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

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2019

OR

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

Commission File Number: 0-20853

ANSYS, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**04-3219960**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
2600 ANSYS Drive, Canonsburg, PA	**15317**
(Address of Principal Executive Offices)	(Zip Code)

844-462-6797
(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 exchange on which registered
Common Stock, $0.01 par value per share	**ANSS**	**The 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 (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes ☒ No ☐

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

Large accelerated filer	☒	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 ☒

The number of shares of the Registrant’s Common Stock, par value $.01 per share, outstanding as of July 31, 2019 was 84,100,767 shares.

INDEX

PART I – UNAUDITED FINANCIAL INFORMATION

Item 1. Financial Statements:

ANSYS, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS

(in thousands, except share and per share data)	June 30, 2019 (Unaudited)	December 31, 2018 (Audited)
ASSETS		
Current assets:		
Cash and cash equivalents	**$ 631,455**	$ 777,139
Short-term investments	**241**	225
Accounts receivable, less allowance for doubtful accounts of $9,000 and $8,000, respectively	**297,798**	317,700
Other receivables and current assets	**203,851**	216,113
Total current assets	**1,133,345**	1,311,177
Long-term assets:		
Property and equipment, net	**68,294**	61,655
Operating lease right-of-use assets	**104,509**	—
Goodwill	**1,775,734**	1,572,455
Other intangible assets, net	**282,070**	211,272
Other long-term assets	**124,384**	82,775
Deferred income taxes	**24,506**	26,630
Total long-term assets	**2,379,497**	1,954,787
Total assets	**$ 3,512,842**	$ 3,265,964
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	**$ 9,865**	$ 7,953
Accrued bonuses and commissions	**42,247**	79,945
Accrued income taxes	**9,264**	8,726
Other accrued expenses and liabilities	**123,230**	99,559
Deferred revenue	**321,060**	328,584
Total current liabilities	**505,666**	524,767
Long-term liabilities:		
Deferred income taxes	**36,482**	30,077
Long-term operating lease liabilities	**90,420**	—
Other long-term liabilities	**62,988**	61,573
Total long-term liabilities	**189,890**	91,650
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, $.01 par value; 2,000,000 shares authorized; zero shares issued or outstanding	**—**	—
Common stock, $.01 par value; 300,000,000 shares authorized; 93,236,023 shares issued	**932**	932
Additional paid-in capital	**839,696**	867,462
Retained earnings	**3,115,391**	2,919,411
Treasury stock, at cost: 9,197,492 and 9,601,670 shares, respectively	**(1,069,354)**	(1,075,879)
Accumulated other comprehensive loss	**(69,379)**	(62,379)
Total stockholders' equity	**2,817,286**	2,649,547
Total liabilities and stockholders' equity	**$ 3,512,842**	$ 3,265,964

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

ANSYS, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF INCOME
(Unaudited)

(in thousands, except per share data)	Three Months Ended June 30, 2019	Three Months Ended June 30, 2018	Six Months Ended June 30, 2019	Six Months Ended June 30, 2018
Revenue:				
Software licenses	**$ 170,499**	$ 131,147	**$ 293,543**	$ 241,193
Maintenance and service	**198,136**	174,766	**392,222**	347,593
Total revenue	**368,635**	305,913	**685,765**	588,786
Cost of sales:				
Software licenses	**6,204**	4,099	**10,912**	8,010
Amortization	**4,755**	9,087	**9,302**	17,873
Maintenance and service	**29,538**	27,264	**55,098**	53,605
Total cost of sales	**40,497**	40,450	**75,312**	79,488
Gross profit	**328,138**	265,463	**610,453**	509,298
Operating expenses:				
Selling, general and administrative	**120,412**	95,058	**232,581**	182,867
Research and development	**75,302**	58,357	**146,040**	115,887
Amortization	**3,796**	3,495	**7,555**	6,930
Total operating expenses	**199,510**	156,910	**386,176**	305,684
Operating income	**128,628**	108,553	**224,277**	203,614
Interest income	**2,980**	2,176	**6,422**	4,461
Other expense, net	**(1,667)**	(1,007)	**(2,092)**	(1,315)
Income before income tax provision	**129,941**	109,722	**228,607**	206,760
Income tax provision	**20,191**	17,126	**32,627**	29,884
Net income	**$ 109,750**	$ 92,596	**$ 195,980**	$ 176,876
Earnings per share – basic:				
Earnings per share	**$ 1.31**	$ 1.10	**$ 2.34**	$ 2.11
Weighted average shares	**83,978**	84,105	**83,871**	84,018
Earnings per share – diluted:				
Earnings per share	**$ 1.28**	$ 1.08	**$ 2.29**	$ 2.06
Weighted average shares	**85,483**	85,986	**85,488**	86,069

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

ANSYS, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)

(in thousands)	Three Months Ended June 30, 2019	Three Months Ended June 30, 2018	Six Months Ended June 30, 2019	Six Months Ended June 30, 2018
Net income	**$ 109,750**	$ 92,596	**$ 195,980**	$ 176,876
Other comprehensive income (loss):				
Foreign currency translation adjustments	**558**	(26,188)	**(7,000)**	(17,945)
Comprehensive income	**$ 110,308**	$ 66,408	**$ 188,980**	$ 158,931

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

ANSYS, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

(in thousands)	Six Months Ended June 30, 2019	Six Months Ended June 30, 2018
Cash flows from operating activities:		
Net income	**$ 195,980**	$ 176,876
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and intangible assets amortization	**27,518**	33,738
Operating lease right-of-use assets amortization	**8,970**	—
Deferred income tax benefit	**(6,238)**	(11,943)
Provision for bad debts	**2,010**	485
Stock-based compensation expense	**52,922**	35,904
Other	**1,536**	1,137
Changes in operating assets and liabilities:		
Accounts receivable	**(2,949)**	27,524
Other receivables and current assets	**11,780**	(1,756)
Other long-term assets	**(1,474)**	2,314
Accounts payable, accrued expenses and current liabilities	**(38,216)**	(45,976)
Accrued income taxes	**(179)**	(3,117)
Deferred revenue	**(10,341)**	33,138
Other long-term liabilities	**(1,202)**	(4,782)
Net cash provided by operating activities	**240,117**	243,542
Cash flows from investing activities:		
Acquisitions, net of cash acquired	**(285,323)**	(283,026)
Capital expenditures	**(16,946)**	(6,751)
Other investing activities	**(9,008)**	(5,476)
Net cash used in investing activities	**(311,277)**	(295,253)
Cash flows from financing activities:		
Purchase of treasury stock	**(59,116)**	(117,831)
Restricted stock withholding taxes paid in lieu of issued shares	**(35,605)**	(25,041)
Proceeds from shares issued for stock-based compensation	**20,780**	26,602
Other financing activities	**(1,617)**	(4,939)
Net cash used in financing activities	**(75,558)**	(121,209)
Effect of exchange rate fluctuations on cash and cash equivalents	**1,034**	(12,687)
Net decrease in cash and cash equivalents	**(145,684)**	(185,607)
Cash and cash equivalents, beginning of period	**777,139**	881,501
Cash and cash equivalents, end of period	**$ 631,455**	$ 695,894
Supplemental disclosure of cash flow information:		
Income taxes paid	**$ 55,700**	$ 46,662

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

ANSYS, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Unaudited)

(in thousands)	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Retained Earnings	Treasury Stock Shares	Treasury Stock Amount	Accumulated Other Comprehensive (Loss)/Income	Total Stockholders' Equity
Balance, January 1, 2019	**93,236**	**$ 932**	**$ 867,462**	**$ 2,919,411**	**9,602**	**$ (1,075,879)**	**$ (62,379)**	**$ 2,649,547**
Treasury shares acquired					**250**	**(44,856)**		**(44,856)**
Stock-based compensation activity			**(42,465)**		**(494)**	**43,483**		**1,018**
Other comprehensive loss							**(7,558)**	**(7,558)**
Net income				**86,230**				**86,230**
Balance, March 31, 2019	**93,236**	**932**	**824,997**	**3,005,641**	**9,358**	**(1,077,252)**	**(69,937)**	**2,684,381**
Treasury shares acquired					**80**	**(14,260)**		**(14,260)**
Stock-based compensation activity			**14,699**		**(241)**	**22,158**		**36,857**
Other comprehensive income							**558**	**558**
Net income				**109,750**				**109,750**
Balance, June 30, 2019	**93,236**	**$ 932**	**$ 839,696**	**$ 3,115,391**	**9,197**	**$ (1,069,354)**	**$ (69,379)**	**$ 2,817,286**

(in thousands)	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Retained Earnings	Treasury Stock Shares	Treasury Stock Amount	Accumulated Other Comprehensive (Loss)/Income	Total Stockholders' Equity
Balance, January 1, 2018	93,236	$ 932	$ 873,357	$ 2,316,916	9,044	$ (907,530)	$ (37,844)	$ 2,245,831
Cumulative effect of the ASC 606 adoption				183,132				183,132
Treasury shares acquired					750	(117,831)		(117,831)
Stock-based compensation activity			(39,943)		(492)	43,648		3,705
Other comprehensive income							8,243	8,243
Net income				84,280				84,280
Balance, March 31, 2018	93,236	932	833,414	2,584,328	9,302	(981,713)	(29,601)	2,407,360
Stock-based compensation activity			3,910		(313)	29,801		33,711
Other comprehensive loss							(26,188)	(26,188)
Net income				92,596				92,596
Balance, June 30, 2018	93,236	$ 932	$ 837,324	$ 2,676,924	8,989	$ (951,912)	$ (55,789)	$ 2,507,479

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

ANSYS, INC. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
June 30, 2019
(Unaudited)

1. Organization

ANSYS, Inc. (hereafter the Company or ANSYS) develops and globally markets engineering simulation software and services widely used by engineers, designers, researchers and students across a broad spectrum of industries and academia, including aerospace and defense, automotive, electronics, semiconductors, energy, materials and chemical processing, turbomachinery, consumer products, healthcare, and sports.

As defined by the accounting guidance for segment reporting, the Company operates as one segment.

Given the integrated approach to the multi-discipline problem-solving needs of the Company's customers, a single sale of software may contain components from multiple product areas and include combined technologies. The Company also has a multi-year product and integration strategy that will result in new, combined products or changes to the historical product offerings. As a result, it is impracticable for the Company to provide accurate historical or current reporting among its various product lines.

2. Accounting Policies

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements have been prepared by ANSYS in accordance with accounting principles generally accepted in the United States for interim financial information for commercial and industrial companies, the instructions to Form 10-Q and Rule 10-01 of Regulation S-X. Accordingly, the accompanying unaudited condensed consolidated financial statements do not include all of the information and footnotes required by accounting principles generally accepted in the United States for complete financial statements. The accompanying unaudited condensed consolidated financial statements should be read in conjunction with the Company's audited consolidated financial statements (and notes thereto) included in the Company's Annual Report on Form 10-K for the year ended December 31, 2018 (2018 Form 10-K). The condensed consolidated December 31, 2018 balance sheet presented is derived from the audited December 31, 2018 balance sheet included in the 2018 Form 10-K. In the opinion of management, all adjustments considered necessary for a fair presentation of the financial statements have been included, and all adjustments are of a normal and recurring nature. Operating results for the three and six months ended June 30, 2019 are not necessarily indicative of the results that may be expected for any future period.

Changes in Accounting Policies

The Company’s accounting policies are described in Note 2, “Accounting Policies,” in the 2018 Form 10-K. Summarized below is the accounting guidance adopted subsequent to December 31, 2018.

Leases: In February 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2016-02, *Leases (Topic 842)* (ASU 2016-02). The Company adopted ASU 2016-02 and its related amendments (collectively known as Accounting Standards Codification (ASC) 842) on January 1, 2019 using the modified retrospective approach. Results for reporting periods beginning after January 1, 2019 are presented under ASC 842, while prior period amounts are not adjusted and continue to be reported in accordance with ASC 840, *Leases*. ASC 842 requires virtually all leases, other than leases of intangible assets, to be recorded on the balance sheet with a right-of-use (ROU) asset and a corresponding lease liability.

The Company elected the package of practical expedients permitted under the transition guidance within the new standard, which allowed the Company to carry forward its historical assessments of whether a contract contains a lease, lease classification and initial direct costs. In addition, the Company elected the accounting policy to combine the lease and nonlease components as a single component for all asset classes.

