized):						
Purchased software	\$ 437,441	\$ 299,962	\$ 137,479	\$ 377,359	\$ 278,144	\$ 99,215
Capitalized software	22,877	22,877	—	22,877	22,877	—
Customer lists and relationships	414,084	311,117	102,967	355,931	288,828	67,103
Trademarks and trade names	22,541	15,814	6,727	18,891	15,260	3,631
Other	3,952	3,952	—	3,910	3,910	—
	\$ 900,895	\$ 653,722	\$ 247,173	\$ 778,968	\$ 609,019	\$ 169,949
Total goodwill and acquired intangible assets			\$ 1,852,377			\$ 1,408,128

Goodwill

Changes in goodwill presented by reportable segments were as follows:

(in thousands)	Software Products	Professional Services	Total
Balance, October 1, 2019	\$ 1,196,064	\$ 42,115	\$ 1,238,179
Onshape acquisition	364,910	—	364,910
Foreign currency translation adjustment	2,043	72	2,115
Balance, June 27, 2020	\$ 1,563,017	\$ 42,187	\$ 1,605,204

Amortization of Intangible Assets

The aggregate amortization expense for intangible assets with finite lives was classified in our Consolidated Statements of Operations as follows:

(in thousands)	Three months ended		Nine months ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Amortization of acquired intangible assets	\$ 7,302	\$ 5,920	\$ 21,367	\$ 17,786
Cost of license revenue	6,857	6,873	20,535	20,432
Total amortization expense	\$ 14,159	\$ 12,793	\$ 41,902	\$ 38,218

8. Fair Value Measurements

Fair value is defined as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities required to be recorded at fair value, we consider the principal or most advantageous market in which we would transact and consider assumptions that market participants would use when pricing the asset or liability, such as inherent risk, transfer restrictions, and risk of nonperformance. GAAP prescribes a fair value hierarchy that requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. A financial instrument's categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement. There are three levels of inputs that may be used to measure fair value:

- Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2: inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices in active markets for similar assets or liabilities, quoted prices for identical or similar assets or liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities; or
- Level 3: unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

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.

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.

Certificates of deposit, commercial paper and certain U.S. government agency securities are classified within Level 2 of the fair value hierarchy. These instruments are valued based on quoted prices in markets that are not active or based on other observable inputs consisting of market yields, reported trades and broker/dealer quotes.

The principal market in which we execute our foreign currency 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 contracts' 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 June 27, 2020 and September 30, 2019 were as follows:

(in thousands)

	June 27, 2020			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Cash equivalents	\$ 93,909	\$ —	\$ —	\$ 93,909
Marketable securities:				
Commercial paper	—	1,500	—	1,500
Corporate notes/bonds	56,288	—	—	56,288
Forward contracts	—	2,372	—	2,372
	<u>\$ 150,197</u>	<u>\$ 3,872</u>	<u>\$ —</u>	<u>\$ 154,069</u>
Financial liabilities:				
Forward contracts	—	1,684	—	1,684
	<u>\$ —</u>	<u>\$ 1,684</u>	<u>\$ —</u>	<u>\$ 1,684</u>

(in thousands)

	September 30, 2019			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Cash equivalents	\$ 108,020	\$ —	\$ —	\$ 108,020
Marketable securities:				
Commercial paper	—	999	—	999
Corporate notes/bonds	56,436	—	—	56,436
Forward contracts	—	3,064	—	3,064
	<u>\$ 164,456</u>	<u>\$ 4,063</u>	<u>\$ —</u>	<u>\$ 168,519</u>
Financial liabilities:				
Forward contracts	—	2,771	—	2,771
	<u>\$ —</u>	<u>\$ 2,771</u>	<u>\$ —</u>	<u>\$ 2,771</u>

Non-Marketable Equity Investments

We account for non-marketable equity investments at cost, less any impairment, plus or minus adjustments resulting from observable price changes in orderly transactions for identical or similar investments of the same issuer. We monitor non-marketable equity investments for events that could indicate that the investments are impaired, such as deterioration in the investee's financial condition and business forecasts, and lower valuations in recent or proposed financings. Changes in fair value of non-marketable equity investments are recorded in other income (expense), net on the Consolidated Statements of Operations. The carrying value of our non-marketable equity investments is recorded in other assets on the Consolidated Balance Sheets and totaled \$9.4 million as of both June 27, 2020 and September 30, 2019.

9. Marketable Securities

The amortized cost and fair value of marketable securities as of June 27, 2020 and September 30, 2019 were as follows:

(in thousands)

	June 27, 2020			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Commercial paper	\$ 1,492	\$ 8	\$ —	\$ 1,500
Corporate notes/bonds	55,889	411	(12)	56,288
	<u>\$ 57,381</u>	<u>\$ 419</u>	<u>\$ (12)</u>	<u>\$ 57,788</u>

(in thousands)

	September 30, 2019			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Commercial paper	\$ 999	\$ —	\$ —	\$ 999
Corporate notes/bonds	56,318	146	(28)	56,436
	<u>\$ 57,317</u>	<u>\$ 146</u>	<u>\$ (28)</u>	<u>\$ 57,435</u>

Our investment portfolio consists of certificates of deposit, commercial paper, corporate notes/bonds and government securities that have a maximum maturity of three years. The longer the duration of these securities, the more susceptible they are to changes in market interest rates and bond yields. All unrealized losses are due to changes in market interest rates, bond yields and/or credit ratings.

We review our investments to identify and evaluate investments that have an indication of possible impairment. We concluded that, at June 27, 2020, the unrealized losses were temporary.

The following tables summarize the fair value and gross unrealized losses aggregated by category and the length of time that individual securities have been in a continuous unrealized loss position as of June 27, 2020 and September 30, 2019.

(in thousands)

	June 27, 2020					
	Less than twelve months		Greater than twelve months		Total	
	Fair Value	Gross unrealized loss	Fair Value	Gross unrealized loss	Fair Value	Gross unrealized loss
Corporate notes/bonds	\$ 10,007	\$ (12)	\$ —	\$ —	\$ 10,007	\$ (12)

(in thousands)

	September 30, 2019					
	Less than twelve months		Greater than twelve months		Total	
	Fair Value	Gross unrealized loss	Fair Value	Gross unrealized loss	Fair Value	Gross unrealized loss
Corporate notes/bonds	\$ 12,419	\$ (14)	\$ 16,369	\$ (14)	\$ 28,788	\$ (28)

The following table presents our marketable securities by contractual maturity date as of June 27, 2020 and September 30, 2019.

(in thousands)	June 27, 2020		September 30, 2019	
	Amortized cost	Fair value	Amortized cost	Fair value
Due in one year or less	\$ 25,443	\$ 25,623	\$ 27,725	\$ 27,735
Due after one year through three years	31,938	32,165	29,592	29,700
	<u>\$ 57,381</u>	<u>\$ 57,788</u>	<u>\$ 57,317</u>	<u>\$ 57,435</u>

10. Derivative Financial Instruments

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 Western European countries, Japan, China, Israel, India and Canada. 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 currency resulting from changes in foreign currency exchange rates. We enter into derivative transactions, specifically foreign currency forward contracts, to manage the exposures to foreign currency exchange risk to reduce earnings volatility. We do not enter into derivatives transactions for trading or speculative purposes.

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 three 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 (expense), net.

As of June 27, 2020 and September 30, 2019, we had outstanding forward contracts with notional amounts equivalent to the following:

Currency Hedged (in thousands)	June 27, 2020	September 30, 2019
Canadian / U.S. Dollar	\$ 6,393	\$ 9,408
Euro / U.S. Dollar	311,797	308,282
British Pound / U.S. Dollar	860	3,756
Israeli Sheqel / U.S. Dollar	9,603	10,272
Japanese Yen / U.S. Dollar	—	37,462
Swiss Franc / U.S. Dollar	2,128	12,001
Danish Kroner / U.S. Dollar	4,637	2,423
Swedish Kronor / U.S. Dollar	7,215	20,636
Singapore Dollar / U.S. Dollar	3,250	34,585
Chinese Renminbi / U.S. Dollar	3,960	52,466
Russian Ruble / U.S. Dollar	8,521	—
All other	5,346	7,064
Total	<u>\$ 363,710</u>	<u>\$ 498,355</u>

The following table shows the effect of our non-designated hedges in the Consolidated Statements of Operations for the three and nine months ended June 27, 2020 and June 29, 2019:

Derivatives Not Designated as Hedging Instruments (in thousands)	Location of Gain or (Loss) Recognized in Income	Net realized and unrealized gain or (loss) (excluding the underlying foreign currency exposure being hedged)			
		Three months ended		Nine months ended	
		June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Forward Contracts	Other income (expense), net	\$ (370)	\$ 1,735	\$ 2,474	\$ (1,004)

In the three months ended June 27, 2020, foreign currency gains, net were \$0.2 million and in the nine months ended June 27, 2020, foreign currency losses, net were \$2.3 million. In the three months ended June 29, 2019, foreign currency gains, net were \$0.1 million and in the nine months ended June 29, 2019, foreign currency losses, net were \$0.2 million.

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 Sheet. We designate certain foreign exchange forward contracts as net investment hedges against exposure on translation of balance sheet accounts of Euro functional subsidiaries. Net investment hedges partially offset the impact of foreign currency translation adjustment recorded in accumulated other comprehensive loss on the Consolidated Balance Sheet. All foreign exchange forward contracts are carried at fair value on the Consolidated Balance Sheet and the maximum duration of 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 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 reclassify them to foreign currency translation adjustment in accumulated other comprehensive loss at the time of forward contract maturity. 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.

