

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, 2017

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

(State or other jurisdiction of incorporation or organization)

04-3219960

(I.R.S. Employer Identification No.)

2600 ANSYS Drive, Canonsburg, PA

(Address of principal executive offices)

15317

(Zip Code)

844-462-6797

(Registrant's telephone number, including area code)

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 and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes  No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company (as defined in Exchange Act Rule 12b-2). (Check one):

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

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the 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, 2017 was 84,760,673 shares.

ANSYS, INC. AND SUBSIDIARIES

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## PART I – UNAUDITED FINANCIAL INFORMATION

## Item 1. Financial Statements:

ANSYS, INC. AND SUBSIDIARIES  
CONDENSED CONSOLIDATED BALANCE SHEETS

	June 30, 2017	December 31, 2016
	(Unaudited)	(Audited)
<i>(in thousands, except share and per share data)</i>		
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 857,996	\$ 822,479
Short-term investments	5,486	381
Accounts receivable, less allowance for doubtful accounts of \$6,700 and \$5,700, respectively	83,223	107,192
Other receivables and current assets	198,975	239,349
Total current assets	<u>1,145,680</u>	<u>1,169,401</u>
Property and equipment, net	53,930	54,677
Goodwill	1,342,968	1,337,215
Other intangible assets, net	153,639	172,619
Other long-term assets	25,639	24,287
Deferred income taxes	39,109	42,327
Total assets	<u>\$ 2,760,965</u>	<u>\$ 2,800,526</u>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Accounts payable	\$ 5,245	\$ 7,395
Accrued bonuses and commissions	27,928	49,487
Accrued income taxes	4,129	5,263
Other accrued expenses and liabilities	65,839	73,676
Deferred revenue	411,646	403,279
Total current liabilities	<u>514,787</u>	<u>539,100</u>
Long-term liabilities:		
Deferred income taxes	2,276	2,259
Other long-term liabilities	54,487	50,762
Total long-term liabilities	<u>56,763</u>	<u>53,021</u>
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	855,782	883,010
Retained earnings	2,190,701	2,057,665
Treasury stock, at cost: 8,522,718 and 7,548,188 shares, respectively	(814,424)	(675,550)
Accumulated other comprehensive loss	(43,576)	(57,652)
Total stockholders' equity	<u>2,189,415</u>	<u>2,208,405</u>
Total liabilities and stockholders' equity	<u>\$ 2,760,965</u>	<u>\$ 2,800,526</u>

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

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

<i>(in thousands, except per share data)</i>	Three Months Ended		Six Months Ended	
	June 30, 2017	June 30, 2016	June 30, 2017	June 30, 2016
<b>Revenue:</b>				
Software licenses	\$ 149,880	\$ 141,087	\$ 291,788	\$ 267,138
Maintenance and service	114,044	104,982	225,541	204,837
Total revenue	263,924	246,069	517,329	471,975
<b>Cost of sales:</b>				
Software licenses	7,525	6,534	16,802	13,272
Amortization	8,952	9,520	17,888	19,031
Maintenance and service	19,861	20,957	38,679	39,993
Total cost of sales	36,338	37,011	73,369	72,296
Gross profit	227,586	209,058	443,960	399,679
<b>Operating expenses:</b>				
Selling, general and administrative	77,051	64,259	150,468	122,028
Research and development	49,002	47,443	103,380	92,115
Amortization	3,139	3,201	6,246	6,359
Total operating expenses	129,192	114,903	260,094	220,502
Operating income	98,394	94,155	183,866	179,177
Interest income	1,668	1,077	2,917	2,027
Other (expense) income, net	(190)	246	(1,344)	52
Income before income tax provision	99,872	95,478	185,439	181,256
Income tax provision	30,142	25,850	52,403	55,160
Net income	\$ 69,730	\$ 69,628	\$ 133,036	\$ 126,096
<b>Earnings per share – basic:</b>				
Earnings per share	\$ 0.82	\$ 0.79	\$ 1.56	\$ 1.43
Weighted average shares	85,167	87,638	85,311	87,876
<b>Earnings per share – diluted:</b>				
Earnings per share	\$ 0.80	\$ 0.78	\$ 1.53	\$ 1.41
Weighted average shares	86,895	89,305	87,060	89,694