The Company determines if an arrangement is a lease at inception. Leases are classified as either operating or finance leases based on certain criteria. This classification determines the timing and presentation of expenses on the income statement, as well as the presentation of the related cash flows and balance sheet. Operating leases are recorded on the balance sheet as operating lease right-of-use assets, other accrued expenses and liabilities, and long-term operating lease liabilities. The Company currently has no finance leases.

ROU assets and related liabilities are recorded at lease commencement based on the present value of the lease payments over the expected lease term. Lease payments include future increases unless the increases are based on changes in an index or rate. As the Company's leases do not usually provide an implicit rate, the Company's incremental borrowing rate is used to calculate ROU assets and related liabilities. The incremental borrowing rate is determined based on the Company's estimated credit rating, the term of the lease, the economic environment where the asset resides and full collateralization. The ROU assets and related lease liabilities include optional renewals for which the Company is reasonably certain to exercise; whereas, optional terminations are included unless it is reasonably certain not to be elected.

The adoption of the new standard resulted in the recognition of ROU assets of $90.9 million and lease liabilities of $92.5 million, and corresponding deferred tax assets and liabilities, on the Company's condensed consolidated balance sheet as of January 1, 2019. The adoption had no impact on the Company's condensed consolidated statements of income or cash flows.

Accounting Guidance Issued and Not Yet Adopted

Credit losses: In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* (ASU 2016-13). The current guidance requires the allowance for doubtful accounts to be estimated based on an incurred loss model, which considers past and current conditions. ASU 2016-13 requires companies to use an expected loss model that also considers reasonable and supportable forecasts of future conditions. ASU 2016-13 is effective for annual periods beginning after December 15, 2019, including interim periods within that reporting period. Early adoption is permitted for annual periods beginning after December 15, 2018, including interim periods within that reporting period. The standard requires a cumulative-effect adjustment to the balance sheet as of the beginning of the first reporting period in which the guidance is effective. The Company did not early adopt the standard. The Company is currently evaluating the effect that this update will have on its financial results upon adoption.

Implementation cost accounting for cloud computing arrangements: In August 2018, the FASB issued ASU No. 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* (ASU 2018-15). The standard aligns the accounting for costs incurred to implement a cloud computing arrangement (CCA) that is a service arrangement with the guidance on capitalizing costs associated with developing or obtaining internal-use software. Under ASU 2018-15, an entity would apply Subtopic 350-40 to determine which implementation costs related to a CCA that is a service contract should be capitalized. The standard does not change the accounting for the service component of a CCA. The associated cash flows will be reflected within operating activities. ASU 2018-15 is effective for annual periods beginning after December 15, 2019, including interim periods within that reporting period. Early adoption is permitted, including adoption in any interim period for which financial statements have not been issued. Entities can choose to adopt the new guidance (1) prospectively to eligible costs incurred on or after the date the guidance is first applied or (2) retrospectively. The Company plans to adopt the new guidance prospectively and is currently evaluating the effect that this update will have on its financial results upon adoption.

Cash and Cash Equivalents

Cash and cash equivalents consist primarily of highly liquid investments such as deposits held at major banks and money market funds. Cash equivalents are carried at cost, which approximates fair value. The Company's cash and cash equivalent balances comprise the following:

	June 30, 2019		December 31, 2018	
(in thousands, except percentages)	Amount	% of Total	Amount	% of Total
Cash accounts	**$ 381,218**	**60.4**	$ 331,084	42.6
Money market funds	**250,237**	**39.6**	446,055	57.4
Total	**$ 631,455**		$ 777,139	

The Company's money market fund balances are held in various funds of a single issuer.

3. Revenue from Contracts with Customers

Disaggregation of Revenue

The following table summarizes revenue:

	Three Months Ended		Six Months Ended	
(in thousands, except percentages)	**June 30, 2019**	**June 30, 2018**	**June 30, 2019**	**June 30, 2018**
Revenue:				
Lease licenses	**$ 100,004**	$ 56,821	**$ 169,260**	$ 105,593
Perpetual licenses	**70,495**	74,326	**124,283**	135,600
Software licenses	**170,499**	131,147	**293,543**	241,193
Maintenance	**185,118**	165,603	**366,579**	329,499
Service	**13,018**	9,163	**25,643**	18,094
Maintenance and service	**198,136**	174,766	**392,222**	347,593
Total revenue	**$ 368,635**	$ 305,913	**$ 685,765**	$ 588,786
Direct revenue, as a percentage of total revenue	**79.7%**	76.3%	**75.4%**	76.4%
Indirect revenue, as a percentage of total revenue	**20.3%**	23.7%	**24.6%**	23.6%

The Company’s software licenses revenue is recognized up front, while maintenance and service revenue is generally recognized over the term of the contract.

Deferred Revenue

Deferred revenue consists of billings made or payments received in advance of revenue recognition from software license and maintenance agreements. The timing of revenue recognition may differ from the timing of billings to customers. Payment terms vary by the type and location of customer and the products or services offered. The time between invoicing and when payment is due is not significant.

The changes in deferred revenue, inclusive of both current and long-term deferred revenue, during the six months ended June 30, 2019 and 2018 were as follows:

(in thousands)	**2019**	**2018**
Beginning balance – January 1	**$ 343,174**	$ 299,730
Acquired deferred revenue	**3,266**	2,470
Deferral of revenue	**675,209**	614,064
Recognition of revenue	**(685,765)**	(588,786)
Currency translation	**(500)**	(3,941)
Ending balance – June 30	**$ 335,384**	$ 323,537

Revenue allocated to remaining performance obligations represents contracted revenue that has not yet been recognized, and includes both deferred revenue and backlog. The Company's backlog represents installment billings for periods beyond the current quarterly billing cycle and customer orders received but not processed. Revenue recognized during the six months ended June 30, 2019 and 2018 included amounts in deferred revenue and backlog at the beginning of the period of $305.3 million and $251.3 million, respectively.

Total revenue allocated to remaining performance obligations as of June 30, 2019 will be recognized as revenue as follows:

(in thousands)	
Next 12 months	**$ 496,897**
Months 13-24	**129,832**
Months 25-36	**56,602**
Thereafter	**33,983**
Total revenue allocated to remaining performance obligations	**$ 717,314**

4. Acquisitions

On February 1, 2019, the Company completed the acquisition of 100% of the shares of Granta Design Limited (Granta Design) for a purchase price of $198.7 million, paid in cash. The acquisition of Granta Design, the premier provider of materials information technology, expands ANSYS' portfolio into this important area, giving customers access to material intelligence, including data that is critical to successful simulations.

Additionally, during the six months ended June 30, 2019, the Company acquired Helic, Inc. and certain assets and liabilities of DfR Solutions to combine the acquired technologies with the Company's existing comprehensive multiphysics portfolio. The acquisitions were not individually significant. The combined purchase price of these other acquisitions was $103.1 million, paid in cash.

The assets and liabilities of the acquisitions have been recorded based upon management's estimates of their fair market values as of each respective date of acquisition. The following tables summarize the fair values of consideration transferred and the fair values of identified assets acquired and liabilities assumed at each respective date of acquisition:

Fair Value of Consideration Transferred:

(in thousands)	**Granta Design**	**Other**	**Total**
Cash	**$ 198,723**	**$ 103,086**	**$ 301,809**

Recognized Amounts of Identifiable Assets Acquired and Liabilities Assumed:

(in thousands)			
Cash	$ 13,644	$ 2,842	$ 16,486
Accounts receivable and other tangible assets	7,035	8,653	15,688
Developed software and core technologies (12-year weighted-average life)	32,445	17,761	50,206
Customer lists (13-year weighted-average life)	20,016	14,180	34,196
Trade names (10-year weighted-average life)	4,579	1,381	5,960
Accounts payable and other liabilities	(6,152)	(4,715)	(10,867)
Deferred revenue	(1,426)	(1,840)	(3,266)
Net deferred tax liabilities	(9,822)	(5,049)	(14,871)
Total identifiable net assets	**$ 60,319**	**$ 33,213**	**$ 93,532**
Goodwill	**$ 138,404**	**$ 69,873**	**$ 208,277**

The goodwill, which is generally not tax-deductible, is attributed to intangible assets that do not qualify for separate recognition, including the assembled workforce of the acquired business and the synergies expected to arise as a result of the acquisitions.

The fair values of the assets acquired and liabilities assumed are based on preliminary calculations. The estimates and assumptions for these items are subject to change as additional information about what was known and knowable at the acquisition date is obtained during the measurement period (up to one year from the acquisition date).

On May 2, 2018, the Company completed the acquisition of 100% of the shares of OPTIS, a premier provider of software for scientific simulation of light, human vision and physics-based visualization, for a purchase price of $291.0 million, paid in cash. The acquisition extends the Company's portfolio into the area of optical simulation to provide comprehensive sensor solutions, covering visible and infrared light, electromagnetics and acoustics for camera, radar and lidar.

The operating results of each acquisition have been included in the Company's condensed consolidated financial statements since each respective date of acquisition. The effects of the business combinations were not material to the Company's consolidated results of operations individually or in the aggregate.

5. Other Receivables and Current Assets and Other Accrued Expenses and Liabilities

The Company's other receivables and current assets, and other accrued expenses and liabilities, comprise the following balances:

(in thousands)	June 30, 2019	December 31, 2018
Receivables related to unrecognized revenue	**$ 119,686**	$ 167,144
Income taxes receivable, including overpayments and refunds	**38,151**	13,709
Prepaid expenses and other current assets	**46,014**	35,260
Total other receivables and current assets	**$ 203,851**	$ 216,113
Accrued vacation	**$ 26,182**	$ 20,484
Accrued expenses and other current liabilities	**97,048**	79,075
Total other accrued expenses and liabilities	**$ 123,230**	$ 99,559

Receivables related to unrecognized revenue represent the current portion of billings made for customer contracts that have not yet been recognized as revenue.

6. Earnings Per Share

Basic earnings per share (EPS) amounts are computed by dividing earnings by the weighted average number of common shares outstanding during the period. Diluted EPS amounts assume the issuance of common stock for all potentially dilutive equivalents outstanding using the treasury stock method. To the extent stock awards are anti-dilutive, they are excluded from the calculation of diluted EPS.

The details of basic and diluted EPS are as follows:

	Three Months Ended		Six Months Ended	
(in thousands, except per share data)	June 30, 2019	June 30, 2018	June 30, 2019	June 30, 2018
Net income	**$ 109,750**	$ 92,596	**$ 195,980**	$ 176,876
Weighted average shares outstanding – basic	**83,978**	84,105	**83,871**	84,018
Dilutive effect of stock plans	**1,505**	1,881	**1,617**	2,051
Weighted average shares outstanding – diluted	**85,483**	85,986	**85,488**	86,069
Basic earnings per share	**$ 1.31**	$ 1.10	**$ 2.34**	$ 2.11
Diluted earnings per share	**$ 1.28**	$ 1.08	**$ 2.29**	$ 2.06
Anti-dilutive shares	**—**	—	**—**	—

7. Goodwill and Intangible Assets

The Company's intangible assets are classified as follows:

(in thousands)	June 30, 2019 Gross Carrying Amount	June 30, 2019 Accumulated Amortization	December 31, 2018 Gross Carrying Amount	December 31, 2018 Accumulated Amortization
Finite-lived intangible assets:				
Developed software and core technologies	**$ 459,406**	**$ (322,186)**	$ 410,680	$ (314,730)
Customer lists and contract backlog	**242,064**	**(125,058)**	209,031	(117,614)
Trade names	**142,929**	**(115,442)**	137,225	(113,677)
Total	**$ 844,399**	**$ (562,686)**	$ 756,936	$ (546,021)
Indefinite-lived intangible asset:				
Trade name	**$ 357**		$ 357	

Amortization expense for the intangible assets reflected above was $8.6 million and $12.6 million for the three months ended June 30, 2019 and 2018, respectively. Amortization expense for the intangible assets reflected above was $16.9 million and $24.8 million for the six months ended June 30, 2019 and 2018, respectively.