As of June 27, 2020 and September 30, 2019, we had outstanding forward contracts designated as net investment hedges with notional amounts equivalent to the following:

Currency Hedged (in thousands)	June 27, 2020	September 30, 2019
Euro / U.S. Dollar	\$ 186,397	\$ 183,396
Total	\$ 186,397	\$ 183,396

The following table shows the effect of our derivative instruments designated as net investment hedges in the Consolidated Statements of Operations for the three and nine months ended June 27, 2020 and June 29, 2019 (in thousands):

Derivatives Designated as Hedging Instruments	Gain or (Loss) Recognized in OCI		Location of Gain or (Loss) Reclassified from OCI	Gain or (Loss) Reclassified from OCI		Location of Gain or (Loss) Excluded from Effectiveness Testing	Gain or (Loss) Recognized - Excluded Portion	
	Three months ended			Three months ended			Three months ended	
	June 27, 2020	June 29, 2019		June 27, 2020	June 29, 2019		June 27, 2020	June 29, 2019
Forward Contracts	\$ 2,406	\$ (7,258)	Accumulated other comprehensive loss	\$ (2,735)	\$ (4,132)	Other income (expense), net	\$ 888	\$ 1,562
	Nine months ended			Nine months ended			Nine months ended	
	June 27, 2020	June 29, 2019		June 27, 2020	June 29, 2019		June 27, 2020	June 29, 2019
Forward Contracts	\$ (3,300)	\$ (6,490)	Accumulated other comprehensive loss	\$ (9,513)	\$ (5,172)	Other income (expense), net	\$ 3,079	\$ 3,155

As of June 27, 2020, 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.

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	
	June 27, 2020	September 30, 2019	June 27, 2020	September 30, 2019
Derivative assets(1):				
Forward Contracts	\$ 1,453	\$ 1,674	\$ 919	\$ 1,390
Derivative liabilities(2):				
Forward Contracts	\$ —	\$ —	\$ 1,684	\$ 2,771

- (1) As of June 27, 2020 and September 30, 2019, current derivative assets of \$2.4 million and \$3.1 million, respectively, are recorded in other current assets in the Consolidated Balance Sheets.
- (2) As of June 27, 2020 and September 30, 2019, current derivative liabilities of \$1.7 million and \$2.8 million, respectively, are recorded in accrued expenses and other current liabilities in the Consolidated Balance Sheets.

Offsetting Derivative Assets and Liabilities

We have entered into master netting arrangements 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 June 27, 2020:

(in thousands)	Gross Amounts Offset in the Consolidated Balance Sheets		Net Amounts of Assets Presented 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		Financial Instruments	Cash Collateral Received	Net Amount
As of June 27, 2020						
Forward Contracts	\$ 2,372	\$ —	\$ 2,372	\$ (1,684)	\$ —	\$ 688

The following table sets forth the offsetting of derivative liabilities as of June 27, 2020:

(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 June 27, 2020						
Forward Contracts	\$ 1,684	\$ —	\$ 1,684	\$ (1,684)	\$ —	\$ —

11. Segment and Geographic Information

We operate within a single industry segment -- computer software and related services. Operating segments as defined under GAAP are components of an enterprise about which separate financial information is available that is evaluated regularly by the chief operating decision maker, or decision-making group, in deciding how to allocate resources and in assessing performance. Our chief operating decision maker is our President and Chief Executive Officer. We have two operating and reportable segments: (1) Software Products, which includes license, subscription and related support revenue (including updates and technical support) for all our products; and (2) Professional Services, which includes consulting, implementation and training services. We do not allocate sales and marketing or general and administrative expense to our operating segments as these activities are managed on a consolidated basis. Additionally, segment profit does not include stock-based compensation, amortization of intangible assets, restructuring charges and certain other identified costs that we do not allocate to the segments for purposes of evaluating their operational performance.

The revenue and profit attributable to our operating segments are summarized below. We do not produce asset information by reportable segment; therefore, it is not reported.

(in thousands)	Three months ended		Nine months ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Software Products				
Revenue	\$ 317,394	\$ 253,405	\$ 955,840	\$ 796,169
Operating costs(1)	95,198	94,829	292,302	280,370
Profit	222,196	158,576	663,538	515,799
Professional Services				
Revenue	34,327	42,081	111,594	124,457
Operating costs(2)	29,850	34,326	97,022	98,515
Profit	4,477	7,755	14,572	25,942
Total segment revenue	351,721	295,486	1,067,434	920,626
Total segment costs	125,048	129,155	389,324	378,885
Total segment profit	226,673	166,331	678,110	541,741
Unallocated operating expenses:				
Sales and marketing expenses	95,187	102,332	295,631	291,028
General and administrative expenses	28,005	26,310	82,719	77,937
Restructuring and other charges, net	62	(9)	32,338	45,464
Intangibles amortization	14,159	12,793	41,902	38,218
Stock-based compensation	25,185	15,234	73,605	71,608
Other unallocated operating expenses(3)	674	366	8,064	995
Total operating income	63,401	9,305	143,851	16,491
Interest expense	(19,660)	(10,816)	(64,376)	(32,475)
Other income (expense), net	775	1,026	(150)	2,501
Income (loss) before income taxes	\$ 44,516	\$ (485)	\$ 79,325	\$ (13,483)

- (1) Operating costs for the Software Products segment include all costs of software revenue and research and development costs, excluding stock-based compensation and intangible amortization.
- (2) Operating costs for the Professional Services segment include all cost of professional services revenue, excluding stock-based compensation and fair value adjustments for deferred services costs.
- (3) Other unallocated operating expenses include acquisition-related and other transactional costs and fair value adjustments for deferred services costs.

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)

Revenue	Three months ended		Nine months ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Americas	\$ 156,221	\$ 122,867	\$ 466,188	\$ 384,437
Europe	121,317	112,083	404,260	342,477
Asia-Pacific	74,183	60,536	196,986	193,712
Total revenue	\$ 351,721	\$ 295,486	\$ 1,067,434	\$ 920,626

12. Income Taxes

In the third quarter and first nine months of 2020, our effective tax rate was 22% on pre-tax income of \$44.5 million and 3% on a pre-tax income of \$79.3 million, respectively, compared to (2,940%) on a pre-tax loss of \$(0.5) million and (177%) on a pre-tax loss of \$(13.5) million in the third quarter and first nine months of 2019, respectively. In the first nine months of 2020 and 2019, our effective tax rate differed from the statutory federal income tax rate of 21% due to U.S. tax reform, our corporate structure in which our foreign taxes are at a net effective tax rate lower than the U.S. rate, the excess tax benefit related to stock-based compensation and the indirect effects of the adoption of ASC 606. Additionally, in the first nine months of 2020 and 2019, we reduced the valuation allowance by \$21.2 million and \$1.8 million as the result of the Onshape and Frustum acquisitions, respectively. A significant amount of our foreign earnings is generated by our subsidiaries organized in Ireland. In 2020 and 2019, the foreign rate differential predominantly relates to these Irish earnings.

On March 27, 2020, the U.S. Federal government enacted the Coronavirus Aid, Relief, and Economic Security Act (the "CARES ACT"). The CARES Act is an emergency economic stimulus package in response to the coronavirus outbreak, which among other things contains numerous income tax provisions. While we continue to evaluate the impact of the CARES Act, we do not currently believe it will have a material impact on our consolidated financial statements or related disclosures.

We have concluded, based on the weight of available evidence, that a full valuation allowance continues to be required against our U.S. net deferred tax assets as they are not more likely than not to be realized in the future. We will continue to reassess our valuation allowance requirements each financial reporting period.

In the normal course of business, PTC and its subsidiaries are examined by various taxing authorities, including the Internal Revenue Service 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, limitations on net operating losses and tax credits.

As of June 27, 2020 and September 30, 2019, we had unrecognized tax benefits of \$14.7 million and \$11.5 million, respectively. If all our unrecognized tax benefits as of June 27, 2020 were to become recognizable in the future, we would record a benefit to the income tax provision of \$14.7 million, which would be partially offset by an increase in the U.S. valuation allowance of \$7.2 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 \$0.7 million.

In the fourth quarter of 2016, we received an assessment of approximately \$12 million from the tax authorities in South Korea. The assessment relates to various tax issues, primarily foreign withholding taxes. We have appealed and intend to vigorously defend our positions. We believe that upon completion of a multi-level appeal process it is more likely than not that our positions will be sustained. Accordingly, we have not recorded a tax reserve for this matter. We paid this assessment in the first quarter of 2017 and have recorded the amount in other assets, pending resolution of the appeal process. If the South Korean tax authorities were to prevail then, in addition to the \$12 million already assessed, the potential additional exposure through the third quarter of 2020 would be approximately \$16 million. We are continuing to work with our advisors during the court process and still believe our position is sustainable.

In April 2020 we became aware of a potential new interpretation of a withholding tax law in a non-U.S. jurisdiction and its application to certain transactions that was not previously reasonably knowable by us. We have evaluated our information and made an estimate of the potential tax liability, which was recorded in the third quarter of 2020 and had an immaterial impact to our consolidated financial statements.