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

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

<i>(in thousands)</i>	Three Months Ended		Six Months Ended	
	June 30, 2017	June 30, 2016	June 30, 2017	June 30, 2016
Net income	\$ 69,730	\$ 69,628	\$ 133,036	\$ 126,096
Other comprehensive income:				
Foreign currency translation adjustments	6,507	1,152	14,076	12,223
Comprehensive income	<u>\$ 76,237</u>	<u>\$ 70,780</u>	<u>\$ 147,112</u>	<u>\$ 138,319</u>

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

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

<i>(in thousands)</i>	Six Months Ended	
	June 30, 2017	June 30, 2016
Cash flows from operating activities:		
Net income	\$ 133,036	\$ 126,096
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	33,009	34,876
Deferred income tax expense	4,691	3,382
Provision for bad debts	1,181	695
Stock-based compensation expense	24,635	15,612
Other	26	(141)
Changes in operating assets and liabilities:		
Accounts receivable	24,895	6,121
Other receivables and current assets	44,314	22,021
Other long-term assets	5,194	(705)
Accounts payable, accrued expenses and current liabilities	(33,130)	(25,627)
Accrued income taxes	(788)	2,438
Deferred revenue	(1,710)	5,245
Other long-term liabilities	2,722	(7,641)
Net cash provided by operating activities	238,075	182,372
Cash flows from investing activities:		
Acquisitions, net of cash acquired	(5,864)	—
Capital expenditures	(7,502)	(6,068)
Other investing activities	(11,884)	(10,256)
Net cash used in investing activities	(25,250)	(16,324)
Cash flows from financing activities:		
Purchase of treasury stock	(223,291)	(128,760)
Restricted stock withholding taxes paid in lieu of issued shares	(9,037)	(5,004)
Contingent consideration payments	—	(1,048)
Proceeds from shares issued for stock-based compensation	41,626	17,419
Other financing activities	—	(1)
Net cash used in financing activities	(190,702)	(117,394)
Effect of exchange rate fluctuations on cash and cash equivalents	13,394	10,533
Net increase in cash and cash equivalents	35,517	59,187
Cash and cash equivalents, beginning of period	822,479	784,168
Cash and cash equivalents, end of period	\$ 857,996	\$ 843,355
Supplemental disclosures of cash flow information:		
Income taxes paid	\$ 55,895	\$ 65,873
Interest paid	\$ 163	\$ 727

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, 2017**  
**(Unaudited)**

**1. Organization**

ANSYS, Inc. (hereafter the "Company" or "ANSYS") develops and globally markets engineering simulation software and technologies widely used by engineers, designers, researchers and students across a broad spectrum of industries and academia, including aerospace and defense, automotive, industrial equipment, electronics, biomedical, energy, materials and chemical processing, and semiconductors.

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 and the instructions to the Quarterly Report on Form 10-Q and Rule 10-01 of Regulation S-X. Accordingly, the accompanying 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 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, 2016. The condensed consolidated December 31, 2016 balance sheet presented is derived from the audited December 31, 2016 balance sheet included in the most recent Annual Report on 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, 2017 are not necessarily indicative of the results that may be expected for any future period.

**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:

<i>(in thousands, except percentages)</i>	June 30, 2017		December 31, 2016	
	Amount	% of Total	Amount	% of Total
Cash accounts	\$ 487,424	56.8	\$ 488,504	59.4
Money market funds	370,572	43.2	333,975	40.6
Total	<u>\$ 857,996</u>		<u>\$ 822,479</u>	

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

### 3. Other Receivables and Current Assets

The Company's other receivables and current assets comprise the following balances:

<i>(in thousands)</i>	June 30, 2017	December 31, 2016
Receivables related to unrecognized revenue	\$ 142,484	\$ 199,119
Income taxes receivable, including overpayments and refunds	30,689	15,718
Prepaid expenses and other current assets	25,802	24,512
Total other receivables and current assets	<u>\$ 198,975</u>	<u>\$ 239,349</u>

Receivables for unrecognized revenue represent the current portion of billings made for annual lease licenses and software maintenance that have not yet been recognized as revenue.