As of June 30, 2019, estimated future amortization expense for the intangible assets reflected above is as follows:

(in thousands)	
Remainder of 2019	**$ 17,241**
2020	**36,698**
2021	**34,730**
2022	**33,462**
2023	**31,792**
2024	**29,373**
Thereafter	**98,417**
Total intangible assets subject to amortization	**281,713**
Indefinite-lived trade name	**357**
Other intangible assets, net	**$ 282,070**

The changes in goodwill during the six months ended June 30, 2019 and 2018 were as follows:

(in thousands)	2019	2018
Beginning balance – January 1	**$ 1,572,455**	$ 1,378,553
Acquisitions and adjustments[1]	**209,093**	202,733
Currency translation	**(5,814)**	(6,010)
Ending balance – June 30	**$ 1,775,734**	$ 1,575,276

[1] In accordance with the accounting for business combinations, the Company recorded adjustments to goodwill for the effect of changes in the provisional fair values of the assets acquired and liabilities assumed during the measurement period (up to one year from the acquisition date) as the Company obtained new information about facts and circumstances that existed as of the acquisition date that, if known, would have affected the measurement of the amounts recognized as of that date.

During the first quarter of 2019, the Company completed the annual impairment test for goodwill and the indefinite-lived intangible asset and determined that these assets had not been impaired as of the test date, January 1, 2019. No other events or circumstances changed during the six months ended June 30, 2019 that would indicate that the fair values of the Company's reporting unit and indefinite-lived intangible asset are below their carrying amounts.

8. Fair Value Measurement

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

- Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2: quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument; or
- Level 3: unobservable inputs based on the Company's own assumptions used to measure assets and liabilities at fair value.

The classification of a financial asset or liability within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement.

The following tables provide the assets carried at fair value and measured on a recurring basis:

		Fair Value Measurements at Reporting Date Using:		
(in thousands)	**June 30, 2019**	**Quoted Prices in Active Markets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**
Assets				
Cash equivalents	**$ 250,237**	**$ 250,237**	**$ —**	**$ —**
Short-term investments	**$ 241**	**$ —**	**$ 241**	**$ —**
Deferred compensation plan investments	**$ 3,107**	**$ 3,107**	**$ —**	**$ —**

		Fair Value Measurements at Reporting Date Using:		
(in thousands)	**December 31, 2018**	**Quoted Prices in Active Markets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**
Assets				
Cash equivalents	$ 446,055	$ 446,055	$ —	$ —
Short-term investments	$ 225	$ —	$ 225	$ —
Deferred compensation plan investments	$ 1,646	$ 1,646	$ —	$ —

The cash equivalents in the preceding tables represent money market funds, valued at net asset value, with carrying values which approximate their fair values because of their short-term nature.

The short-term investments in the preceding tables represent deposits held by certain foreign subsidiaries of the Company. The deposits have fixed interest rates with original maturities ranging from three months to one year.

The deferred compensation plan investments in the preceding tables represent trading securities held in a rabbi trust for the benefit of the non-employee Directors. These securities consist of mutual funds traded in an active market with quoted prices. As a result, the plan assets are classified as Level 1 in the fair value hierarchy. The plan assets are recorded within other long-term assets on the Company's condensed consolidated balance sheets.

9. Leases

The Company primarily has operating leases for office space and leased cars included in its ROU assets and lease liabilities. The Company's executive offices and those related to certain domestic product development, marketing, production and administration are located in a 186,000 square foot office facility in Canonsburg, Pennsylvania. The term of the lease is 183 months, which began on October 1, 2014 and expires on December 31, 2029. The lease agreement includes options to renew the contract through August 2044, an option to lease additional space in January 2025 and an option to terminate the lease in December 2025. No options are included in the lease liability as renewal is not reasonably certain. In addition, the Company is reasonably certain it will not terminate the lease agreement. Absent the exercise of options in the lease, the Company's base rent (inclusive of property taxes and certain operating costs) is $4.3 million per annum for the first five years of the lease term, $4.5 million per annum for years six through ten and $4.7 million per annum for years eleven through fifteen.

The components of the Company's global lease cost reflected in the condensed consolidated statements of income are as follows:

(in thousands)	Three Months Ended June 30, 2019	Six Months Ended June 30, 2019
Lease liability cost	$ 5,610	$ 10,895
Variable lease cost not included in the lease liability[1]	924	1,721
Total lease cost	$ 6,534	$ 12,616

[1] Variable lease cost includes common area maintenance, property taxes, utilities and fluctuations in rent due to a change in an index or rate.

Lease cost totaled $5.3 million and $10.2 million for the three and six months ended June 30, 2018, respectively.

Other information related to operating leases is as follows:

(in thousands)	Three Months Ended June 30, 2019	Six Months Ended June 30, 2019
Cash paid for amounts included in the measurement of the lease liability:		
Operating cash flows from operating leases	$ (4,977)	$ (9,309)
Right-of-use assets obtained in exchange for new operating lease liabilities	$ 9,272	$ 23,107

As of June 30, 2019, the weighted-average remaining lease term of operating leases was 7.8 years, and the weighted-average discount rate of operating leases was 3.3%.

The maturity schedule of the operating lease liabilities as of June 30, 2019 is as follows:

(in thousands)	
Remainder of 2019	$ 11,351
2020	19,526
2021	17,426
2022	14,942
2023	11,034
Thereafter	49,869
Total future lease payments	124,148
Less: Present value adjustment	(16,601)
Present value of future lease payments[1]	$ 107,547

[1]Includes the current portion of operating lease liabilities of $17.1 million, which is reflected in other accrued expenses and liabilities in the condensed consolidated balance sheets.

There were no material leases that have been signed but not yet commenced as of June 30, 2019.

The future minimum lease payments under ASC 840, including termination fees, under noncancellable operating leases for office space in effect at December 31, 2018 were as follows:

(in thousands)	
2019	$ 16,354
2020	12,469
2021	10,177
2022	8,523
2023	6,809
Thereafter	14,267
Total	$ 68,599

10. Debt

In February 2019, the Company entered into a credit agreement for a $500 million unsecured revolving credit facility, which includes a $50 million sublimit for the issuance of letters of credit, with Bank of America, N.A. as the Administrative Agent. The revolving credit facility is available for general corporate purposes, including, among others, to finance acquisitions and capital expenditures and becomes payable in full on February 22, 2024.

Borrowings under the revolving credit facility will accrue interest at the Eurodollar rate plus an applicable margin or at the base rate. The base rate is the applicable margin plus the highest of (i) the federal funds rate plus 0.500%, (ii) the Bank of America prime rate and (iii) the Eurodollar rate plus 1.000%. The applicable margin for these borrowings is a percentage per annum based on the lower of (1) a pricing level determined by the Company's then-current consolidated leverage ratio and (2) a pricing level determined by the Company's debt ratings (if such debt ratings exist). This results in a margin ranging from 1.125% to 1.750% and 0.125% to 0.750% for the Eurodollar rate and base rate, respectively.

The credit agreement contains customary representations and warranties, affirmative and negative covenants and events of default. The credit agreement also contains a financial covenant requiring the Company and its subsidiaries to maintain a consolidated leverage ratio of indebtedness to earnings before interest, taxes, depreciation and amortization of 3.50 to 1.00 as of the end of any fiscal quarter (for the four-quarter period ending on such date) with an opportunity for a temporary increase in such consolidated leverage ratio to 4.00 to 1.00 upon the consummation of certain qualified acquisitions for which the aggregate consideration is at least $250 million.

The credit agreement will terminate and all amounts owing thereunder will be due and payable on February 22, 2024 unless (i) the commitments are terminated earlier upon the occurrence of certain events, including an event of default, or (ii) the maturity date is further extended upon the Company's request, subject to the agreement of the lenders.

As of June 30, 2019, there were no outstanding borrowings under the credit agreement, and the Company was in compliance with all covenants.

11. Stock Repurchase Program

Under the Company's stock repurchase program, the Company repurchased shares as follows:

	Six Months Ended	
(in thousands, except per share data)	**June 30, 2019**	**June 30, 2018**
Number of shares repurchased	**330**	750
Average price paid per share	**$ 179.41**	$ 157.11
Total cost	**$ 59,116**	$ 117,831

In February 2018, the Company's Board of Directors increased the number of shares authorized for repurchase to a total of 5.0 million shares under the stock repurchase program. As of June 30, 2019, 3.5 million shares remained available for repurchase under the program.

12. Stock-Based Compensation

Total stock-based compensation expense and its net impact on basic and diluted earnings per share are as follows:

(in thousands, except per share data)	Three Months Ended June 30, 2019	Three Months Ended June 30, 2018	Six Months Ended June 30, 2019	Six Months Ended June 30, 2018
Cost of sales:				
Maintenance and service	**$ 2,374**	$ 1,432	**$ 3,602**	$ 2,442
Operating expenses:				
Selling, general and administrative	**14,503**	11,526	**27,634**	19,804
Research and development	**12,245**	7,677	**21,686**	13,658
Stock-based compensation expense before taxes	**29,122**	20,635	**52,922**	35,904
Related income tax benefits	**(9,152)**	(10,396)	**(20,228)**	(21,700)
Stock-based compensation expense, net of taxes	**$ 19,970**	$ 10,239	**$ 32,694**	$ 14,204
Net impact on earnings per share:				
Basic earnings per share	**$ (0.24)**	$ (0.12)	**$ (0.39)**	$ (0.17)
Diluted earnings per share	**$ (0.23)**	$ (0.12)	**$ (0.38)**	$ (0.17)

13. Geographic Information

Revenue to external customers is attributed to individual countries based upon the location of the customer. Revenue by geographic area is as follows:

(in thousands)	Three Months Ended June 30, 2019	Three Months Ended June 30, 2018	Six Months Ended June 30, 2019	Six Months Ended June 30, 2018
United States	**$ 137,789**	$ 122,790	**$ 278,451**	$ 221,555
Japan	**47,042**	42,140	**80,615**	72,741
Germany	**25,879**	23,893	**56,306**	69,431
South Korea	**40,853**	17,471	**55,931**	32,525
France	**13,990**	14,051	**29,599**	30,603
Other Europe, Middle East and Africa (EMEA)	**53,222**	48,099	**97,477**	91,117
Other international	**49,860**	37,469	**87,386**	70,814
Total revenue	**$ 368,635**	$ 305,913	**$ 685,765**	$ 588,786

Property and equipment by geographic area is as follows:

(in thousands)	June 30, 2019	December 31, 2018
United States	**$ 47,927**	$ 46,605
India	**5,016**	4,176
United Kingdom	**3,664**	1,238
France	**3,616**	2,887
Other EMEA	**4,443**	2,995
Other international	**3,628**	3,754
Total property and equipment, net	**$ 68,294**	$ 61,655

14. Contingencies and Commitments

The Company is subject to various investigations, claims and legal proceedings that arise in the ordinary course of business, including commercial disputes, labor and employment matters, tax audits, alleged infringement of intellectual property rights and other matters. In the opinion of the Company, the resolution of pending matters is not expected to have a material adverse effect on the Company's consolidated results of operations, cash flows or financial position. However, each of these matters is subject to various uncertainties and it is possible that an unfavorable resolution of one or more of these proceedings could materially affect the Company's results of operations, cash flows or financial position.

An Indian subsidiary of the Company has several service tax audits pending that have resulted in formal inquiries being received on transactions through mid-2012. The Company could incur tax charges and related liabilities of approximately $7.3 million. The service tax issues raised in the Company's notices and inquiries are very similar to the case, M/s Microsoft Corporation (I) (P) Ltd. Vs. Commissioner of Service Tax, New Delhi, wherein the Delhi Customs, Excise and Service Tax Appellate Tribunal (CESTAT) passed a favorable ruling to Microsoft. The Company can provide no assurances on whether the Microsoft case's favorable ruling will be challenged in higher courts or on the impact that the present Microsoft case's decision will have on the Company's cases. The Company is uncertain as to when these service tax matters will be concluded.