In July 2015, the U.S. Tax Court issued an opinion in *Altera Corp. v. Commissioner* related to the treatment of stock-based compensation expense in an intercompany cost-sharing arrangement. The opinion invalidated part of a treasury regulation requiring stock-based compensation to be included in any qualified intercompany cost-sharing arrangement. The Company follows the 2015 Tax Court opinion, which was subsequently overturned by the Ninth Circuit Court of Appeals. All appeals have now been exhausted and the *Altera* decision is considered to be final in the Ninth Circuit. Because the Company does not reside in the Ninth Circuit and is therefore not bound by this decision, we have determined no adjustment is required to the consolidated financial statements as a result of this ruling.

13. Debt

At June 27, 2020 and September 30, 2019, we had the following debt obligations:

<i>(in thousands)</i>	June 27, 2020	September 30, 2019
4.000% Senior notes due 2028 ⁽¹⁾	\$ 500,000	\$ —
3.625% Senior notes due 2025 ⁽¹⁾	500,000	—
6.000% Senior notes due 2024 ⁽²⁾	—	500,000
Credit facility revolver ⁽³⁾	138,000	173,125
Total debt	1,138,000	673,125
Unamortized debt issuance costs for the Senior notes ⁽⁴⁾	(13,298)	(3,991)
Total debt, net of issuance costs	\$ 1,124,702	\$ 669,134

(1) The 2028 and 2025 notes issued in February 2020 were classified as long-term debt as of June 27, 2020 on the Consolidated Balance Sheet.

(2) The 2024 notes issued in May 2016 were classified as long-term debt as of September 30, 2019 on the Consolidated Balance Sheet.

(3) The amount outstanding under the credit facility revolver was classified as long-term debt as of June 27, 2020 and September 30, 2019 on the Consolidated Balance Sheets. Unamortized debt issuance costs related to the credit facility were \$5.2 million and \$3.1 million as of June 27, 2020 and September 30, 2019, respectively, and were included in other assets on the Consolidated Balance Sheets.

(4) Of the \$14.1 million in financing costs incurred in connection with the issuance of the 2028 and 2025 notes, unamortized debt issuance costs were \$13.3 million as of June 27, 2020 and were included in long-term debt on the Consolidated Balance Sheet. Unamortized debt issuance costs as of September 30, 2019 related to the 2024 notes and were included in long-term debt on the Consolidated Balance Sheet.

Senior 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). In the second quarter of 2020, we used \$460 million of the net proceeds from the sale of the notes to repay a portion of the outstanding revolving loan under our credit facility. In the third quarter of 2020, we used the remaining net proceeds from the sale of the notes to redeem the \$500 million aggregate principal amount of our outstanding 6.0% senior notes due in 2024 (the 2024 notes). The redemption price for the

2024 notes was 103% of the aggregate principal amount of the notes, plus accrued and unpaid interest to, but excluding, May 15, 2020.

As of June 27, 2020, the total estimated fair value of the 2028 and 2025 senior notes was approximately \$497.5 million and \$494.5 million, respectively, based on quoted prices for the notes on that date.

We were in compliance with all the covenants for all of our senior notes as of June 27, 2020.

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 2025 and 2028 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 February 2020, we entered into a Third Amended and Restated Credit Agreement with JPMorgan Chase Bank, N.A., as Administrative Agent, for a new secured multi-currency bank credit facility with a syndicate of banks. The new credit facility replaced our prior credit facility. As with the prior credit facility, we expect to use the new credit facility for general corporate purposes, including acquisitions of businesses, share repurchases and working capital requirements. As of June 27, 2020, the fair value of our credit facility approximates its book value.

The credit facility consists of a \$1 billion revolving credit facility, which may be increased by up to an additional \$500 million in the aggregate if the existing or additional lenders are willing to make such increased commitments. The maturity date of the credit facility is February 13, 2025, when all remaining amounts outstanding will be due and payable. The revolving loan commitment does not require amortization of principal and may be repaid in whole or in part prior to the scheduled maturity date at our option without penalty or premium.

PTC Inc. and certain eligible foreign subsidiaries are eligible to borrow under the credit facility. The obligations under the credit facility are required to 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-Q, there are no subsidiary guarantors of the obligations under the credit facility. Any borrowings by eligible foreign subsidiary borrowers would be guaranteed by PTC Inc. and any subsidiary guarantors. As of the filing of this Form 10-Q, there were no borrowings by eligible foreign subsidiaries. In addition, substantially all existing and after-acquired personal property of PTC Inc. and certain of its material domestic subsidiaries that become parties to the subsidiary guaranty, if any, is or will be, in the case of such subsidiary guarantors, subject to first priority perfected liens in favor of the lenders under the credit facility. 100% of the voting equity interests of certain of PTC Inc.'s domestic subsidiaries and 65% of its material first-tier foreign subsidiaries are pledged as collateral for the obligations under the 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 PTC as described below. As of June 27, 2020, the annual rate for borrowings outstanding was 2.1%. Interest rates on borrowings outstanding under the credit facility range from 1.25% to 1.75% above an adjusted LIBO rate (or an agreed successor rate) for Euro currency borrowings or range from 0.25% to 0.75% above the defined base rate (the greater of the Prime Rate, the NYFRB rate plus 0.5%, or an adjusted LIBO rate plus 1%) for base rate borrowings, in each case based upon PTC's total leverage ratio. Additionally, PTC may borrow certain foreign currencies at rates set in the same range above the respective LIBO rates (or agreed successor rates) for those currencies,

based on PTC's total leverage ratio. A quarterly commitment fee on the undrawn portion of the credit facility is required, ranging from 0.175% to 0.30% per annum based upon PTC's total leverage ratio.

The credit facility limits PTC's and its subsidiaries' ability to, among other things: incur additional indebtedness, incur liens or guarantee obligations; pay dividends (other than to PTC) 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 and its material domestic subsidiaries may not invest cash or property in, or loan to, PTC's foreign subsidiaries in aggregate amounts exceeding \$100 million for any purpose and an additional \$200 million for acquisitions of businesses. In addition, under the credit facility, PTC and its subsidiaries must maintain the following financial ratios:

- Total leverage ratio, defined as consolidated funded indebtedness to consolidated trailing four quarters EBITDA, not to exceed 4.50 to 1.00 as of the last day of any fiscal quarter;
- Senior secured leverage ratio, defined as senior consolidated total indebtedness (which excludes unsecured indebtedness) to the consolidated trailing four quarters EBITDA, not to exceed 3.00 to 1.00 as of the last day of any fiscal quarter; and
- Interest coverage ratio, defined as the ratio of consolidated trailing four quarters EBITDA to consolidated trailing four quarters of cash basis interest expense, of not less than 3.00 to 1.00 as of the last day of any fiscal quarter.

As of June 27, 2020, our total leverage ratio was 2.97 to 1.00, our senior secured leverage ratio was 0.40 to 1.00 and our interest coverage ratio was 6.78 to 1.00 and we were in compliance with all financial and operating covenants of the credit facility.

Any failure to comply with the financial or operating covenants of the credit facility would prevent PTC from being able to borrow additional funds, and would constitute a default, permitting the lenders to, among other things, accelerate the amounts outstanding, including all accrued interest and unpaid fees, under the credit facility and to terminate the credit facility. A change in control of PTC, as defined in the agreement, also constitutes an event of default, permitting the lenders to accelerate the indebtedness and terminate the credit facility.

We incurred \$2.0 million in financing costs in connection with the February 2020 credit facility and \$1.0 million in connection with a November 2019 amendment to our prior credit facility. These origination costs are recorded as deferred debt issuance costs and are included in other assets. Financing costs are expensed over the remaining term of the obligations.

In the third quarter and first nine months of 2020, we paid \$16.4 million and \$40.0 million, respectively, of interest on our debt, and in the third quarter of 2020 we paid \$15 million in penalties for the early redemption of the 6.000% Senior Notes due in 2024. In the third quarter and first nine months of 2019, we paid \$18.0 million and \$38.4 million of interest, respectively, on our debt. The average interest rate on borrowings outstanding in the third quarter and first nine months of 2020 was approximately 4.0% and 4.5%, respectively. The average interest rate on borrowings outstanding in the third quarter and first nine months of 2019 was approximately 5.4% and 5.4%, respectively.

14. Leases

We determine if an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use assets and operating lease obligations on our Consolidated Balance Sheets. Our operating leases are primarily for office space, cars, servers, and office equipment. We made an election not to separate lease components from non-lease components for office space, servers and office equipment. 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 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 of the lease

payments at commencement date. The right-of-use assets include any lease payments made and exclude lease incentives received. Lease expense for lease payments is recognized on a straight-line basis over the lease term.

Our operating leases expire at various dates through 2037. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. Certain office space leases require us to pay for taxes, insurance, maintenance and other operating expenses in addition to rent.

Our headquarters are located at 121 Seaport Boulevard, Boston, Massachusetts (the Boston lease). The Boston lease is for approximately 250,000 square feet and runs from January 1, 2019 through June 30, 2037. Base rent for the first year of the lease is \$11.0 million and will increase by \$1 per square foot per year thereafter (\$0.3 million per year) with base rent first becoming 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"). Additional Rent is estimated to be approximately \$7.1 million for the first year we begin paying rent. The lease provides for \$25 million in landlord funding for leasehold improvements (\$100 per square foot). The leasehold improvement funding provision was fully utilized by us and was reflected as a derecognition adjustment to the right-of-use asset.