### 4. 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. To the extent stock options are anti-dilutive, they are excluded from the calculation of diluted EPS.

The details of basic and diluted EPS are as follows:

<i>(in thousands, except per share data)</i>	Three Months Ended		Six Months Ended	
	June 30, 2017	June 30, 2016	June 30, 2017	June 30, 2016
Net income	\$ 69,730	\$ 69,628	\$ 133,036	\$ 126,096
Weighted average shares outstanding – basic	85,167	87,638	85,311	87,876
Dilutive effect of stock plans	1,728	1,667	1,749	1,818
Weighted average shares outstanding – diluted	86,895	89,305	87,060	89,694
Basic earnings per share	\$ 0.82	\$ 0.79	\$ 1.56	\$ 1.43
Diluted earnings per share	\$ 0.80	\$ 0.78	\$ 1.53	\$ 1.41
Anti-dilutive shares	—	169	154	228

### 5. Goodwill and Intangible Assets

The Company's intangible assets and estimated useful lives are classified as follows:

<i>(in thousands)</i>	June 30, 2017		December 31, 2016	
	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
<b>Finite-lived intangible assets:</b>				
Developed software and core technologies (3 – 11 years)	\$ 342,250	\$ (286,244)	\$ 338,594	\$ (275,130)
Customer lists and contract backlog (5 – 15 years)	163,265	(96,706)	159,549	(88,414)
Trade names (2 – 10 years)	128,225	(97,508)	127,952	(90,289)
Total	<u>\$ 633,740</u>	<u>\$ (480,458)</u>	<u>\$ 626,095</u>	<u>\$ (453,833)</u>
<b>Indefinite-lived intangible asset:</b>				
Trade name	<u>\$ 357</u>		<u>\$ 357</u>	

Amortization expense for the intangible assets reflected above was \$12.1 million and \$12.7 million for the three months ended June 30, 2017 and 2016, respectively. Amortization expense for the intangible assets reflected above was \$24.1 million and \$25.4 million for the six months ended June 30, 2017 and 2016, respectively.



As of June 30, 2017, estimated future amortization expense for the intangible assets reflected above is as follows:

<i>(in thousands)</i>	
Remainder of 2017	\$ 24,144
2018	35,347
2019	22,112
2020	21,152
2021	16,958
2022	12,363
Thereafter	21,206
Total intangible assets subject to amortization	153,282
Indefinite-lived trade name	357
Other intangible assets, net	<u>\$ 153,639</u>

The changes in goodwill during the six months ended June 30, 2017 and 2016 were as follows:

<i>(in thousands)</i>	2017	2016
Beginning balance – January 1	\$ 1,337,215	\$ 1,332,348
Acquisition	2,586	—
Adjustments	—	(1)
Currency translation	3,167	1,050
Ending balance – June 30	<u>\$ 1,342,968</u>	<u>\$ 1,333,397</u>

During the first quarter of 2017, 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, 2017. No other events or circumstances changed during the six months ended June 30, 2017 that would indicate that the fair values of the Company's reporting unit and indefinite-lived intangible asset are below their carrying amounts.

## 6. 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.

A financial asset's or liability's classification 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 and liabilities carried at fair value and measured on a recurring basis:

<i>(in thousands)</i>	June 30, 2017	Fair Value Measurements at Reporting Date Using:		
		Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<b>Assets</b>				
Cash equivalents	\$ 370,572	\$ 370,572	\$ —	\$ —
Short-term investments	\$ 5,486	\$ —	\$ 5,486	\$ —
Deferred compensation plan investments	\$ 2,214	\$ 2,214	\$ —	\$ —

<i>(in thousands)</i>	December 31, 2016	Fair Value Measurements at Reporting Date Using:		
		Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<b>Assets</b>				
Cash equivalents	\$ 333,975	\$ 333,975	\$ —	\$ —
Short-term investments	\$ 381	\$ —	\$ 381	\$ —
Deferred compensation plan investments	\$ 459	\$ 459	\$ —	\$ —

The cash equivalents in the preceding tables represent money market funds.

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 maturity dates 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-affiliate independent directors. These securities consist of mutual funds traded in an active market with quoted prices. As a result, the plan assets were 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.