The Company sells software licenses and services to its customers under proprietary software license agreements. Each license agreement contains the relevant terms of the contractual arrangement with the customer, and generally includes certain provisions for indemnifying the customer against losses, expenses and liabilities from damages that are incurred by or awarded against the customer in the event the Company's software or services are found to infringe upon a patent, copyright or other proprietary right of a third party. To date, the Company has not had to reimburse any of its customers for any losses related to these indemnification provisions and no material claims asserted under these indemnification provisions are outstanding as of June 30, 2019. For several reasons, including the lack of prior material indemnification claims, the Company cannot determine the maximum amount of potential future payments, if any, related to such indemnification provisions.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

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

Results of Review of Interim Financial Information

We have reviewed the accompanying condensed consolidated balance sheet of ANSYS, Inc. and subsidiaries (the "Company") as of June 30, 2019, the related condensed consolidated statements of income, comprehensive income, and stockholders' equity for the three-month and six-month periods ended June 30, 2019 and 2018, and of cash flows for the six-month periods ended June 30, 2019 and 2018, and the related notes (collectively referred to as the "interim financial information"). Based on our review, we are not aware of any material modifications that should be made to the accompanying interim financial information for it to be in conformity with accounting principles generally accepted in the United States of America.

We have previously audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheet of the Company as of December 31, 2018, and the related consolidated statements of income, comprehensive income, stockholders' equity, and cash flows for the year then ended (not presented herein); and in our report dated February 28, 2019, we expressed an unqualified opinion on those consolidated financial statements. In our opinion, the information set forth in the accompanying condensed consolidated balance sheet as of December 31, 2018, is fairly stated, in all material respects, in relation to the consolidated balance sheet from which it has been derived.

Basis for Review Results

This interim financial information is the responsibility of the Company's management. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our review in accordance with standards of the PCAOB. A review of interim financial information consists principally of applying analytical procedures and making inquiries of persons responsible for financial and accounting matters. It is substantially less in scope than an audit conducted in accordance with the standards of the PCAOB, the objective of which is the expression of an opinion regarding the financial statements taken as a whole. Accordingly, we do not express such an opinion.

/s/ Deloitte & Touche LLP
Pittsburgh, Pennsylvania
August 6, 2019

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations

The following discussion should be read in conjunction with the accompanying unaudited condensed consolidated financial statements and notes thereto for the six months ended June 30, 2019, and with the Company’s audited consolidated financial statements and notes thereto for the year ended December 31, 2018 included in the 2018 Form 10-K filed with the Securities and Exchange Commission. The Company’s discussion and analysis of its financial condition and results of operations are based upon the Company’s condensed consolidated financial statements, which have been prepared in accordance with GAAP.

Overview:

Overall GAAP and Non-GAAP Results

The Company's growth rates of GAAP and non-GAAP results for the three and six months ended June 30, 2019 as compared to the three and six months ended June 30, 2018 were as follows:

	Three Months Ended June 30, 2019		Six Months Ended June 30, 2019	
	GAAP	Non-GAAP	GAAP	Non-GAAP
Revenue	**20.5%**	20.0%	**16.5%**	16.6%
Operating income	**18.5%**	15.7%	**10.1%**	11.9%
Diluted earnings per share	**18.5%**	19.3%	**11.2%**	14.6%

The Company experienced higher revenue during the three and six months ended June 30, 2019 from growth in lease licenses, maintenance and service, while revenue from perpetual licenses decreased. The Company also experienced increased operating expenses primarily due to increased personnel costs, higher stock-based compensation and additional operating expenses related to acquisitions, partially offset by a reduction in expenses due to a stronger U.S. Dollar.

The non-GAAP results exclude the income statement effects of the acquisition accounting adjustments to deferred revenue, stock-based compensation, amortization of acquired intangible assets, transaction costs related to business combinations, and adjustments related to the transition tax associated with the Tax Cuts and Jobs Act. For further disclosure regarding non-GAAP results, see the section titled "Non-GAAP Results" immediately preceding the section titled "Liquidity and Capital Resources."

Constant currency amounts exclude the effect of foreign currency fluctuations on the reported results. To present this information, the 2019 results for entities whose functional currency is a currency other than the U.S. Dollar were converted to U.S. Dollars at rates that were in effect for the 2018 comparable period, rather than the actual exchange rates in effect for 2019. Constant currency growth rates are calculated by adjusting the 2019 reported revenue and operating income amounts by the 2019 currency fluctuation impacts and comparing to the 2018 comparable period reported revenue and operating income amounts.

Impact of Foreign Currency

The Company's comparative financial results were impacted by fluctuations in the U.S. Dollar during the three and six months ended June 30, 2019 as compared to the three and six months ended June 30, 2018. The impacts on the Company's revenue and operating income due to currency fluctuations are reflected in the table below. Amounts in brackets indicate a net adverse impact from currency fluctuations.

	Three Months Ended June 30, 2019		Six Months Ended June 30, 2019	
(in thousands)	GAAP	Non-GAAP	GAAP	Non-GAAP
Revenue	**$ (8,203)**	$ (8,286)	**$ (17,361)**	$ (17,567)
Operating income	**$ (4,016)**	$ (4,289)	**$ (7,159)**	$ (7,793)

In constant currency, the Company's growth rates were as follows:

	Three Months Ended June 30, 2019		Six Months Ended June 30, 2019	
	GAAP	Non-GAAP	GAAP	Non-GAAP
Revenue	**23.2%**	22.6%	**19.4%**	19.6%
Operating income	**22.2%**	18.6%	**13.7%**	14.8%

Other Financial Information

The Company’s financial position includes $631.7 million in cash and short-term investments, and working capital of $627.7 million as of June 30, 2019.

During the six months ended June 30, 2019, the Company repurchased 0.3 million shares for $59.1 million at an average price of $179.41 per share.

Business:

ANSYS develops and globally markets engineering simulation software and services widely used by engineers, designers, researchers and students across a broad spectrum of industries and academia, including aerospace and defense, automotive, electronics, semiconductors, energy, materials and chemical processing, turbomachinery, consumer products, healthcare, and sports. Headquartered south of Pittsburgh, Pennsylvania, the Company employed approximately 3,800 people as of June 30, 2019. ANSYS focuses on the development of open and flexible solutions that enable users to analyze designs directly on the desktop, providing a common platform for fast, efficient and cost-conscious product development, from design concept to final-stage testing and validation. The Company distributes its suite of simulation technologies through a global network of independent channel partners and direct sales offices in strategic, global locations. It is the Company's intention to continue to maintain this hybrid sales and distribution model.

The Company licenses its technology to businesses, educational institutions and governmental agencies. Growth in the Company's revenue is affected by the strength of global economies, general business conditions, currency exchange rate fluctuations, customer budgetary constraints and the competitive position of the Company's products. The Company believes that the features, functionality and integrated multiphysics capabilities of its software products are as strong as they have ever been. However, the software business is generally characterized by long sales cycles. These long sales cycles increase the difficulty of predicting sales for any particular quarter. The Company makes many operational and strategic decisions based upon short- and long-term sales forecasts that are impacted not only by these long sales cycles but also by current global economic conditions. As a result, the Company believes that its overall performance is best measured by fiscal-year results rather than by quarterly results.

The Company's management considers the competition and price pressure that it faces in the short- and long-term by focusing on expanding the breadth, depth, ease of use and quality of the technologies, features, functionality and integrated multiphysics capabilities of its software products as compared to its competitors; investing in research and development to develop new and innovative products and increase the capabilities of its existing products; supplying new products and services; focusing on customer needs, training, consulting and support; and enhancing its distribution channels. From time to time, the Company also considers acquisitions to supplement its global engineering talent, product offerings and distribution channels.

Geographic Trends:

The following table presents the Company's geographic constant currency revenue growth during the three and six months ended June 30, 2019 as compared to the three and six months ended June 30, 2018:

	Three Months Ended June 30, 2019	**Six Months Ended June 30, 2019**
Americas	**13.0%**	**25.6%**
EMEA	**13.3%**	**1.7%**
Asia-Pacific	**46.6%**	**31.2%**
Total	**23.2%**	**19.4%**

The Company continues to focus on a number of sales improvement activities across the geographic regions, including sales hiring, pipeline building, productivity initiatives and customer engagement activities.

Industry Commentary:

The Company experienced industry trends consistent with those of the first quarter of 2019 and the second half of 2018. The high-tech industry's growth benefited from the intense competition among the Company's customers for share in the 5G market and continued investments in data centers and smart connected products. Autonomous vehicles, electrification and functional safety continue to drive growth in the automotive industry. Defense spending on next-generation systems resulted in continued growth for the aerospace and defense industry.

Use of Estimates:

The preparation of these financial statements requires the Company to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, the Company evaluates its estimates, including those related to the fair values of stock awards, bad debts, contract revenue, acquired deferred revenue, the standalone selling prices of its products and services, the valuation of goodwill and other intangible assets, deferred compensation, income taxes, uncertain tax positions, tax valuation reserves, operating lease assets and liabilities, useful lives for depreciation and amortization, and contingencies and litigation. The Company bases its estimates on historical experience, market experience, estimated future cash flows and various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily available from other sources. Actual results may differ from these estimates.

Note About Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, including, but not limited to, the following statements, as well as statements that contain such words as "anticipates," "intends," "believes," "plans" and other similar expressions:

- The Company's expectations regarding the impacts of new accounting guidance.
- The Company's estimates regarding the expected impact on reported revenue related to the acquisition accounting treatment of deferred revenue.
- The Company's expectations regarding the outcome of its service tax audit cases.
- The Company's assessment of the ultimate liabilities arising from various investigations, claims and legal proceedings.
- The Company's expectations regarding future claims related to indemnification obligations.
- The Company's intentions regarding its hybrid sales and distribution model.
- The Company's statement regarding the strength of the features, functionality and integrated multiphysics capabilities of its software products.
- The Company's belief that its overall performance is best measured by fiscal-year results rather than by quarterly results.
- The Company's expectations regarding increased lease license volatility due to an increased customer preference for time-based licenses.
- The Company's expectation that it will continue to make targeted investments in its global sales and marketing organizations and its global business infrastructure to enhance and support its revenue-generating activities.
- The Company's intentions related to investments in research and development, particularly as it relates to expanding the ease of use and capabilities of its broad portfolio of simulation software products.
- The Company's intention to repatriate previously taxed earnings in excess of working capital needs and to reinvest all other earnings of its non-U.S. subsidiaries.
- The Company's plans related to future capital spending.
- The sufficiency of existing cash and cash equivalent balances to meet future working capital and capital expenditure requirements.
- The Company's belief that the best uses of its excess cash are to invest in the business and to repurchase stock in order to both offset dilution and return capital to stockholders, in excess of its requirements, with the goal of increasing stockholder value.
- The Company's intentions related to investments in complementary companies, products, services and technologies.
- The Company's expectation that changes in currency exchange rates will affect the Company's financial position, results of operations and cash flows.
- The Company’s expectations regarding acquisitions and integrating such acquired companies to realize the benefits of cost reductions and other synergies relating thereto.

Forward-looking statements should not be unduly relied upon because they involve known and unknown risks, uncertainties and other factors, some of which are beyond the Company’s control. The Company’s actual results could differ materially from those set forth in forward-looking statements. Certain factors, among others, that might cause such a difference include risks and uncertainties disclosed in the Company’s 2018 Form 10-K, Part I, Item 1A. "Risk Factors." Information regarding any new risk factors or material changes to these risk factors has been included within Part II, Item 1A of this Quarterly Report on Form 10-Q.

Results of Operations

Three Months Ended June 30, 2019 Compared to Three Months Ended June 30, 2018

Revenue:

	Three Months Ended June 30,		Change		
(in thousands, except percentages)	2019	2018	Amount	%	Constant Currency %
Revenue:					
Lease licenses	**$ 100,004**	$ 56,821	$ 43,183	76.0	80.4
Perpetual licenses	**70,495**	74,326	(3,831)	(5.2)	(3.5)
Software licenses	**170,499**	131,147	39,352	30.0	32.8
Maintenance	**185,118**	165,603	19,515	11.8	14.3
Service	**13,018**	9,163	3,855	42.1	45.9
Maintenance and service	**198,136**	174,766	23,370	13.4	15.9
Total revenue	**$ 368,635**	$ 305,913	$ 62,722	20.5	23.2

The Company's revenue in the quarter ended June 30, 2019 increased 20.5% as compared to the quarter ended June 30, 2018, while revenue grew 23.2% in constant currency. The growth rate was favorably impacted by the Company's continued investment in its global sales, support and marketing organizations, as well as its acquisitions. Lease license revenue increased 76.0%, or 80.4% in constant currency, as compared to the prior-year quarter, driven primarily by an increase in multi-year lease contracts. Annual maintenance contracts that were sold with new perpetual licenses, maintenance contracts for new perpetual licenses sold in previous quarters and the maintenance portion of lease license contracts each contributed to maintenance revenue growth of 11.8%, or 14.3% in constant currency. Service revenue, driven primarily by a focus on service offerings that provide on-site mentorship on simulation best practices, training and expanding simulation adoption, increased 42.1%, or 45.9% in constant currency, as compared to the prior-year quarter. Perpetual license revenue, which is derived primarily from new sales during the quarter, decreased 5.2%, or 3.5% in constant currency, as compared to the prior-year quarter.