The components of lease cost reflected in the Consolidated Statement of Operations for the three and nine months ended June 27, 2020 were as follows:

<i>(in thousands)</i>	Three months ended		Nine months ended	
	June 27, 2020		June 27, 2020	
Operating lease cost	\$	10,324	\$	29,467
Short-term lease cost		864		3,754
Variable lease cost		535		3,025
Sublease income		(996)		(3,021)
Total lease cost	\$	10,727	\$	33,225

Supplemental cash flow and right-of use assets information for the three and nine months ended June 27, 2020 was as follows:

<i>(in thousands)</i>	Three months ended		Nine months ended	
	June 27, 2020		June 27, 2020	
Cash paid for amounts included in the measurement of lease liabilities				
Operating cash flows from operating leases	\$	12,127	\$	27,267
Right-of-use assets obtained in exchange for new operating lease liabilities	\$	1,929	\$	6,080
Right-of-use assets obtained in exchange for new financing lease liabilities	\$	—	\$	1,500

Supplemental balance sheet information related to the leases as of June 27, 2020 was as follows:

	As of
	June 27, 2020
Weighted-average remaining lease term - operating leases	12.52 years
Weighted-average remaining lease term - financing leases	5 years
Weighted-average discount rate - operating leases	5.5%
Weighted-average discount rate - financing leases	3.0%

Maturities of lease liabilities as of June 27, 2020 are as follows:

<i>(in thousands)</i>	Operating Leases
Remainder of 2020	\$ 9,935
2021	43,275
2022	29,049
2023	21,584
2024	17,779
Thereafter	186,550
Total future lease payments	\$ 308,172
Less: imputed interest	(92,093)
Total	\$ 216,079

As of June 27, 2020, we have an operating lease that has not yet commenced. This lease will commence in 2020 with a lease term of 5 years and approximate future lease payments of \$0.9 million.

Under the prior lease standard (ASC 840), as of September 30, 2019, future minimum lease payments under non-cancellable operating leases were as follows (in thousands):

2020	\$	31,868
2021		33,094
2022		25,624
2023		19,279
2024		16,909
Thereafter		186,037
Total minimum lease payments	\$	<u>312,811</u>

Exited (Restructured) Facilities

As of June 27, 2020, we have net liabilities of \$12.0 million related to excess facilities (compared to \$16.5 million at September 30, 2019), representing \$4.3 million of right-of-use assets and \$16.3 million of lease obligations, of which \$10.2 million is classified as short term and \$6.1 million is classified as long term.

In determining the amount of right-of-use assets for restructured facilities, we are required to estimate such factors as future vacancy rates, the time required to sublet properties and sublease rates. Updates to these estimates may result in revisions to the value of right-of-use assets recorded. The amounts recorded are based on the net present value of estimated sublease income. As of June 27, 2020, the right-of-use assets for exited facilities reflects discounted committed sublease income of approximately \$3.0 million and uncommitted sublease income of approximately \$1.3 million. As a result of changes in our sublease income assumptions and an incremental obligation to exit a portion of our former headquarters facility early, in the nine months ended June 27, 2020, we recorded a facility impairment charge of \$4.2 million. In addition, in the first nine months of 2020, we exited the former Onshape headquarters lease and recorded a related \$0.7 million impairment charge.

In the three and nine months ended June 27, 2020 we made payments of \$4.6 million and \$9.1 million, respectively, related to lease costs for exited facilities.

15. Commitments and Contingencies

Legal and Regulatory Matters

Korean Tax Audit

In July 2016, we received an assessment of approximately \$12 million from the tax authorities in South Korea related to an ongoing tax audit. See *Note 12. Income Taxes* for additional information.

Legal Proceedings

We are subject to various other legal proceedings and claims that arise in the ordinary course of business. We do not believe that resolving the legal proceedings and claims that we are currently subject to 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.

Accruals

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. For legal proceedings and claims for which the likelihood that a liability has been incurred is more than remote but less than probable, we estimate the range of possible outcomes. As of June 27, 2020, we

estimate approximately \$0.4 million to \$2.5 million in legal proceedings and claims, of which we had accrued \$0.5 million.

Guarantees and Indemnification Obligations

We enter into standard indemnification agreements in the ordinary course of our business. Under such agreements with our business partners or customers, we indemnify, hold harmless, and agree to reimburse the indemnified party for losses suffered or incurred by the indemnified party, generally in connection with patent, copyright or other intellectual property infringement claims by any third party with respect to our products, claims relating to property damage or personal injury resulting from the performance of services by us or our subcontractors and data breaches. The maximum potential amount of future payments we could be required to make under indemnification agreements for intellectual property and damage and injury claims is unlimited; in most cases the maximum potential amount for indemnification for data breaches is capped in those contracts. 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 in effect at the time of delivery of the licensed products for a specified period of time. Additionally, we generally warrant that our consulting services will be performed consistent with generally accepted industry standards. 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.

Business Overview

PTC is a global software and services company that delivers solutions to power our industrial customers' digital transformations, helping them to better design, manufacture, operate, and service their products. Our Internet of Things (IoT) and Augmented Reality (AR) solutions enable companies to connect factories and plants, smart products, and enterprise systems to transform their businesses. These products, along with Onshape, are considered our **Growth Products**. The primary products in our **Core Products** portfolio are innovative Computer-Aided Design (CAD) and Product Lifecycle Management (PLM) solutions that enable manufacturers to create, innovate, and service products. Our **Focused Solutions Group (FSG)** is a family of software products that target specific vertical industries where we can deliver unique domain expertise and a competitive advantage with Application Lifecycle Management (ALM) products, Service Lifecycle Management (SLM) products, and other niche tailored solutions.

Forward-Looking Statements

Statements in this document that are not historic facts, including statements about our future financial and growth expectations and targets, are forward-looking statements that involve risks and uncertainties that could cause actual results to differ materially from those projected. These risks include: the COVID-19 pandemic impact on the global macroeconomic environment and our business could be more severe and prolonged than we expect; customers may continue to delay or reduce purchases of new software, to reduce the number of subscriptions they carry, or delay payments to us due to the COVID-19 pandemic, all of which would adversely affect ARR and our financial results, including cash flow; the macroeconomic and/or global manufacturing climates may deteriorate further due to, among other factors, the geopolitical environment, including the focus on technology transactions with non-U.S. entities and potential expanded prohibitions, and ongoing trade tensions and tariffs; our businesses, including our Internet of Things (IoT), Augmented Reality and Onshape businesses, may not expand and/or generate the revenue we expect if customers are slower to adopt those technologies than we expect or adopt competing technologies; orders associated with minimum purchase commitments under our Strategic Alliance Agreement with Rockwell Automation may not result in subscription contracts sold through to end-user customers, which could cause the ARR associated with those orders to churn in the future; our strategic initiatives and investments may not generate the revenue we expect; we may be unable to expand our partner ecosystem as we expect and our partners may not generate the revenue we expect; we may be unable to generate sufficient operating cash flow to repay our outstanding debt when or as we expect, or to return 50% of free cash flow to shareholders under our long-term capital allocation policy, and other uses of cash or our credit facility limits or other matters could preclude such repayments or share repurchases. In addition, our assumptions concerning our future GAAP and non-GAAP effective income tax rates are based on estimates and other factors that could change, including the geographic mix of our revenue, expenses and profits, as well as other risks and uncertainties described below throughout or referenced in Part II, Item 1A. Risk Factors of this report.

Operating and Non-GAAP Financial Measures

Our discussion of results includes discussion of our ARR operating measure and non-GAAP financial measures. 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. You should read those sections to understand our operating and non-GAAP financial measures.

Executive Overview

Our Q3'20 financial results were solid despite the challenging macroeconomic environment, reflecting the strength of our recurring revenue model. We delivered 9% ARR growth (10% on a constant currency basis) compared to Q3'19 driven by solid renewal (ACV) sales, offset by a decline of approximately 20% in new license sales and modest deterioration in churn. The decline in new license sales was in line with the expected impact of the COVID-19 pandemic. Third quarter revenue was up 19% year over year, driven by 27% recurring revenue growth, and reflects an increase in the amount of on-premise subscription license revenue we recognize upfront for multi-year contracts due to the discontinuance of cancellation rights in multi-year contracts early in Q4'19, partially offset by a higher portion of our Growth Product revenue being recognized ratably due to the release of additional cloud

functionality, notably in our IoT products. Our Q3'20 operating margin and EPS increased significantly compared to the year-ago period, primarily due to higher revenue, continued discipline on spending and the impact of the COVID-19 pandemic on travel, event and variable compensation costs.

We generated \$105 million of cash from operations in Q3'20 compared to \$68 million in Q3'19, primarily reflecting higher collections, partially offset by higher restructuring payments. During Q3'20, we also redeemed the \$500 million of 6% Senior Notes due 2024. We ended Q3'20 with \$435 million of cash and marketable securities and \$1.1 billion of debt outstanding, including \$1 billion of Senior Notes with a weighted average cost of debt of 3.8%, and \$138 million outstanding under our credit facility.

Future Expectations; COVID-19 Pandemic Impact

Our results have been impacted, and we expect will continue to be impacted, by our ability to close large transactions, which has been adversely impacted by the COVID-19 pandemic as customers delay purchases due to the macroeconomic uncertainty and the inability to implement many of our solutions due to the on-site work generally required to do so, and under the subscription license model customers may place smaller initial orders than under a perpetual license model. Such transactions also often have long lead times as they often follow a lengthy product selection and evaluation process and, for existing customers, are influenced by contract duration and expiration cycles. Accordingly, the amount of revenue attributable to large transactions, and the number of such transactions, may vary significantly from quarter to quarter based on customer purchasing decisions and macroeconomic conditions. This may cause volatility in our results.