The carrying values of cash, accounts receivable, accounts payable, accrued expenses, other accrued liabilities and short-term obligations approximate their fair values because of their short-term nature.

## 7. 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:

<i>(in thousands)</i>	Three Months Ended		Six Months Ended	
	June 30, 2017	June 30, 2016	June 30, 2017	June 30, 2016
United States	\$ 101,537	\$ 89,267	\$ 202,356	\$ 174,644
Japan	32,356	31,250	63,794	59,105
Germany	23,032	24,662	45,724	48,029
South Korea	16,692	16,357	30,368	28,248
France	13,871	12,338	27,383	24,052
China	14,533	10,733	26,334	18,538
Canada	3,147	3,293	6,504	6,676
Other European	36,030	35,785	69,564	69,774
Other international	22,726	22,384	45,302	42,909
Total revenue	\$ 263,924	\$ 246,069	\$ 517,329	\$ 471,975

Property and equipment by geographic area is as follows:

<i>(in thousands)</i>	June 30, 2017	December 31, 2016
United States	\$ 42,616	\$ 43,810
Europe	4,627	4,753
India	3,991	3,033
Other international	2,696	3,081
Total property and equipment, net	<u>\$ 53,930</u>	<u>\$ 54,677</u>

## 8. Stock-Based Compensation

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

<i>(in thousands, except per share data)</i>	Three Months Ended		Six Months Ended	
	June 30, 2017	June 30, 2016	June 30, 2017	June 30, 2016
Cost of sales:				
Software licenses	\$ 321	\$ 182	\$ 571	\$ 337
Maintenance and service	729	416	1,155	783
Operating expenses:				
Selling, general and administrative	8,572	3,944	14,528	6,868
Research and development	4,500	3,992	8,381	7,624
Stock-based compensation expense before taxes	14,122	8,534	24,635	15,612
Related income tax benefits	(7,479)	(2,892)	(17,900)	(4,935)
Stock-based compensation expense, net of taxes	<u>\$ 6,643</u>	<u>\$ 5,642</u>	<u>\$ 6,735</u>	<u>\$ 10,677</u>
Net impact on earnings per share:				
Basic earnings per share	\$ (0.08)	\$ (0.06)	\$ (0.08)	\$ (0.12)
Diluted earnings per share	\$ (0.08)	\$ (0.06)	\$ (0.08)	\$ (0.12)

As a result of new accounting guidance further discussed in Note 12, the three and six months ended June 30, 2017 related income tax benefits above include \$3.0 million and \$10.1 million, respectively, of excess tax benefits that in prior years would have been recorded to additional paid-in capital. If such tax benefits were excluded, the impact on both basic and diluted earnings per share would have been \$0.04 and \$0.12 for the three and six months ended June 30, 2017, respectively.

## 9. Stock Repurchase Program

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

<i>(in thousands, except per share data)</i>	Six Months Ended	
	June 30, 2017	June 30, 2016
Number of shares repurchased	2,000	1,500
Average price paid per share	\$ 111.65	\$ 85.84
Total cost	\$ 223,291	\$ 128,760

In February 2017, 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, 2017, 3.5 million shares remained available for repurchase under the program.

## 10. Restructuring

During the fourth quarter of 2016, the Company initiated workforce realignment activities to reallocate resources to align with the Company's future strategic plans. The Company incurred related restructuring charges as follows:

<i>(in thousands)</i>	Gross	Net of Tax
Q4 2016	\$ 3,419	\$ 2,355
Q1 2017	9,273	6,176
Q2 2017	2,000	1,435
Total restructuring charges	<b>\$ 14,692</b>	<b>\$ 9,966</b>

The restructuring charges are included in the presentation of cost of software licenses; cost of maintenance and service; research and development expense; and selling, general and administrative expense. During the six months ended June 30, 2017, the Company paid \$9.4 million of the gross charges. As of June 30, 2017, \$4.8 million of the gross charges incurred to date remains unpaid. The Company expects to incur additional charges of up to \$2.0 million, or \$1.3 million net of tax, primarily during the third quarter of 2017.

## 11. 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 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) has 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.