The Company continues to experience increased interest by some of its larger customers in enterprise agreements that often include longer-term, time-based licenses involving a larger number of the Company's software products. While these arrangements typically involve a higher overall transaction price, the upfront recognition of license revenue related to these larger, multi-year transactions can result in significantly higher lease license revenue volatility. As software products, across a large variety of applications and industries, become increasingly distributed in software-as-a-service, cloud and other subscription environments in which the licensing approach is time-based rather than perpetual, the Company is also experiencing a shifting preference from perpetual licenses to time-based licenses across a broader spectrum of its customers. In the current quarter, the shift from perpetual to lease license was most evident in the U.S. geographic market.

With respect to revenue, on average for the quarter ended June 30, 2019, the U.S. Dollar was approximately 4.2% stronger, when measured against the Company's primary foreign currencies, than for the quarter ended June 30, 2018. The table below presents the impacts of currency fluctuations on revenue for the quarter ended June 30, 2019. Amounts in brackets indicate an adverse impact from currency fluctuations.

(in thousands)	Three Months Ended June 30, 2019
Euro	**$ (3,810)**
South Korean Won	**(2,809)**
British Pound	**(710)**
Taiwan Dollar	**(314)**
Indian Rupee	**(229)**
Japanese Yen	**(223)**
Other	**(108)**
Total	**$ (8,203)**

The net overall stronger U.S. Dollar also resulted in decreased operating income of $4.0 million for the quarter ended June 30, 2019 as compared to the quarter ended June 30, 2018.

As a percentage of revenue, the Company's international and domestic revenues, and the Company's direct and indirect revenues, were as follows:

	Three Months Ended June 30,	
	2019	**2018**
International	**62.6%**	59.9%
Domestic	**37.4%**	40.1%
Direct	**79.7%**	76.3%
Indirect	**20.3%**	23.7%

In valuing deferred revenue on the balance sheets of the Company's recent acquisitions, as of their respective acquisition dates, the Company applied the fair value provisions applicable to the accounting for business combinations, resulting in a reduction of deferred revenue as compared to its historical carrying amount. As a result, the Company's post-acquisition revenue will be less than the sum of what would have otherwise been reported by ANSYS and each acquiree absent the acquisitions. The impacts on reported revenue were $1.9 million and $2.9 million for the quarters ended June 30, 2019 and 2018, respectively. The expected impacts on reported revenue are $1.6 million and $7.3 million for the quarter ending September 30, 2019 and for the year ending December 31, 2019, respectively.

Deferred Revenue and Backlog:

Deferred revenue consists of billings made or payments received in advance of revenue recognition. The deferred revenue on the Company's condensed consolidated balance sheets does not represent the total value of annual or multi-year, noncancellable agreements. The Company's backlog represents installment billings for periods beyond the current quarterly billing cycle and customer orders received but not processed. The Company's deferred revenue and backlog as of June 30, 2019 and December 31, 2018 consisted of the following:

	Balance at June 30, 2019		
(in thousands)	**Total**	**Current**	**Long-Term**
Deferred revenue	**$ 335,384**	**$ 321,060**	**$ 14,324**
Backlog	**381,930**	**175,837**	**206,093**
Total	**$ 717,314**	**$ 496,897**	**$ 220,417**

	Balance at December 31, 2018		
(in thousands)	**Total**	**Current**	**Long-Term**
Deferred revenue	$ 343,174	$ 328,584	$ 14,590
Backlog	315,998	147,299	168,699
Total	$ 659,172	$ 475,883	$ 183,289

Revenue associated with deferred revenue and backlog that will be recognized in the subsequent twelve months is classified as current in the tables above.

Cost of Sales and Operating Expenses:

The tables below reflect the Company's operating results as presented on the condensed consolidated statements of income, which are inclusive of foreign currency translation impacts. Amounts included in the discussions that follow each table are provided in constant currency. The impact, where material, of foreign exchange translation on each expense line is provided separately.

	Three Months Ended June 30,				Change	
	2019		2018			
(in thousands, except percentages)	Amount	% of Revenue	Amount	% of Revenue	Amount	%
Cost of sales:						
Software licenses	**$ 6,204**	**1.7**	$ 4,099	1.3	$ 2,105	51.4
Amortization	**4,755**	**1.3**	9,087	3.0	(4,332)	(47.7)
Maintenance and service	**29,538**	**8.0**	27,264	8.9	2,274	8.3
Total cost of sales	**40,497**	**11.0**	40,450	13.2	47	0.1
Gross profit	**$ 328,138**	**89.0**	$ 265,463	86.8	$ 62,675	23.6

Software Licenses: The increase in the cost of software licenses was primarily due to increased third-party royalties of $2.3 million.

Amortization: The decrease in amortization expense was primarily due to a decrease in the amortization of trade names and acquired technology due to assets that became fully amortized, which was partially offset by the amortization of newly acquired intangible assets.

Maintenance and Service: The increase in maintenance and service costs was primarily due to the following:

- Increased salaries of $1.1 million.
- Increased stock-based compensation of $0.9 million.

The improvement in gross profit was a result of the increase in revenue while the related cost of sales remained consistent.

	Three Months Ended June 30,				Change	
	2019		2018			
(in thousands, except percentages)	Amount	% of Revenue	Amount	% of Revenue	Amount	%
Operating expenses:						
Selling, general and administrative	**$ 120,412**	**32.7**	$ 95,058	31.1	$ 25,354	26.7
Research and development	**75,302**	**20.4**	58,357	19.1	16,945	29.0
Amortization	**3,796**	**1.0**	3,495	1.1	301	8.6
Total operating expenses	**$ 199,510**	**54.1**	$ 156,910	51.3	$ 42,600	27.1

Selling, General and Administrative: The net increase in selling, general and administrative costs was primarily due to the following:

- Increased salaries, incentive compensation and other headcount-related costs of $16.4 million.
- Increased stock-based compensation of $3.0 million.
- Increased business travel of $1.9 million.
- Increased marketing expenses of $1.4 million.
- Cost decrease related to foreign exchange translation of $2.2 million due to a stronger U.S. Dollar.

The Company anticipates that it will continue to make targeted investments in its global sales and marketing organizations and its global business infrastructure to enhance and support its revenue-generating activities.

Research and Development: The increase in research and development costs was primarily due to the following:

- Increased salaries, incentive compensation and other headcount-related costs of $11.3 million.
- Increased stock-based compensation of $4.6 million.

The Company has traditionally invested significant resources in research and development activities and intends to continue to make investments in expanding the ease of use and capabilities of its broad portfolio of simulation software products.

Interest Income: Interest income for the quarter ended June 30, 2019 was $3.0 million as compared to $2.2 million for the quarter ended June 30, 2018. Interest income increased as a result of an increase in the average rate of return on invested cash balances.

Other Expense, net: The Company's other expense consisted of the following:

	Three Months Ended			
(in thousands)	June 30, 2019		June 30, 2018	
Foreign currency losses, net	**$**	**(1,869)**	$	(1,059)
Other		**202**		52
Total other expense, net	**$**	**(1,667)**	$	(1,007)

Income Tax Provision: The Company's income before income tax provision, income tax provision and effective tax rate were as follows:

	Three Months Ended			
(in thousands, except percentages)	June 30, 2019		June 30, 2018	
Income before income tax provision	**$**	**129,941**	$	109,722
Income tax provision	**$**	**20,191**	$	17,126
Effective tax rate		**15.5%**		15.6%

The decrease in the effective tax rate from the prior year is primarily due to decreased global intangible low-taxed income (GILTI) costs and increased foreign-derived intangible income (FDII) benefit, partially offset by decreased deductions for stock-based compensation.

When compared to the federal and state combined statutory rate for each respective period, the effective tax rates for the quarters ended June 30, 2019 and 2018 were favorably impacted by tax benefits from stock-based compensation, the FDII deduction, and research and development credits.

Net Income: The Company's net income, diluted earnings per share and weighted average shares used in computing diluted earnings per share were as follows:

	Three Months Ended			
(in thousands, except per share data)	June 30, 2019		June 30, 2018	
Net income	**$**	**109,750**	$	92,596
Diluted earnings per share	**$**	**1.28**	$	1.08
Weighted average shares outstanding - diluted		**85,483**		85,986

Six Months Ended June 30, 2019 Compared to Six Months Ended June 30, 2018

Revenue:

(in thousands, except percentages)	Six Months Ended June 30, 2019	2018	Change Amount	%	Constant Currency %
Revenue:					
Lease licenses	**$ 169,260**	$ 105,593	$ 63,667	60.3	64.0
Perpetual licenses	**124,283**	135,600	(11,317)	(8.3)	(6.1)
Software licenses	**293,543**	241,193	52,350	21.7	24.6
Maintenance	**366,579**	329,499	37,080	11.3	14.2
Service	**25,643**	18,094	7,549	41.7	45.9
Maintenance and service	**392,222**	347,593	44,629	12.8	15.9
Total revenue	**$ 685,765**	$ 588,786	$ 96,979	16.5	19.4

The Company’s revenue in the six months ended June 30, 2019 increased 16.5% as compared to the six months ended June 30, 2018, while revenue grew 19.4% in constant currency. The growth rate was favorably impacted by the Company’s continued investment in its global sales, support and marketing organizations, as well as its acquisitions. Lease license revenue increased 60.3%, or 64.0% in constant currency, as compared to the six months ended June 30, 2018, driven primarily by an increase in multi-year lease contracts. Annual maintenance contracts that were sold with new perpetual licenses, maintenance contracts for new perpetual licenses sold in previous quarters and the maintenance portion of lease license contracts each contributed to maintenance revenue growth of 11.3%, or 14.2% in constant currency. Service revenue, driven primarily by a focus on service offerings that provide on-site mentorship on simulation best practices, training and expanding simulation adoption, increased 41.7%, or 45.9% in constant currency, as compared to the six months ended June 30, 2018. Perpetual license revenue, which is derived primarily from new sales during the six months ended June 30, 2019, decreased 8.3%, or 6.1% in constant currency, as compared to the six months ended June 30, 2018. Consistent with the quarterly analysis, the decline in perpetual revenue has been driven by a shifting preference from perpetual to time-based licenses across a broad spectrum of the Company's customers.

With respect to revenue, on average for the six months ended June 30, 2019, the U.S. Dollar was approximately 5.0% stronger, when measured against the Company’s primary foreign currencies, than for the six months ended June 30, 2018. The table below presents the impacts of currency fluctuations on revenue for the six months ended June 30, 2019. Amounts in brackets indicate an adverse impact from currency fluctuations.

(in thousands)	Six Months Ended June 30, 2019
Euro	**$ (9,796)**
South Korean Won	**(3,453)**
British Pound	**(1,347)**
Japanese Yen	**(1,022)**
Indian Rupee	**(810)**
Taiwan Dollar	**(539)**
Other	**(394)**
Total	**$ (17,361)**

The net overall stronger U.S. Dollar also resulted in decreased operating income of $7.2 million for the six months ended June 30, 2019 as compared to the six months ended June 30, 2018.

As a percentage of revenue, the Company's international and domestic revenues, and the Company's direct and indirect revenues, were as follows:

	Six Months Ended June 30,	
	2019	2018
International	**59.4%**	62.4%
Domestic	**40.6%**	37.6%
Direct	**75.4%**	76.4%
Indirect	**24.6%**	23.6%

In valuing deferred revenue on the balance sheets of the Company's recent acquisitions as of their respective acquisition dates, the Company applied the fair value provisions applicable to the accounting for business combinations, resulting in a reduction of deferred revenue as compared to its historical carrying amount. As a result, the Company's post-acquisition revenue will be less than the sum of what would have otherwise been reported by ANSYS and each acquiree absent the acquisitions. The impacts on reported revenue were $4.7 million and $3.3 million for the six months ended June 30, 2019 and 2018, respectively.