We currently anticipate new bookings will be down approximately 15% year over year for FY'20 (down approximately 25% for the second half of FY'20) due to the COVID-19 pandemic. We continue to anticipate churn of approximately 8% compared to 7.4% in FY'19 as customers may not renew their subscriptions or support contracts in full due to the COVID-19 pandemic if they reduce their workforces and users or due to macroeconomic and liquidity uncertainty. We plan to continue to control costs with operating expense growth of roughly 3% for the full year, primarily due to the restructuring actions in the first half of FY'20, savings on certain expenses due to the COVID-19 pandemic (such as converting our annual LiveWorx event to a virtual event and curtailing other travel), as well as lower anticipated variable compensation and increased cost discipline related to employee hiring. Despite the challenges associated with the COVID-19 pandemic, we currently anticipate FY'20 ARR growth of approximately 11% to 12%, revenue growth of approximately 13% to 14%, and an 800-basis point to 900-basis point increase (700-basis point to 800-basis point increase on non-GAAP basis) in operating margin over FY'19.

Results of Operations

The following table shows the financial 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 non-GAAP operating income, non-GAAP operating margin, and non-GAAP diluted earnings per share for the reported periods. These non-GAAP financial measures exclude the items described in *Non-GAAP Financial Measures* below. Investors should use these non-GAAP financial measures only in conjunction with our GAAP results.

(Dollar amounts in millions, except per share data)

	Three months ended		Percent Change	
	June 27, 2020	June 29, 2019	Actual	Constant Currency
Total recurring revenue	\$ 310.6	\$ 244.2	27%	29%
Perpetual license	6.8	9.2	(26)%	(26)%
Professional services	34.3	42.1	(18)%	(17)%
Total revenue	351.7	295.5	19%	20%
Total cost of revenue	79.2	82.7	(4)%	(3)%
Gross margin	272.5	212.8	28%	29%
Operating expenses	209.1	203.5	3%	4%
Operating income	\$ 63.4	\$ 9.3	581%	656%
Non-GAAP operating income(1)	\$ 103.5	\$ 37.8	174%	180%
Operating margin	18.0%	3.1%		
Non-GAAP operating margin(1)	29.4%	12.8%		
Diluted earnings (loss) per share	\$ 0.30	\$ (0.13)		
Non-GAAP diluted earnings per share(1)(2)	\$ 0.62	\$ 0.23		
Cash flow from operations(3)	\$ 104.5	\$ 67.6		

(Dollar amounts in millions, except per share data)

	Nine months ended			
			Percent Change	
	June 27, 2020	June 29, 2019	Actual	Constant Currency
Total recurring revenue	\$ 931.9	\$ 734.8	27%	28%
Perpetual license	24.0	61.4	(61)%	(60)%
Professional services	111.6	124.5	(10)%	(9)%
Total revenue	1,067.4	920.6	16%	17%
Total cost of revenue	249.7	240.0	4%	5%
Gross margin	817.8	680.7	20%	22%
Operating expenses	673.9	664.2	1%	2%
Operating income	\$ 143.9	\$ 16.5	772%	1,523%
Non-GAAP operating income(1)	\$ 299.8	\$ 173.4	73%	79%
Operating margin	13.5%	1.8%		
Non-GAAP operating margin(1)	28.1%	18.8%		
Diluted earnings (loss) per share	\$ 0.67	\$ (0.32)		
Non-GAAP diluted earnings per share(1)(2)	\$ 1.78	\$ 1.01		
Cash flow from operations(3)	\$ 199.8	\$ 229.9		

(1) See *Non-GAAP Financial Measures* below for a reconciliation of our GAAP results to our non-GAAP financial measures.

(2) We have recorded a full valuation allowance against our U.S. net deferred tax assets. As we are profitable on a non-GAAP basis, the 2020 and 2019 non-GAAP tax provisions are calculated assuming there is no valuation allowance. 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.

(3) Cash flow from operations for the third quarter and first nine months of 2020 includes \$12.5 million and \$33.8 million of restructuring payments, respectively, and \$0.2 million and \$8.8 million of acquisition-related payments, respectively. Cash flow from operations for the third quarter and first nine months of 2019 includes \$3.5 million and \$21.4 million of restructuring payments, respectively.

Impact of Foreign Currency Exchange on Results of Operations

Approximately 60% of our revenue and 40% 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, Sheqel, and Rupee relative to the U.S. Dollar, affects our reported results. Starting in the first quarter of 2020, our constant currency disclosures are calculated by multiplying the results in local currency for the quarterly and year-to-date periods for 2020 and 2019 by the exchange rates in effect on September 30, 2019, excluding the effect of any hedging. The results of operations in the table above and revenue by line of business, product group, and geographic region in the tables that follow present both actual percentage changes year over year and percentage changes on a constant currency basis.

Revenue

Our revenue results quarter to quarter are impacted by contract terms, including the duration and start dates of our subscription contracts. This is particularly true during the COVID-19 pandemic as customers are generally electing one-year contracts given the current macroeconomic uncertainty. As we release additional cloud functionality into our products, our revenue results will be impacted as a higher portion of our revenue will be recognized ratably. In addition, early in the fourth quarter of 2019, we discontinued offering cancellation rights for multi-year subscription contracts, which results in the recognition of the license portion of revenue for all years of the contract at the beginning of the multi-year contract period for our on-premise subscription licenses; for the first nine months of 2020, this has resulted in higher revenue than in the year-ago periods. The discontinuation of the cancellation clause will have less of an impact in the fourth quarter of 2020 and beyond into FY'21.

Our revenue results are shown by line of business, by product group and by geographic region and are discussed below.

Revenue by Line of Business

(Dollar amounts in millions)

	Three months ended				Nine months ended			
	June 27, 2020	June 29, 2019	Percent Change		June 27, 2020	June 29, 2019	Percent Change	
			Actual	Constant Currency			Actual	Constant Currency
Software revenue	\$ 317.4	\$ 253.4	25%	27%	\$ 955.8	\$ 796.2	20%	21%
Professional services	34.3	42.1	(18)%	(17)%	111.6	124.5	(10)%	(9)%
Total revenue	\$ 351.7	\$ 295.5	19%	20%	\$ 1,067.4	\$ 920.6	16%	17%

Software

Software revenue consists of subscription, support, and perpetual license revenue. Our subscription revenue includes an immaterial, but growing, amount of Software as a Service (SaaS) and cloud services.

Software revenue in the third quarter and first nine months of 2020 increased over the same periods in 2019 due to subscription revenue growth offset by declines in perpetual support revenue due to past conversions of support contracts to subscriptions. For the third quarter and first nine months of 2020 compared to the year-ago periods, subscription license revenue increased 108% and 105%, respectively, in part due to the fact that we no longer provide an annual cancellation right in new multi-year contracts, causing the license portion of on-premise subscription licenses for all years of the multi-year contract to be recognized upfront.

Professional Services

Professional services engagements typically result from sales of new licenses; revenue is recognized over the term of the engagement. Our expectation is that professional services revenue will trend flat-to-down over time due to our strategy to expand margins by migrating more services engagements to our partners and delivering products that require less consulting and training services, and in the near-term will trend down due to the effects of the COVID-19 pandemic.

Professional services revenue declined in the quarter due to challenges with project scoping and implementation activities and performance due to social distancing measures and facility closures implemented to address the COVID-19 pandemic.

Revenue by Product Group

Software Revenue by Product Group

(Dollar amounts in millions)

	Three months ended				Nine months ended			
	June 27, 2020	June 29, 2019	Percent Change		June 27, 2020	June 29, 2019	Percent Change	
			Actual	Constant Currency			Actual	Constant Currency
Core (CAD and PLM)	\$ 230.4	\$ 173.2	33%	34%	\$ 690.9	\$ 559.3	24%	25%
Growth (IoT, AR, Onshape)	40.3	36.9	9%	10%	126.7	104.2	22%	22%
FSG (Focused Solutions Group)	46.7	43.3	8%	9%	138.2	132.7	4%	5%
Software revenue	\$ 317.4	\$ 253.4	25%	27%	\$ 955.8	\$ 796.2	20%	21%

Total Revenue by Product Group

(Dollar amounts in millions)

	Three months ended				Nine months ended			
	June 27, 2020	June 29, 2019	Percent Change		June 27, 2020	June 29, 2019	Percent Change	
			Actual	Constant Currency			Actual	Constant Currency
Core (CAD and PLM)	\$ 249.3	\$ 202.0	23%	25%	\$ 753.9	\$ 640.8	18%	19%
Growth (IoT, AR, Onshape)	49.4	42.7	16%	17%	155.5	121.7	28%	29%
FSG (Focused Solutions Group)	53.0	50.8	4%	5%	158.0	158.1	(0)%	1%
Total revenue	\$ 351.7	\$ 295.5	19%	20%	\$ 1,067.4	\$ 920.6	16%	17%

Core Product software revenue growth in the third quarter of 2020 over the year-ago period was driven by subscription revenue growth of 77% (78% constant currency), offset by a decline in perpetual

support revenue due to past conversions of support contracts to subscriptions. Software revenue growth in the first nine months of 2020 compared to the same period in 2019 was driven by subscription revenue growth of 75% (77% constant currency), offset by expected declines in perpetual license and perpetual support revenue due to the end of sales of perpetual licenses at the end of the first quarter of 2019 and past conversions of support contracts to subscriptions. Total revenue growth was lower than software revenue growth due to a decline in professional services revenue. In the third quarter, professional services revenue declined 34% (33% on a constant currency basis) compared to the year-ago period primarily due to the impact of the COVID-19 pandemic on our ability to execute professional services projects. In the first nine months of 2020, professional services revenue declined 23% (21% on a constant currency basis) compared to the year-ago period due in part to the impact of the COVID-19 pandemic and an extension to complete work on a fixed price professional services contract in the second quarter of 2020. ARR increased 9% for the third quarter compared to the year-ago period, reflecting solid ARR growth for both PLM and CAD.