A French subsidiary of the Company previously received notice that the French taxing authority rejected the Company's 2012 research and development credit. The Company contested the decision and received a favorable outcome. There are currently no challenges to other years' research and development credits for this subsidiary; however, other years are subject to future review and audit.

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, 2017. 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.

## 12. New Accounting Guidance

**Revenue from contracts with customers:** In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* (ASU 2014-09). ASU 2014-09 supersedes most current revenue recognition guidance, including industry-specific guidance. Previous guidance requires an entity to recognize revenue when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the seller's price to the buyer is fixed or determinable, and collectibility is reasonably assured. Under the new guidance, an entity is required to evaluate revenue recognition by identifying a contract with a customer, identifying the performance obligations in the contract, determining the transaction price, allocating the transaction price to the performance obligations in the contract and recognizing revenue when (or as) the entity satisfies a performance obligation. The standard also requires disclosure of the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers.

ASU 2015-14, *Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date*, delayed the effective date of ASU 2014-09 to annual periods beginning after December 15, 2017, including interim periods within that reporting period. This standard is effective for the Company on January 1, 2018. Entities have the option of using a full retrospective, cumulative effect or modified retrospective approach to adopt ASU 2014-09. The Company previously disclosed that it expected to utilize the full retrospective approach to adopt ASU 2014-09. However, after continuing to evaluate the implementation process, the Company now expects to utilize the modified retrospective implementation approach.

This update will impact the timing and amounts of revenue recognized, which will result in increased volatility in the amount of revenue recognized each period. The Company's preliminary assessment is that the adoption of this standard will have a material impact on the Company's consolidated financial statements. While the Company expects that the standard will impact various elements of its business, the Company's initial assessment is that the most significant impact will be on the recognition of revenue related to software lease licenses. These licenses include the right to use the software and PCS over the term of the license. These licenses are currently recognized as revenue ratably over the term of the license. Under the new standard and the existing interpretations, the Company expects to recognize a meaningful portion of the revenue related to these licenses up-front at the time the license is delivered. However, the Company's preliminary assessment could change as additional interpretations relating to the new standard are provided and as issues identified by software industry groups are addressed.

**Business combinations:** In January 2017, the FASB issued Accounting Standards Update No. 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business* (ASU 2017-01). This update narrows the definition of a business. If substantially all the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets, the acquiree is not a business. The update also requires a business to include an input and a substantive process that significantly contributes to the ability to create outputs. This definition is expected to reduce the number of acquisitions accounted for as business combinations, which will impact the accounting treatment of certain items, including the accounting treatment of contingent consideration and transaction expenses. ASU 2017-01 is effective for annual periods beginning after December 15, 2017, including interim periods within that reporting period. Early adoption is permitted and the update will be applied prospectively. The effect of the implementation will depend upon the nature of the Company's future acquisitions, if any. Historically, the Company has entered into acquisitions that would meet the definition of a business under ASU 2017-01.

**Income taxes:** In October 2016, the FASB issued Accounting Standards Update No. 2016-16, *Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory* (ASU 2016-16). Previous guidance requires the tax effects from intra-entity asset transfers to be deferred until the asset is sold to a third party or recovered through use. ASU 2016-16 eliminates this deferral for all intra-entity asset transfers other than inventory. The standard is effective for annual periods beginning after December 15, 2017, including interim periods within that reporting period. Early adoption is permitted and a modified retrospective transition is required upon adoption. The Company plans to adopt ASU 2016-16 beginning in 2018 and expects adoption to have an immaterial effect, if any, on its financial results.

**Credit losses:** In June 2016, the FASB issued Accounting Standards Update No. 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* (ASU 2016-13). Previous 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 statement of financial position as of the beginning of the first reporting period in which the guidance is effective. The Company is currently evaluating the effect that this update will have on its financial results upon adoption.

**Employee share-based payment accounting:** In March 2016, the FASB issued Accounting Standards Update No. 2016-09, *Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting* (ASU 2016-09). This update includes various areas for simplification related to aspects of the accounting for share-based payment transactions. One simplification is that the tax effects of share-based payment settlements will be recorded in the income statement. Prior guidance required tax windfalls at settlement, and tax shortfalls to the extent of previous windfalls, to be recorded in equity. This provision was required to be adopted prospectively. These tax effects were reported retrospectively as operating cash flows according to the new guidance as opposed to financing cash flows in the prior guidance.