Cost of Sales and Operating Expenses:

The tables below reflect the Company's operating results as presented on the condensed consolidated statements of income, which are inclusive of acquisition and foreign currency translation impacts. Amounts included in the discussions that follow each table are provided in constant currency. The constant currency impact of the OPTIS acquisition and the impact of foreign exchange translation are discussed separately, where material.

	Six Months Ended June 30,					
	2019		2018		Change	
(in thousands, except percentages)	Amount	% of Revenue	Amount	% of Revenue	Amount	%
Cost of sales:						
Software licenses	**$ 10,912**	**1.6**	$ 8,010	1.4	$ 2,902	36.2
Amortization	**9,302**	**1.4**	17,873	3.0	(8,571)	(48.0)
Maintenance and service	**55,098**	**8.0**	53,605	9.1	1,493	2.8
Total cost of sales	**75,312**	**11.0**	79,488	13.5	(4,176)	(5.3)
Gross profit	**$ 610,453**	**89.0**	$ 509,298	86.5	$ 101,155	19.9

Software Licenses: The increase in the cost of software licenses was primarily due to the following:

- Increased third-party royalties of $1.8 million.
- Increased OPTIS-related cost of software licenses of $1.4 million as a result of six months of OPTIS activity in the current year as compared to two months of activity in the prior year.

Amortization: The decrease in amortization expense was primarily due to a decrease in the amortization of trade names and acquired technology due to assets that became fully amortized, which was partially offset by the amortization of newly acquired intangible assets.

Maintenance and Service: The net increase in maintenance and service costs was primarily due to the following:

- Increased salaries of $1.2 million.
- Increased stock-based compensation of $1.1 million.
- Cost decrease related to foreign exchange translation of $1.5 million due to a stronger U.S. Dollar.

The improvement in gross profit was a result of the increase in revenue and decrease in the related cost of sales.

(in thousands, except percentages)	Six Months Ended June 30,									
	2019			2018				Change		
		Amount	% of Revenue		Amount	% of Revenue		Amount	%
Operating expenses:									
Selling, general and administrative	**$**	**232,581**	**33.9**	$	182,867	31.1	$	49,714	27.2
Research and development		**146,040**	**21.3**		115,887	19.7		30,153	26.0
Amortization		**7,555**	**1.1**		6,930	1.2		625	9.0
Total operating expenses	**$**	**386,176**	**56.3**	$	305,684	51.9	$	80,492	26.3

Selling, General and Administrative: The net increase in selling, general and administrative costs was primarily due to the following:

- Increased salaries, incentive compensation and other headcount-related costs of $28.8 million.
- Increased stock-based compensation of $7.4 million.
- Increased OPTIS-related selling, general and administrative expenses of $4.9 million as a result of six months of OPTIS activity in the current year as compared to two months of activity in the prior year.
- Increased business travel of $3.3 million.
- Increased marketing expenses of $2.9 million.
- Cost decrease related to foreign exchange translation of $5.3 million due to a stronger U.S. Dollar.

Research and Development: The increase in research and development costs was primarily due to the following:

- Increased salaries and other headcount-related costs of $12.3 million.
- Increased stock-based compensation of $7.3 million.
- Increased OPTIS-related research and development expenses of $6.5 million as a result of six months of OPTIS activity in the current year as compared to two months of activity in the prior year.

Interest Income: Interest income for the six months ended June 30, 2019 was $6.4 million as compared to $4.5 million for the six months ended June 30, 2018. Interest income increased as a result of an increase in the average rate of return on invested cash balances.

Other Expense, net: The Company's other expense consisted of the following:

(in thousands)	Six Months Ended			
	June 30, 2019		June 30, 2018	
Foreign currency losses, net	**$**	**(2,382)**	$	(1,323)
Other		**290**		8
Total other expense, net	**$**	**(2,092)**	$	(1,315)

Income Tax Provision: The Company's income before income tax provision, income tax provision and effective tax rate were as follows:

	Six Months Ended	
(in thousands, except percentages)	**June 30, 2019**	**June 30, 2018**
Income before income tax provision	**$ 228,607**	$ 206,760
Income tax provision	**$ 32,627**	$ 29,884
Effective tax rate	**14.3%**	14.5%

In February 2019, the U.S. government published final regulations relating to the transition tax, enacted as part of the Tax Cuts and Jobs Act. In accordance with the final regulations, the Company adjusted its provisional transition tax calculations and recorded a tax benefit of $1.8 million during the six months ended June 30, 2019.

The decrease in the effective tax rate from the prior year is primarily due to decreased costs related to the transition tax and uncertain tax positions, partially offset by decreased deductions for stock-based compensation.

When compared to the federal and state combined statutory rate for each respective period, the effective tax rates for the six months ended June 30, 2019 and 2018 were favorably impacted by tax benefits from stock-based compensation, the FDII deduction, and research and development credits.

Net Income: The Company's net income, diluted earnings per share and weighted average shares used in computing diluted earnings per share were as follows:

	Six Months Ended	
(in thousands, except per share data)	**June 30, 2019**	**June 30, 2018**
Net income	**$ 195,980**	$ 176,876
Diluted earnings per share	**$ 2.29**	$ 2.06
Weighted average shares outstanding - diluted	**85,488**	86,069

Non-GAAP Results

The Company provides non-GAAP revenue, non-GAAP operating income, non-GAAP operating profit margin, non-GAAP net income and non-GAAP diluted earnings per share as supplemental measures to GAAP regarding the Company's operational performance. These financial measures exclude the impact of certain items and, therefore, have not been calculated in accordance with GAAP. A detailed explanation and a reconciliation of each non-GAAP financial measure to its most comparable GAAP financial measure are described below.

	Three Months Ended					
	June 30, 2019			June 30, 2018		
(in thousands, except percentages and per share data)	**GAAP Results**	**Adjustments**	**Non-GAAP Results**	**GAAP Results**	**Adjustments**	**Non-GAAP Results**
Total revenue	**$ 368,635**	**$ 1,873** (1)	**$ 370,508**	$ 305,913	$ 2,948 (4)	$ 308,861
Operating income	**128,628**	**40,385** (2)	**169,013**	108,553	37,556 (5)	146,109
Operating profit margin	**34.9%**		**45.6%**	35.5%		47.3%
Net income	**$ 109,750**	**$ 28,156** (3)	**$ 137,906**	$ 92,596	$ 23,250 (6)	$ 115,846
Earnings per share – diluted:						
Earnings per share	**$ 1.28**		**$ 1.61**	$ 1.08		$ 1.35
Weighted average shares	**85,483**		**85,483**	85,986		85,986

(1) Amount represents the revenue not reported during the period as a result of the acquisition accounting adjustment associated with the accounting for deferred revenue in business combinations.

(2) Amount represents $29.1 million of stock-based compensation expense, $0.4 million of excess payroll taxes related to stock-based awards, $8.6 million of amortization expense associated with intangible assets acquired in business combinations, $0.5 million of transaction expenses related to business combinations and the $1.9 million adjustment to revenue as reflected in (1) above.

(3) Amount represents the impact of the adjustments to operating income referred to in (2) above, decreased for the related income tax impact of $11.7 million, adjustments related to the transition tax associated with the Tax Cuts and Jobs Act of $0.5 million, and rabbi trust income of $0.1 million.

(4) Amount represents the revenue not reported during the period as a result of the acquisition accounting adjustment associated with the accounting for deferred revenue in business combinations.

(5) Amount represents $20.6 million of stock-based compensation expense, $0.4 million of excess payroll taxes related to stock-based awards, $12.6 million of amortization expense associated with intangible assets acquired in business combinations, $1.0 million of transaction expenses related to business combinations and the $2.9 million adjustment to revenue as reflected in (4) above.

(6) Amount represents the impact of the adjustments to operating income referred to in (5) above, decreased for the related income tax impact of $14.2 million and rabbi trust income of $0.1 million.

(in thousands, except percentages and per share data)	Six Months Ended June 30, 2019 GAAP Results	Adjustments		Non-GAAP Results	June 30, 2018 GAAP Results	Adjustments		Non-GAAP Results
Total revenue	**$ 685,765**	**$ 4,653**	**(1)**	**$ 690,418**	$ 588,786	$ 3,349	(4)	$ 592,135
Operating income	**224,277**	**81,922**	**(2)**	**306,199**	203,614	69,907	(5)	273,521
Operating profit margin	**32.7%**			**44.3%**	34.6%			46.2%
Net income	**$ 195,980**	**$ 52,596**	**(3)**	**$ 248,576**	$ 176,876	$ 42,034	(6)	$ 218,910
Earnings per share – diluted:								
Earnings per share	**$ 2.29**			**$ 2.91**	$ 2.06			$ 2.54
Weighted average shares	**85,488**			**85,488**	86,069			86,069

(1) Amount represents the revenue not reported during the period as a result of the acquisition accounting adjustment associated with the accounting for deferred revenue in business combinations.

(2) Amount represents $52.9 million of stock-based compensation expense, $4.4 million of excess payroll taxes related to stock-based awards, $16.9 million of amortization expense associated with intangible assets acquired in business combinations, $3.1 million of transaction expenses related to business combinations and the $4.7 million adjustment to revenue as reflected in (1) above.

(3) Amount represents the impact of the adjustments to operating income referred to in (2) above, decreased for the related income tax impact of $27.3 million, adjustments related to the transition tax associated with the Tax Cuts and Jobs Act of $1.8 million, and rabbi trust income of $0.2 million.

(4) Amount represents the revenue not reported during the period as a result of the acquisition accounting adjustment associated with the accounting for deferred revenue in business combinations.

(5) Amount represents $35.9 million of stock-based compensation expense, $3.5 million of excess payroll taxes related to stock-based awards, $24.8 million of amortization expense associated with intangible assets acquired in business combinations, $2.3 million of transaction expenses related to business combinations and the $3.3 million adjustment to revenue as reflected in (4) above.

(6) Amount represents the impact of the adjustments to operating income referred to in (5) above, decreased for the related income tax impact of $29.3 million and rabbi trust income of $0.1 million, and increased for adjustments related to the transition tax associated with the Tax Cuts and Jobs Act of $1.4 million.

Non-GAAP Measures

Management uses non-GAAP financial measures (a) to evaluate the Company's historical and prospective financial performance as well as its performance relative to its competitors, (b) to set internal sales targets and spending budgets, (c) to allocate resources, (d) to measure operational profitability and the accuracy of forecasting, (e) to assess financial discipline over operational expenditures and (f) as an important factor in determining variable compensation for management and its employees. In addition, many financial analysts that follow the Company focus on and publish both historical results and future projections based on non-GAAP financial measures. The Company believes that it is in the best interest of its investors to provide this information to analysts so that they accurately report the non-GAAP financial information. Moreover, investors have historically requested, and the Company has historically reported, these non-GAAP financial measures as a means of providing consistent and comparable information with past reports of financial results.

While management believes that these non-GAAP financial measures provide useful supplemental information to investors, there are limitations associated with the use of these non-GAAP financial measures. These non-GAAP financial measures are not prepared in accordance with GAAP, are not reported by all the Company's competitors and may not be directly comparable to similarly titled measures of the Company's competitors due to potential differences in the exact method of calculation. The Company compensates for these limitations by using these non-GAAP financial measures as supplements to GAAP financial measures and by reviewing the reconciliations of the non-GAAP financial measures to their most comparable GAAP financial measures.

The adjustments to these non-GAAP financial measures, and the basis for such adjustments, are outlined below:

Acquisition accounting for deferred revenue and its related tax impact. Historically, the Company has consummated acquisitions in order to support its strategic and other business objectives. In accordance with the fair value provisions applicable to the accounting for business combinations, acquired deferred revenue is often recorded on the opening balance sheet at an amount that is lower than the historical carrying value. Although this acquisition accounting requirement has no impact on the Company's business or cash flow, it adversely impacts the Company's reported GAAP revenue in the reporting periods following an acquisition. In order to provide investors with financial information that facilitates comparison of both historical and future results, the Company provides non-GAAP financial measures which exclude the impact of the acquisition accounting adjustment. The Company believes that this non-GAAP financial adjustment is useful to investors because it allows investors to (a) evaluate the effectiveness of the methodology and information used by management in its financial and operational decision-making, and (b) compare past and future reports of financial results of the Company as the revenue reduction related to acquired deferred revenue will not recur when related annual lease licenses and software maintenance contracts are renewed in future periods.