Growth Product software revenue growth in the third quarter and first nine months of 2020 was driven by subscription revenue growth of 19% (20% constant currency) and 36% (37% constant currency), respectively, compared to the third quarter and first nine months of 2019, offset by expected declines in perpetual license and perpetual support revenue due to the end of sales of perpetual licenses at the end of the first quarter of 2019 and past conversions of support contracts to subscriptions. Revenue results for our Growth Products year over year have been impacted by an increase in the portion of license revenue recognized ratably as we have released additional cloud functionality into our IoT products, resulting in lower growth rates. Growth Product ARR increased 23% for the third quarter of 2020 compared to the year-ago period, which is below our expectations under normal circumstances, but consistent with the expected impact of the COVID-19 pandemic, which has extended sales cycles for new IoT customers due to our inability to engage with new customers on-site to scope and plan enterprise solutions. Offsetting this pressure on sales to new customers, we saw an increase in IoT expansion deals from existing customers during the quarter. Our augmented reality solutions have performed well during the COVID-19 pandemic, with Vuforia Chalk experiencing an acceleration in six-figure deals and Vuforia Expert Capture helping with knowledge transfer between the remote front-line workers of our industrial customers.

FSG Product software revenue growth in the third quarter and first nine months of 2020 reflects growth of subscription revenue of 30% (31% constant currency) and 26% (27% constant currency), respectively, compared to the third quarter and first nine months of 2019, offset by expected declines in perpetual license and perpetual support revenue due to the end of sales of perpetual licenses at the end of the first quarter of 2019 and past conversions of support contracts to subscriptions. Total revenue growth in the third quarter and first nine months of 2020 was lower than software revenue growth due to a decline in professional services revenue. Professional services revenue declined 17% (actual and constant currency) and 22% (21% constant currency) in the third quarter and first nine months of 2020, respectively, compared to the year-ago periods due in part to the impact of the COVID-19 pandemic on our ability to execute professional services projects.

Software Revenue by Geographic Region

A significant portion of our software revenue is generated outside the U.S. In 2019 and in the first nine months of 2020, approximately 45% of software revenue was generated in the Americas, 35% in Europe, and 20% in Asia Pacific.

(Dollar amounts in millions)

	Three months ended				Nine months ended			
	June 27, 2020	June 29, 2019	Percent Change		June 27, 2020	June 29, 2019	Percent Change	
			Actual	Constant Currency			Actual	Constant Currency
Americas	\$ 142.5	\$ 109.6	30%	31%	\$ 423.0	\$ 347.0	22%	22%
Europe	106.6	90.6	18%	20%	354.4	277.2	28%	31%
Asia Pacific	68.3	53.3	28%	28%	178.4	171.9	4%	4%
Total software revenue	\$ 317.4	\$ 253.4	25%	27%	\$ 955.8	\$ 796.2	20%	21%

Americas software revenue growth in the third quarter and first nine months of 2020 was driven by growth in subscription revenue of 61% (62% constant currency) and 44% (45% constant currency), respectively, compared to the third quarter and first nine months of 2019, partially offset by a decline in perpetual support revenue, resulting in recurring revenue growth of 33% (34% constant currency) and 24% (actual and constant currency), respectively, in the third quarter and first nine months of 2020 compared to the year-ago periods.

Europe software revenue growth in the third quarter and first nine months of 2020 was driven by growth in subscription revenue of 51% (54% constant currency) and 75% (80% constant currency), respectively, compared to the third quarter and first nine months of 2019, partially offset by a decline in perpetual support revenue, resulting in recurring revenue growth of 18% (21% constant currency) and 30% (33% constant currency), respectively, in the third quarter and first nine months of 2020 compared to the year-ago periods.

Asia Pacific software revenue growth in the third quarter and first nine months of 2020 was driven by growth in subscription revenue of 68% (67% constant currency) and 84% (83% constant currency), respectively, compared to the third quarter and first nine months of 2019, partially offset by a decline in perpetual license and support revenue, resulting in recurring revenue growth of 30% (actual and constant currency) and 29% (actual and constant currency), respectively, in the third quarter and first nine months of 2020 compared to the year-ago periods.

Gross Margin

(Dollar amounts in millions)

	Three months ended		Nine months ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Gross margin:				
License gross margin	\$ 105.2	\$ 49.6	\$ 329.2	\$ 191.4
License gross margin percentage	89%	79%	89%	83%
Support and cloud services gross margin	\$ 164.4	\$ 156.7	\$ 478.6	\$ 468.2
Support and cloud services gross margin percentage	83%	82%	82%	83%
Professional services	\$ 2.9	\$ 6.5	\$ 10.0	\$ 21.1
Professional services gross margin percentage	8%	15%	9%	17%
Total gross margin	\$ 272.5	\$ 212.8	\$ 817.8	\$ 680.7
Total gross margin percentage	77%	72%	77%	74%
Non-GAAP gross margin(1)	\$ 282.5	\$ 222.3	\$ 847.5	\$ 710.3
Non-GAAP gross margin percentage	80%	75%	79%	77%

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

License gross margin increased for the third quarter and first nine months of 2020 compared to the third quarter and first nine months of 2019 due to increased revenue driven by an increase in subscription license revenue, partially offset by a related increase in royalty expenses.

Support and cloud services gross margin increased for the third quarter of 2020 compared to the third quarter of 2019 due to increases in subscription support and cloud revenue, offset by a decrease in perpetual support revenue and increases in costs associated with our cloud services business due to increased demand for those services. Despite an increase in subscription support and cloud revenue, the support and cloud services gross margin decreased for the first nine months of 2020 compared to the first nine months of 2019 due to a decrease in perpetual support revenue and increases in costs associated with our cloud services business due to increased demand for those services, royalty expenses, and outside service costs.

Professional services gross margin decreased for the third quarter and first nine months of 2020 compared to the third quarter and first nine months of 2019 primarily due to a decrease in revenue due to the impact of the COVID-19 pandemic, partially offset by decreases in outside services and travel costs. Professional services gross margin for the first nine months of 2020 compared to the first nine months of

2019 also decreased in part due to an extension to complete work on a fixed price professional services contract in the second quarter of 2020.

Operating Expenses

(Dollar amounts in millions)

	Three months ended			Nine months ended		
	June 27, 2020	June 29, 2019	Percent Change	June 27, 2020	June 29, 2019	Percent Change
Sales and marketing	\$ 104.6	\$ 108.2	(3)%	\$ 319.6	\$ 316.1	1%
% of Total Revenue	30%	37%		30%	34%	
Research and development	61.4	60.6	1%	186.7	182.8	2%
% of Total Revenue	17%	21%		17%	20%	
General and administrative	35.7	28.8	24%	113.9	102.0	12%
% of Total Revenue	10%	10%		11%	11%	
Amortization of acquired intangible assets	7.3	5.9	23%	21.4	17.8	20%
% of Total Revenue	2%	2%		2%	2%	
Restructuring and other charges, net	0.1	(0.0)	(789)%	32.3	45.5	(29)%
% of Total Revenue	0%	(0)%		3%	5%	
Total operating expenses	\$ 209.1	\$ 203.5	3%	\$ 673.9	\$ 664.2	1%

Headcount increased 2% between June 29, 2019 and June 27, 2020.

Operating expenses in the third quarter of 2020 compared to operating expenses in the third quarter of 2019 increased primarily due to the following:

- an \$11.0 million increase in sales and marketing compensation (including benefit costs) due to increased deferred compensation, higher salaries related to higher headcount, and higher commissions due to amortization of capitalized commissions under ASC 606;
- a \$6.9 million increase in general and administrative costs driven by a \$5.0 million increase in deferred compensation costs and a \$2.0 million increase in professional fees; and
- an increase of \$1.4 million in intangible amortization primarily related to the acquisition of Onshape;

partially offset by:

- a decrease in sales and marketing costs primarily related to a \$7.3 million decrease in travel costs due to the impact of the COVID-19 pandemic and a \$6.5 million decrease in event costs, primarily related to the change of our annual LiveWorx event to a virtual event.