Amortization of intangible assets from acquisitions and its related tax impact. The Company incurs amortization of intangible assets, included in its GAAP presentation of amortization expense, related to various acquisitions it has made. Management excludes these expenses and their related tax impact for the purpose of calculating non-GAAP operating income, non-GAAP operating profit margin, non-GAAP net income and non-GAAP diluted earnings per share when it evaluates the continuing operational performance of the Company because these costs are fixed at the time of an acquisition, are then amortized over a period of several years after the acquisition and generally cannot be changed or influenced by management after the acquisition. Accordingly, management does not consider these expenses for purposes of evaluating the performance of the Company during the applicable time period after the acquisition, and it excludes such expenses when making decisions to allocate resources. The Company believes that these non-GAAP financial measures are useful to investors because they allow investors to (a) evaluate the effectiveness of the methodology and information used by management in its financial and operational decision-making, and (b) compare past reports of financial results of the Company as the Company has historically reported these non-GAAP financial measures.

Stock-based compensation expense and its related tax impact. The Company incurs expense related to stock-based compensation included in its GAAP presentation of cost of software licenses; cost of maintenance and service; research and development expense; and selling, general and administrative expense. This non-GAAP adjustment also includes excess payroll tax expense related to stock-based compensation. Stock-based compensation expense (benefit) incurred in connection with the Company's deferred compensation plan held in a rabbi trust includes an offsetting benefit (charge) recorded in other income (expense). Although stock-based compensation is an expense of the Company and viewed as a form of compensation, management excludes these expenses for the purpose of calculating non-GAAP operating income, non-GAAP operating profit margin, non-GAAP net income and non-GAAP diluted earnings per share when it evaluates the continuing operational performance of the Company. Management similarly excludes income (expense) related to assets held in a rabbi trust in connection with the Company's deferred compensation plan. Specifically, the Company excludes stock-based compensation and income (expense) related to assets held in the deferred compensation plan rabbi trust during its annual budgeting process and its quarterly and annual assessments of the Company's and management's performance. The annual budgeting process is the primary mechanism whereby the Company allocates resources to various initiatives and operational requirements. Additionally, the annual review by the board of directors during which it compares the Company's historical business model and profitability to the planned business model and profitability for the forthcoming year excludes the impact of stock-based compensation. In evaluating the performance of senior management and department managers, charges related to stock-based compensation are excluded from expenditure and profitability results. In fact, the Company records stock-based compensation expense into a stand-alone cost center for which no single operational manager is responsible or accountable. In this way, management can review, on a period-to-period basis, each manager's performance and assess financial discipline over operational expenditures without the effect of stock-based compensation. The Company believes that these non-GAAP financial measures are useful to investors because they allow investors to (a) evaluate the Company's operating results and the effectiveness of the methodology used by management to review the Company's operating results, and (b) review historical comparability in the Company's financial reporting as well as comparability with competitors' operating results.

Restructuring charges and the related tax impact. The Company occasionally incurs expenses for restructuring its workforce included in its GAAP presentation of cost of software licenses; cost of maintenance and service; research and development expense; and selling, general and administrative expense. Management excludes these expenses for the purpose of calculating non-GAAP operating income, non-GAAP operating profit margin, non-GAAP net income and non-GAAP diluted earnings per share when it evaluates the continuing operational performance of the Company, as it generally does not incur these expenses as a part of its operations. The Company believes that these non-GAAP financial measures are useful to investors because they allow investors to (a) evaluate the Company's operating results and the effectiveness of the methodology used by management to review the Company's operating results, and (b) review historical comparability in the Company's financial reporting as well as comparability with competitors' operating results.

Transaction costs related to business combinations. The Company incurs expenses for professional services rendered in connection with business combinations, which are included in its GAAP presentation of selling, general and administrative expense. These expenses are generally not tax-deductible. Management excludes these acquisition-related transaction expenses, derived from announced acquisitions, for the purpose of calculating non-GAAP operating income, non-GAAP operating profit margin, non-GAAP net income and non-GAAP diluted earnings per share when it evaluates the continuing operational performance of the Company, as it generally would not have otherwise incurred these expenses in the periods presented as a part of its operations. The Company believes that these non-GAAP financial measures are useful to investors because they allow investors to (a) evaluate the Company's operating results and the effectiveness of the methodology used by management to review the Company's operating results, and (b) review historical comparability in the Company's financial reporting as well as comparability with competitors' operating results.

Tax Cuts and Jobs Act. The Company recorded impacts to its income tax provision related to the enactment of the Tax Cuts and Jobs Act, specifically for the transition tax related to unrepatriated cash and the impacts of the tax rate change on net deferred tax assets. Management excludes these impacts for the purpose of calculating non-GAAP net income and non-GAAP diluted earnings per share when it evaluates the continuing operational performance of the Company, as (i) the charges are not expected to recur as part of its normal operations and (ii) the charges resulted from the extremely infrequent event of major U.S. tax reform, the last such reform having occurred in 1986. The Company believes that these non-GAAP financial measures are useful to investors because they allow investors to (a) evaluate the Company's operating results and the effectiveness of the methodology used by management to review the Company's operating results, and (b) review historical comparability in the Company's financial reporting.

Non-GAAP financial measures are not in accordance with, or an alternative for, GAAP. The Company's non-GAAP financial measures are not meant to be considered in isolation or as a substitute for comparable GAAP financial measures and should be read only in conjunction with the Company's consolidated financial statements prepared in accordance with GAAP.

The Company has provided a reconciliation of the non-GAAP financial measures to the most directly comparable GAAP financial measures as listed below:

GAAP Reporting Measure	Non-GAAP Reporting Measure
Revenue	Non-GAAP Revenue
Operating Income	Non-GAAP Operating Income
Operating Profit Margin	Non-GAAP Operating Profit Margin
Net Income	Non-GAAP Net Income
Diluted Earnings Per Share	Non-GAAP Diluted Earnings Per Share

Liquidity and Capital Resources

(in thousands)	June 30, 2019	December 31, 2018	Change
Cash, cash equivalents and short-term investments	**$ 631,696**	$ 777,364	$ (145,668)
Working capital	**$ 627,679**	$ 786,410	$ (158,731)

Cash, cash equivalents and short-term investments decreased during the current fiscal year primarily due to cash utilized for acquisitions, partially offset by the excess of cash provided by operating activities over cash used in financing activities.

Cash, Cash Equivalents and Short-Term Investments

Cash and cash equivalents consist primarily of highly liquid investments such as money market funds and deposits held at major banks. Short-term investments consist primarily of deposits held by certain foreign subsidiaries of the Company with original maturities of three months to one year. The following table presents the Company's foreign and domestic holdings of cash, cash equivalents and short-term investments as of June 30, 2019 and December 31, 2018:

(in thousands, except percentages)	June 30, 2019	% of Total	December 31, 2018	% of Total
Domestic	**$ 414,542**	**65.6**	$ 616,249	79.3
Foreign	**217,154**	**34.4**	161,115	20.7
Total	**$ 631,696**		$ 777,364	

In general, it is the practice and intention of the Company to repatriate previously taxed earnings in excess of working capital needs and to reinvest all other earnings of its non-U.S. subsidiaries. As part of the Tax Cuts and Jobs Act, the Company incurred U.S. tax on substantially all of the earnings of its non-U.S. subsidiaries as part of the transition tax. This tax increased the Company’s previously taxed earnings and allows for the repatriation of the majority of its foreign earnings without any residual U.S. federal tax. The Company does not believe that there is an excess of the financial reporting basis over the tax basis of investments in foreign subsidiaries. Accordingly, any repatriation in excess of previously taxed earnings will be a non-taxable return of basis.

The amount of cash, cash equivalents and short-term investments held by foreign subsidiaries is subject to translation adjustments caused by changes in foreign currency exchange rates as of the end of each respective reporting period, the offset to which is recorded in accumulated other comprehensive loss on the Company's condensed consolidated balance sheet.

Cash Flows from Operating Activities

	Six Months Ended June 30,		
(in thousands)	2019	2018	Change
Net cash provided by operating activities	**$ 240,117**	$ 243,542	$ (3,425)

Net cash provided by operating activities decreased during the current fiscal year due to decreased net cash flows from operating assets and liabilities of $49.9 million, partially offset by increased net income (net of non-cash operating adjustments) of $46.5 million.

Cash Flows from Investing Activities

	Six Months Ended June 30,		
(in thousands)	2019	2018	Change
Net cash used in investing activities	**$ (311,277)**	$ (295,253)	$ (16,024)

Net cash used in investing activities increased during the current fiscal year due primarily to increased capital expenditures of $10.2 million. The Company currently plans capital spending of $35 million to $40 million for the 2019 fiscal year as compared to the $21.8 million that was spent in 2018. The level of spending will depend on various factors, including the growth of the business and general economic conditions.

Cash Flows from Financing Activities

(in thousands)	Six Months Ended June 30, 2019	Six Months Ended June 30, 2018	Change
Net cash used in financing activities	**$ (75,558)**	$ (121,209)	$ 45,651

Net cash used in financing activities decreased during the current fiscal year due primarily to decreased stock repurchases of $58.7 million, partially offset by increased restricted stock withholding taxes paid in lieu of issued shares of $10.6 million and decreased proceeds from shares issued for stock-based compensation of $5.8 million.

Other Cash Flow Information

The Company believes that existing cash and cash equivalent balances of $631.5 million, together with cash generated from operations, will be sufficient to meet the Company’s working capital and capital expenditure requirements through the next twelve months. The Company’s cash requirements in the future may also be financed through additional equity or debt financings. There can be no assurance that such financings can be obtained on favorable terms, if at all.

Under the Company's stock repurchase program, the Company repurchased shares during the six months ended June 30, 2019 and 2018, as follows:

(in thousands, except per share data)	Six Months Ended June 30, 2019	Six Months Ended June 30, 2018
Number of shares repurchased	**330**	750
Average price paid per share	**$ 179.41**	$ 157.11
Total cost	**$ 59,116**	$ 117,831

In February 2018, the Company's Board of Directors increased the number of shares authorized for repurchase to a total of 5.0 million shares under the stock repurchase program. As of June 30, 2019, 3.5 million shares remained available for repurchase under the program.

The Company's authorized repurchase program does not have an expiration date, and the pace of the repurchase activity will depend on factors such as working capital needs, cash requirements for acquisitions, the Company's stock price, and economic and market conditions. The Company's stock repurchases may be effected from time to time through open market purchases or pursuant to a Rule 10b5-1 plan.

The Company continues to generate positive cash flows from operating activities and believes that the best uses of its excess cash are to invest in the business and acquire or make investments in complementary companies, products, services and technologies. Any future acquisitions may be funded by available cash and investments, cash generated from operations, credit facilities, or the issuance of additional securities. Additionally, the Company has in the past, and expects in the future, to repurchase stock in order to both offset dilution and return capital, in excess of its requirements, to stockholders with the goal of increasing stockholder value.

Off-Balance-Sheet Arrangements

The Company does not have any special-purpose entities or off-balance-sheet financing.

Contractual Obligations

During the six months ended June 30, 2019, the Company entered into an office lease amendment that resulted in an additional $12.6 million obligation and expires in December 2028. The Company's base rent escalates over the lease term and will range from approximately $1.2 million - $1.6 million per annum.

There were no other material changes to the Company’s contractual obligations during the six months ended June 30, 2019 as compared to those previously reported in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” within the Company’s 2018 Form 10-K.

Critical Accounting Policies and Estimates

During the first quarter of 2019, the Company completed the annual impairment test for goodwill and the indefinite-lived intangible asset and determined that these assets had not been impaired as of the test date, January 1, 2019. No other events or circumstances changed during the six months ended June 30, 2019 that would indicate that the fair values of the Company's reporting unit and indefinite-lived intangible asset are below their carrying amounts.