Operating expenses in the first nine months of 2020 compared to operating expenses in the first nine months of 2019 increased primarily due to the following:

- an increase in general and administrative expenses primarily driven by a \$6.8 million increase in acquisition-related charges recorded in the first nine months of 2020 for the acquisition of Onshape and a \$3.8 million increase in professional fees;
- a \$19.7 million increase in sales and marketing compensation (including benefit costs) due to higher salaries related to higher headcount and higher commissions due to amortization of capitalized commissions under ASC 606;
- an increase in research and development costs primarily related to a \$3.5 million increase in compensation (including benefit costs) due to higher salaries and deferred compensation, offset by lower variable compensation; and
- an increase of \$3.6 million in intangible amortization related to the acquisition of Onshape;

partially offset by:

- a decrease in sales and marketing costs primarily related to an \$8.3 million decrease in travel costs, and a \$7.8 million decrease in event and meeting expenses due to the COVID-19 global pandemic; and
- a \$13.2 million decrease in restructuring charges.

Restructuring charges in the first nine months of 2020 primarily related to an employee restructuring plan to shift resources to support our SaaS initiatives and resulted in cost savings for the year. We continue to prudently hire to expand our workforce as necessary, which we expect will return some of those costs to our run-rate in fiscal 2021. Restructuring charges in the first nine months of 2019 largely related to the exit of our Needham headquarters facility.

Variable compensation costs were lower for the third quarter and first nine months of 2020 compared to the year-ago periods and are expected to be lower for the year due to lower expected achievement under our performance-based compensation plans due to the effect of the COVID-19 pandemic on our business.

Interest Expense

(in millions)

	Three months ended		Nine months ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Interest expense	\$ (19.7)	\$ (10.8)	\$ (64.4)	\$ (32.5)

Interest expense includes interest under our credit facility and senior notes. We had \$1,138 million of total debt at June 27, 2020, compared to \$703 million at June 29, 2019, which increased interest expense in the period. Additionally, we recognized \$15 million of expense in the second quarter of 2020 related to penalties for the early redemption of the 6.000% Senior Notes due 2024 and wrote off approximately \$3 million of related debt issuance costs in the third quarter of 2020.

Other Income (Expense)

(in millions)

	Three months ended		Nine months ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Interest income	\$ 0.7	\$ 1.0	\$ 3.2	\$ 2.9
Other expense, net	0.1	0.1	(3.4)	(0.4)
Other income (expense), net	\$ 0.8	\$ 1.0	\$ (0.2)	\$ 2.5

Income Taxes

(Dollar amounts in millions)

	Three months ended		Nine months ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Income (loss) before income taxes	\$ 44.5	\$ (0.5)	\$ 79.3	\$ (13.5)
Provision for income taxes	9.8	14.3	2.0	23.8
Effective income tax rate	22%	(2,940%)	3%	(177%)

In the first nine months of 2020 and 2019, our effective tax rate differed from the statutory federal income tax rate of 21% due to U.S. tax reform, our corporate structure in which our foreign taxes are at a net effective tax rate lower than the U.S. rate, the excess tax benefit related to stock-based compensation and the indirect effects of the adoption of ASC 606. Additionally, in the first nine months of 2020 and 2019, we reduced the U.S. valuation allowance by \$21.2 million and \$1.8 million as the result of the Onshape and Frustum acquisitions, respectively. A significant amount of our foreign earnings is generated by our subsidiaries organized in Ireland. In 2020 and 2019, the foreign rate differential predominantly relates to these Irish earnings.

On March 27, 2020, the U.S. Federal government enacted the Coronavirus Aid, Relief, and Economic Security Act (the "CARES ACT"). The CARES Act is an emergency economic stimulus package in response

to the COVID-19 pandemic, which among other things contains numerous income tax provisions. While we continue to evaluate the impact of the CARES Act, we do not currently believe it will have a material impact on our consolidated financial statements or related disclosures.

Operating Measures

ARR

ARR represents the annual value of our portfolio of renewable customer contracts as of the end of the reporting period, including subscription software, cloud, and support contracts. ARR includes IoT and AR orders placed under our Strategic Alliance Agreement with Rockwell Automation and includes orders placed to satisfy the contractual quarterly minimum annual contract value (ACV) commitments.

We believe ARR is a valuable operating metric to measure the health of a subscription business because it captures expected subscription and support cash generation from new customers, existing customer renewals and expansions, and includes the impact of churn, which reflects gross churn, offset by the impact of any pricing increases.

Because this measure represents the annual value of renewable customer contracts as of the end of a reporting period, ARR does not represent revenue for any particular period or remaining revenue that will be recognized in future periods.

Non-GAAP Financial Measures

Our non-GAAP financial measures and the reasons we use them and the reasons we exclude the items identified below are described in Management's Discussion and Analysis of Financial Condition and Results of Operations in our Annual Report on Form 10-K for the year ended September 30, 2019.

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

- non-GAAP revenue—GAAP revenue
- non-GAAP gross margin—GAAP gross margin
- non-GAAP operating income—GAAP operating income
- non-GAAP operating margin—GAAP operating margin
- non-GAAP net income—GAAP net income
- non-GAAP diluted earnings or loss per share—GAAP diluted earnings or loss per share

The non-GAAP financial measures exclude, as applicable, fair value adjustments related to acquired deferred revenue and deferred costs, stock-based compensation expense, amortization of acquired intangible assets, acquisition-related and other transactional charges included in general and administrative expenses, restructuring and other charges, net, and income tax adjustments as defined in our Annual Report on Form 10-K for the fiscal year ended September 30, 2019. In the second quarter of 2020, we incurred an early redemption interest penalty and in the third quarter, we wrote off debt issuance costs, both of which were related to the settlement of the 6.000% Senior Notes due 2024 and which are also excluded from our non-GAAP financial measures as they were not modeled in our guidance for the year; excluding these items enables investors to view our results in the context of our guidance.

The items excluded from these non-GAAP financial measures are normally included in the comparable measures calculated and presented in accordance with GAAP. Our management excludes these items when evaluating our ongoing performance and/or predicting our earnings trends, and therefore excludes them when presenting non-GAAP financial measures. Management uses non-GAAP financial measures in conjunction with our GAAP results, as should investors.

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 Quarterly Report on Form 10-Q 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)

	Three months ended		Nine months ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
GAAP revenue	\$ 351.7	\$ 295.5	\$ 1,067.4	\$ 920.6
Fair value of acquired deferred revenue	—	0.1	—	0.6
Non-GAAP revenue	\$ 351.7	\$ 295.6	\$ 1,067.4	\$ 921.2
GAAP gross margin	\$ 272.5	\$ 212.8	\$ 817.8	\$ 680.7
Fair value adjustment of acquired deferred revenue	—	0.1	—	0.6
Fair value adjustment of acquired deferred costs	—	(0.1)	—	(0.2)
Stock-based compensation	3.2	2.6	9.2	8.8
Amortization of acquired intangible assets included in cost of revenue	6.9	6.9	20.5	20.4
Non-GAAP gross margin	\$ 282.5	\$ 222.3	\$ 847.5	\$ 710.3
GAAP operating income	\$ 63.4	\$ 9.3	\$ 143.9	\$ 16.5
Fair value adjustment of acquired deferred revenue	—	0.1	—	0.6
Fair value adjustment of acquired deferred costs	—	(0.1)	—	(0.2)
Stock-based compensation	25.2	15.2	73.6	71.6
Amortization of acquired intangible assets included in cost of revenue	6.9	6.9	20.5	20.4
Amortization of acquired intangible assets	7.3	5.9	21.4	17.8
Acquisition-related and other transactional charges included in general and administrative expenses	0.7	0.4	8.1	1.2
Restructuring and other charges, net	0.1	(0.0)	32.3	45.5
Non-GAAP operating income	\$ 103.5	\$ 37.8	\$ 299.8	\$ 173.4
GAAP net income (loss)	\$ 34.7	\$ (14.8)	\$ 77.3	\$ (37.3)
Fair value of acquired deferred revenue	—	0.1	—	0.6
Fair value of acquired deferred costs	—	(0.1)	—	(0.2)
Stock-based compensation	25.2	15.2	73.6	71.6
Amortization of acquired intangible assets included in cost of revenue	6.9	6.9	20.5	20.4
Amortization of acquired intangible assets	7.3	5.9	21.4	17.8
Acquisition-related and other transactional charges included in general and administrative expenses	0.7	0.4	8.1	1.2
Restructuring and other charges, net	0.1	(0.0)	32.3	45.5
Non-operating charges (1)	3.5	—	18.5	—
Income tax adjustments (2)	(6.2)	13.1	(45.0)	0.4
Non-GAAP net income	\$ 72.0	\$ 26.9	\$ 206.7	\$ 120.0
GAAP diluted earnings (loss) per share	\$ 0.30	\$ (0.13)	\$ 0.67	\$ (0.32)
Fair value adjustment of acquired deferred revenue and costs	—	—	—	0.01
Stock-based compensation	0.22	0.13	0.63	0.60
Amortization of acquired intangible assets	0.12	0.11	0.36	0.32
Acquisition-related and other transactional charges included in general and administrative expenses	0.01	—	0.07	0.01
Restructuring and other charges, net	0.00	—	0.28	0.38
Non-operating charges (1)	0.03	—	0.16	—
Income tax adjustments (2)	(0.05)	0.11	(0.39)	—
Non-GAAP diluted earnings per share	\$ 0.62	\$ 0.23	\$ 1.78	\$ 1.01

- (1) We recognized \$15 million of expense in the nine months ended June 27, 2020 related to penalties for the early redemption of the 6.000% Senior Notes due in 2024 and wrote off approximately \$3 million of related debt issuance costs in the third quarter of 2020.
- (2) We have recorded a full valuation allowance against our U.S. net deferred tax assets. As we are profitable on a non-GAAP basis, the 2020 and 2019 non-GAAP tax provisions are calculated assuming there is no valuation allowance. 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.

Operating margin impact of non-GAAP adjustments:

	Three months ended		Nine months ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
GAAP operating margin	18.0%	3.1%	13.5%	1.8%
Fair value of acquired deferred revenue	—	—	—	0.1%
Stock-based compensation	7.2%	5.2%	6.9%	7.8%
Amortization of acquired intangible assets	4.0%	4.3%	3.9%	4.2%
Acquisition-related and other transactional charges included in general and administrative expenses	0.2%	0.1%	0.8%	0.1%
Restructuring and other charges, net	0.0%	0.0%	3.0%	4.9%
Non-GAAP operating margin	29.4%	12.8%	28.1%	18.8%

Critical Accounting Policies and Estimates

The financial information included in Item 1 reflects no material changes in our critical accounting policies and estimates as set forth under the heading Critical Accounting Policies and Estimates in Part II, Item 7: Management's Discussion and Analysis of Financial Condition and Results of Operations of our 2019 Annual Report on Form 10-K.

Recent Accounting Pronouncements

In accordance with recently issued accounting pronouncements, we will be required to comply with certain changes in accounting rules and regulations. Refer to *Note 1. Basis of Presentation* to the Condensed Consolidated Financial Statements of this Quarterly Report on Form 10-Q for all recently issued accounting pronouncements, which is incorporated herein by reference.

Liquidity and Capital Resources

(in thousands)	June 27, 2020	June 29, 2019
Cash and cash equivalents	\$ 377,428	\$ 267,862
Restricted cash	502	1,120
Short- and long-term marketable securities	57,788	54,626
Total	\$ 435,718	\$ 323,608

(in thousands)	Nine months ended	
	June 27, 2020	June 29, 2019
Cash provided by operating activities	\$ 199,834	\$ 229,929
Cash used by investing activities	(497,006)	(147,580)
Cash provided (used) by financing activities	408,540	(76,603)

Cash, cash equivalents and restricted cash

We invest our cash with highly rated financial institutions and in diversified domestic and international money market mutual funds. Cash and cash equivalents include highly liquid investments with original maturities of three months or less. In addition, we hold investments in marketable securities totaling approximately \$58 million with an average maturity of 12 months. At June 27, 2020, cash and cash equivalents totaled \$377 million, compared to \$270 million at September 30, 2019.

A significant portion of our cash is generated and held outside the U.S. As of June 27, 2020, we had cash and cash equivalents of \$45 million in the U.S., \$174 million in Europe, \$139 million in Asia Pacific (including India) and \$19 million in other non-U.S. countries. All the marketable securities are held in the U.S. We have substantial cash requirements in the U.S., but we believe that the combination of our existing U.S. cash and cash equivalents, marketable securities, our ability to repatriate cash to the U.S. more cost effectively with the recent U.S. tax law changes, future U.S. operating cash flows and cash available under our 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 was \$200 million in the first nine months of 2020, compared to \$230 million in the first nine months of 2019. Cash from operations for the first nine months of 2020 includes \$33.8 million of restructuring payments and \$8.8 million of acquisition-related payments compared to \$21.4 million of restructuring payments in the prior year period. The decrease in cash from operations in the first nine months of 2020 compared to the same period in 2019 was due in part to higher restructuring payments, and higher tax payments in the first nine months of 2020 compared to the year-ago period. In addition, in the first nine months of 2019, we received approximately \$12 million in tenant reimbursements related to our new Seaport headquarters.

Cash used in investing activities

Cash used in investing activities reflects \$469 million used for the Onshape acquisition in the first nine months of 2020, compared to \$87 million used for acquisitions in the first nine months of 2019. Capital expenditures were approximately \$45 million higher for the first nine months of 2019 compared to the first nine months of 2020 due to construction expenses for our new Seaport headquarters in 2019.

Cash used in financing activities

The net borrowings in the first nine months of 2020 primarily reflect the issuance of \$1 billion in new notes in February 2020 and the repayment of \$500 million of earlier issued notes in May 2020, compared to net borrowings of \$55 million under our revolving credit facility in the first nine months of 2019 for working capital requirements and the Frustum acquisition.

Outstanding Debt

As of June 27, 2020, we had:

<i>(in millions)</i>	June 27, 2020
4.000% Senior notes due 2028	\$ 500.0
3.625% Senior notes due 2025	500.0
Credit facility revolver	138.0
Total debt	1,138.0
Unamortized debt issuance costs for the Senior notes	(13.3)
Total debt, net of issuance costs	\$ 1,124.7
Undrawn under credit facility revolver	\$ 845.5
Undrawn under credit facility revolver available for borrowing	\$ 597.3

As of June 27, 2020, we were in compliance with all financial and operating covenants of the credit facility and the 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 note indentures, could constitute a default that could cause all amounts outstanding to become due and payable immediately.

Our credit facility and our Senior Notes described in *Note 13. Debt* to the Condensed Consolidated Financial Statements of this Quarterly Report on Form 10-Q.

Future Expectations

Although we anticipate approximately \$50 million less cash provided from operations for FY'20 compared to FY'19, primarily due to higher interest expense and restructuring and acquisition-related payments, we believe that existing cash and cash equivalents, cash generated from operations and amounts available under our credit facility will be sufficient to meet our working capital and capital expenditure requirements (which capital expenditures we expect to be approximately \$7 million in Q4'20, for a total of \$22 million in FY'20) through at least the next twelve months and to meet our known long-term capital requirements. We have suspended our share repurchase program for FY'20, but expect to resume it in FY'21.

Our expected uses and sources of cash could change, payments due to us may be delayed due to the COVID-19 pandemic, our cash position could be reduced, and we could incur additional debt obligations if we decide to retire debt, to 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.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

There have been no significant changes in our market risk exposure as described in Item 7A: *Quantitative and Qualitative Disclosures about Market Risk* of our 2019 Annual Report on Form 10-K.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Effectiveness 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.

We evaluated, under the supervision and with the participation of management, including our principal executive and principal financial officers, the effectiveness of the design and operation of our disclosure controls and procedures as of the end of the period covered by this quarterly report. Based on this evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of June 27, 2020.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting identified in management's evaluation pursuant to Rules 13a or 15(d) of the Exchange Act that occurred during the period ended June 27, 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

ITEM 1A. RISK FACTORS

In addition to other information set forth in this report and below, you should carefully consider the risk factors described in Part I. Item 1A. Risk Factors in our 2019 Annual Report on Form 10-K and in Part II, Item 1A. Risk Factors of subsequent Quarterly Reports on Form 10-Q for 2020, which could materially affect our business, financial condition or future results. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially and adversely affect our business, financial condition and/or operating results.

ITEM 6. EXHIBITS

- 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 fiscal year ended September 30, 2015 \(File No. 0-18059\) and incorporated herein by reference\).](#)
- 3.2 [By-Laws, as amended and restated, of PTC Inc. \(filed as Exhibit 3.2 to our Quarterly Report on Form 10-Q for the fiscal quarter ended March 29, 2014 \(File No. 0-18059\) 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\).](#)
- 31.1 [Certification of the Chief Executive Officer Pursuant to Exchange Act Rules 13a-14\(a\) and 15d-14\(a\).](#)
- 31.2 [Certification of the Chief Financial Officer Pursuant to Exchange Act Rules 13a-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 Quarterly Report on Form 10-Q for the quarter ended June 27, 2020 ("Q3 Form 10-Q") formatted in Inline XBRL (eXtensible Business Reporting Language): (i) Condensed Consolidated Balance Sheets as of June 27, 2020 and September 30, 2019; (ii) Condensed Consolidated Statements of Operations for the three and nine months ended June 27, 2020 and June 29, 2019; (iii) Condensed Consolidated Statements of Comprehensive Income for the three and nine months ended June 27, 2020 and June 29, 2019; (iv) Condensed Consolidated Statements of Cash Flows for the nine months ended June 27, 2020 and June 29, 2019; (v) Consolidated Statements of Stockholders' Equity for the three and nine months ended June 27, 2020 and June 29, 2019; and (vi) Notes to Condensed Consolidated Financial Statements.
- 104 The cover page of the Q3 Form 10-Q formatted in Inline XBRL (included in Exhibit 101).

* Indicates that the exhibit is being furnished, not filed, with this report.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

PTC Inc.

By: _____
Kristian Talvitie
Executive Vice President and Chief Financial
Officer (Principal Financial Officer)

Date: August 5, 2020

CERTIFICATION

I, James Heppelmann, certify that:

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

Date: August 5, 2020

/S/ JAMES HEPPELMANN

James Heppelmann
President and Chief Executive Officer

CERTIFICATION

I, Kristian Talvitie, certify that:

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

Date: August 5, 2020

/S/ KRISTIAN TALVITIE

Kristian Talvitie

***Executive Vice President and Chief
Financial Officer***

Certification of Periodic Financial Report**Pursuant to 18 U.S.C. Section 1350**

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, each of the undersigned officers of PTC Inc. (the "Company") certifies that, to his knowledge, the Quarterly Report on Form 10-Q of the Company for the quarter ended June 27, 2020 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and information contained in that Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 5, 2020

/S/ JAMES HEPPELMANN

James Heppelmann
President and Chief Executive Officer

Date: August 5, 2020

/S/ KRISTIAN TALVITIE

Kristian Talvitie
***Executive Vice President and Chief
Financial Officer***