No significant changes have occurred to the Company's critical accounting policies and estimates as previously reported within "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the Company's 2018 Form 10-K.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Interest Income Rate Risk. Changes in the overall level of interest rates affect the interest income that is generated from the Company's cash, cash equivalents and short-term investments. For the three and six months ended June 30, 2019, total interest income was $3.0 million and $6.4 million, respectively. Cash and cash equivalents consist primarily of highly liquid investments such as money market funds and deposits held at major banks. Short-term investments consist primarily of deposits held by certain foreign subsidiaries of the Company with original maturities of three months to one year.

Foreign Currency Transaction Risk. As the Company operates in international regions, a portion of its revenue, expenses, cash, accounts receivable and payment obligations are denominated in foreign currencies. As a result, changes in currency exchange rates will affect the Company's financial position, results of operations and cash flows. The Company is most impacted by movements in and among the British Pound, Euro, Japanese Yen, South Korean Won, and U.S. Dollar.

With respect to revenue, on average for the quarter ended June 30, 2019, the U.S. Dollar was approximately 4.2% stronger, when measured against the Company's primary foreign currencies, than for the quarter ended June 30, 2018. With respect to revenue, on average for the six months ended June 30, 2019, the U.S. Dollar was approximately 5.0% stronger, when measured against the Company's primary foreign currencies, than for the six months ended June 30, 2018. The table below presents the impacts of currency fluctuations on revenue for the three and six months ended June 30, 2019. Amounts in brackets indicate a net adverse impact from currency fluctuations.

(in thousands)	**Three Months Ended June 30, 2019**	**Six Months Ended June 30, 2019**
Euro	**$ (3,810)**	**$ (9,796)**
South Korean Won	**(2,809)**	**(3,453)**
British Pound	**(710)**	**(1,347)**
Japanese Yen	**(223)**	**(1,022)**
Indian Rupee	**(229)**	**(810)**
Taiwan Dollar	**(314)**	**(539)**
Other	**(108)**	**(394)**
Total	**$ (8,203)**	**$ (17,361)**

The net overall stronger U.S. Dollar also resulted in decreased operating income of $4.0 million and $7.2 million for the three and six months ended June 30, 2019, respectively, as compared to the three and six months ended June 30, 2018.

The most significant currency impacts on revenue and operating income are typically attributable to U.S. Dollar exchange rate changes against the British Pound, Euro, Japanese Yen and South Korean Won. The relevant exchange rates for these currencies are as reflected in the charts below:

	Period-End Exchange Rates			
As of	**GBP/USD**	**EUR/USD**	**USD/JPY**	**USD/KRW**
June 30, 2018	1.321	1.168	110.705	1,116.196
December 31, 2018	1.276	1.147	109.589	1,115.325
June 30, 2019	**1.269**	**1.137**	**107.910**	**1,157.407**

	Average Exchange Rates			
Three Months Ended	**GBP/USD**	**EUR/USD**	**USD/JPY**	**USD/KRW**
June 30, 2018	1.360	1.192	109.154	1,081.354
June 30, 2019	**1.285**	**1.124**	**109.905**	**1,166.680**

	Average Exchange Rates			
Six Months Ended	**GBP/USD**	**EUR/USD**	**USD/JPY**	**USD/KRW**
June 30, 2018	1.376	1.210	108.713	1,077.412
June 30, 2019	**1.294**	**1.130**	**110.052**	**1,146.110**

No other material change has occurred in the Company's market risk subsequent to December 31, 2018.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures. As required by Rules 13a-15 and 15d-15 of the Securities Exchange Act of 1934, as amended, or the Exchange Act, the Company has evaluated, with the participation of management, including the Chief Executive Officer and the Chief Financial Officer, the effectiveness of the design and operation of its disclosure controls and procedures as of the end of the period covered by this report. Based on such evaluation, the Chief Executive Officer and Chief Financial Officer have concluded that such disclosure controls and procedures are effective, as defined in Rule 13a-15(e) of the Exchange Act.

The Company believes, based on its knowledge, that 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 Company as of and for the periods presented in this report. The Company is committed to both a sound internal control environment and to good corporate governance.

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

From time to time, the Company reviews the disclosure controls and procedures and may make changes to enhance their effectiveness and to ensure that the Company’s systems evolve with its business.

Changes in Internal Control. There were no changes in the Company’s internal control over financial reporting that occurred during the three months ended June 30, 2019 that materially affected, or were reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings

The Company is subject to various investigations, claims and legal proceedings that arise in the ordinary course of business, including commercial disputes, labor and employment matters, tax audits, alleged infringement of intellectual property rights and other matters. In the opinion of the Company, the resolution of pending matters is not expected to have a material adverse effect on the Company's consolidated results of operations, cash flows or financial position. However, each of these matters is subject to various uncertainties and it is possible that an unfavorable resolution of one or more of these proceedings could materially affect the Company's results of operations, cash flows or financial position.

Item 1A. Risk Factors

The Company cautions investors that its performance (and, therefore, any forward-looking statement) is subject to risks and uncertainties. Various important factors may cause the Company's future results to differ materially from those projected in any forward-looking statement. These factors were disclosed in, but are not limited to, the items within the Company's 2018 Form 10-K, Part I, Item 1A. "Risk Factors." The risk factor set forth below is an addition to those included in the Company's 2018 Form 10-K.

Additional Risks Associated with International Activities

Due to the global nature of the Company's business, it is subject to import and export restrictions and regulations including the Export Administration Regulations administered by the U.S.'s Bureau of Industry and Security (BIS). During the second quarter of 2019, the BIS placed certain entities on the Entity List. Among the entities included on the list are existing or prospective customers of the Company, including Huawei. The restrictions limit the Company's ability to deliver products and services to these existing or prospective customers and, in the absence of a license from the BIS, there may be a negative effect on the Company's ability to sell products and services to these customers in the future. The inclusion of companies on the restricted Entity List may also encourage customers to seek substitute products from the Company's competitors that are not subject to these restrictions or to develop their own products. In addition, although customers are not prohibited from paying accounts receivable for products or services the Company previously provided, the credit risks associated with these accounts may have increased as a result of these limitations. The Company cannot predict whether or when any changes will be made that eliminate or decrease these limitations on the Company's ability to sell products and provide services to these customers. Based on current restrictions, the Company does not believe there will be a material impact to its financial results for the remainder of 2019. However, other customers may be added to the Entity List and/or subject to trade restrictions. The Company is unable to predict the duration of the export restrictions imposed with respect to any particular customer or the long-term effects on the Company. In addition, there may be indirect impacts to the Company's business that cannot be reasonably quantified, including that the Company's business may also be impacted by other trade restrictions that may be imposed by the U.S., China, or other countries. Restrictions on the Company's ability to sell and ship the Company's products to customers on the Entity List could have an adverse effect on the Company's business, results of operations or financial condition.

Violators of these export controls may be subject to significant penalties, which may include significant monetary fines, criminal proceedings against them and their officers and employees, a denial of export privileges, and suspension or debarment from selling products or services to the federal government. Any such penalties could have an adverse effect on the Company's business, financial condition, operating results and cash flows. In addition, the political and media scrutiny surrounding any governmental investigation of the Company could cause significant expense and reputational harm and distract senior executives from managing normal day-to-day operations.

The Company's products could also be shipped to denied parties by third parties, including the Company's channel partners. Even though the Company takes precautions to ensure that its channel partners comply with all relevant import and export regulations, any failure by channel partners to comply with such regulations could have negative consequences for the Company, including reputational harm, government investigations and penalties.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

(c) Issuer Purchases of Equity Securities

Period	Total Number of Shares Purchased		Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number of Shares that May Yet Be Purchased Under Plans or Programs[1]
April 1 - April 30, 2019	—	$	—	—	3,575,505
May 1 - May 31, 2019	—	$	—	—	3,575,505
June 1 - June 30, 2019	79,510	$	179.36	79,510	3,495,995
Total	79,510	$	179.36	79,510	3,495,995

[1] The Company initially announced its stock repurchase program in February 2000, and subsequently announced various amendments to the program. The most recent amendment to the program, authorizing the repurchase of up to 5.0 million shares, was approved by the Company's Board of Directors in February 2018. There is no expiration date for the stock repurchase program.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

Exhibit No.	Exhibit
15	Independent Registered Public Accountant's Letter Regarding Unaudited Financial Information.
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH	XBRL Taxonomy Extension Schema
101.CAL	XBRL Taxonomy Extension Calculation Linkbase
101.DEF	XBRL Taxonomy Extension Definition Linkbase
101.LAB	XBRL Taxonomy Extension Label Linkbase
101.PRE	XBRL Taxonomy Extension Presentation Linkbase

SIGNATURES

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, thereunto duly authorized.

ANSYS, Inc.

Date:	August 6, 2019	By:	/s/ *Ajei S. Gopal*
			Ajei S. Gopal
			President and Chief Executive Officer
Date:	August 6, 2019	By:	/s/ *Maria T. Shields*
			Maria T. Shields
			Chief Financial Officer

EXHIBIT 15

August 6, 2019

ANSYS, Inc.
2600 ANSYS Drive
Canonsburg, PA 15317

We have reviewed, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the unaudited interim financial information of ANSYS, Inc. and subsidiaries for the periods ended June 30, 2019, and 2018, as indicated in our report dated August 6, 2019; because we did not perform an audit, we expressed no opinion on that information.

We are aware that our report referred to above, which is included in your Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, is incorporated by reference in Registration Statement Nos. 333-08613, 333-69506, 333-110728, 333-137274, 333-152765, 333-174670, 333-177030, 333-196393, 333-206111, and 333-212412 on Form S-8.

We also are aware that the aforementioned report, pursuant to Rule 436(c) under the Securities Act of 1933, is not considered a part of the Registration Statement prepared or certified by an accountant or a report prepared or certified by an accountant within the meaning of Sections 7 and 11 of that Act.

/s/ Deloitte & Touche LLP
Pittsburgh, Pennsylvania

EXHIBIT 31.1

CHIEF EXECUTIVE OFFICER CERTIFICATION

I, Ajei S. Gopal, certify that:

1. I have reviewed this quarterly report on Form 10-Q of ANSYS, Inc. ("ANSYS");

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 ANSYS as of, and for, the periods presented in this report;

4. ANSYS' 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 ANSYS 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 ANSYS, 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 ANSYS' 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 ANSYS' internal control over financial reporting that occurred during ANSYS' most recent fiscal quarter (ANSYS' fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, ANSYS' internal control over financial reporting; and

5. ANSYS' other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to ANSYS' auditors and the audit committee of ANSYS' 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 ANSYS' 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 ANSYS' internal control over financial reporting.

Date: August 6, 2019

/s/ Ajei S. Gopal

Ajei S. Gopal
President and Chief Executive Officer

EXHIBIT 31.2

CHIEF FINANCIAL OFFICER CERTIFICATION

I, Maria T. Shields, certify that:

1. I have reviewed this quarterly report on Form 10-Q of ANSYS, Inc. (“ANSYS”);

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 ANSYS as of, and for, the periods presented in this report;

4. ANSYS’ 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 ANSYS 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 ANSYS, 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 ANSYS’ 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 ANSYS’ internal control over financial reporting that occurred during ANSYS’ most recent fiscal quarter (ANSYS’ fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, ANSYS’ internal control over financial reporting; and

5. ANSYS’ other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to ANSYS’ auditors and the audit committee of ANSYS’ 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 ANSYS’ 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 ANSYS’ internal control over financial reporting.

Date: August 6, 2019

/s/ Maria T. Shields

Maria T. Shields
Chief Financial Officer

EXHIBIT 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of ANSYS, Inc. (the “Company”) on Form 10-Q for the quarter ended June 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Ajei S. Gopal, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Report fully complies with requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

This certification is provided solely pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, and shall not be deemed to be part of the Report or filed for any purpose whatsoever.

/s/ *Ajei S. Gopal*

Ajei S. Gopal
President and Chief Executive Officer
August 6, 2019

EXHIBIT 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of ANSYS, Inc. (the "Company") on Form 10-Q for the quarter ended June 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Maria T. Shields, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Report fully complies with requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

This certification is provided solely pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, and shall not be deemed to be part of the Report or filed for any purpose whatsoever.

/s/ *Maria T. Shields*

Maria T. Shields
Chief Financial Officer
August 6, 2019