The Company adopted the guidance during the quarter ended March 31, 2017. The primary impact of adoption was the recognition of excess tax benefits in the Company's provision for income taxes rather than paid-in capital, which resulted in the recognition of excess tax benefits in the provision for income taxes of \$3.0 million and \$10.1 million during the three and six months ended June 30, 2017, respectively. In addition, the Company applied the change in classification of such benefits on the

consolidated statements of cash flows on a retrospective basis resulting in an increase to both net cash provided by operating activities and net cash used in financing activities of \$3.8 million for the six months ended June 30, 2016.

**Leases:** In February 2016, the FASB issued Accounting Standards Update No. 2016-02, *Leases (Topic 842)* (ASU 2016-02). ASU 2016-02 requires virtually all leases, other than leases that meet the definition of a short-term lease or leases of intangible assets, to be recorded on the balance sheet with a right-of-use asset and corresponding lease liability. Leases will be classified as either operating or finance leases based on certain criteria. This classification will determine the timing and presentation of expenses on the income statement, as well as the presentation of related cash flows. The standard is effective for annual periods beginning after December 15, 2018, including interim periods within that reporting period. Early adoption is permitted and a modified retrospective transition is required upon adoption. The Company does not expect to early adopt and continues to evaluate the effect that this update will have on its financial results upon adoption. The Company's preliminary assessment is that this update will materially increase the Company's assets and liabilities upon adoption. The Company is in the process of finalizing the inventory of its leases and policy elections, and is developing new processes and controls to meet the accounting and disclosure requirements under the new standard.

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

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

We have reviewed the accompanying condensed consolidated balance sheet of ANSYS, Inc. and subsidiaries (the "Company") as of June 30, 2017, and the related condensed consolidated statements of income and comprehensive income for the three-month and six-month periods ended June 30, 2017 and 2016, and of cash flows for the six-month periods ended June 30, 2017 and 2016. These interim financial statements are the responsibility of the Company's management.

We conducted our reviews in accordance with the standards of the Public Company Accounting Oversight Board (United States). 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 Public Company Accounting Oversight Board (United States), 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.

Based on our reviews, we are not aware of any material modifications that should be made to such condensed consolidated interim financial statements for them 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), the consolidated balance sheet of ANSYS, Inc. and subsidiaries as of December 31, 2016, 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 23, 2017, 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, 2016 is fairly stated, in all material respects, in relation to the consolidated balance sheet from which it has been derived.

/s/ Deloitte & Touche LLP  
Pittsburgh, Pennsylvania  
August 3, 2017

**Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations**
Overview:

The Company's GAAP results for the three months ended June 30, 2017 reflect growth in revenue of 7.3%, operating income of 4.5% and diluted earnings per share of 2.6% as compared to the three months ended June 30, 2016. The Company's GAAP results for the six months ended June 30, 2017 reflect growth in revenue of 9.6%, operating income of 2.6% and diluted earnings per share of 8.5% as compared to the six months ended June 30, 2016. The Company experienced higher revenue in 2017 primarily from growth in lease licenses and maintenance. The Company also experienced increased operating expenses primarily due to increased personnel costs, costs associated with workforce realignment activities and higher stock-based compensation. The Company's effective tax rate increased from 27.1% for the three months ended June 30, 2016 to 30.2% for the three months ended June 30, 2017, which adversely impacted diluted earnings per share. The Company's effective tax rate decreased from 30.4% for the six months ended June 30, 2016 to 28.3% for the six months ended June 30, 2017, which favorably impacted diluted earnings per share.

The Company's non-GAAP results for the three months ended June 30, 2017 reflect growth in revenue of 7.4%, operating income of 10.5% and diluted earnings per share of 6.5% as compared to the three months ended June 30, 2016. The Company's non-GAAP results for the six months ended June 30, 2017 reflect growth in revenue of 9.7%, operating income of 11.3% and diluted earnings per share of 10.6% as compared to the six months ended June 30, 2016. The non-GAAP results exclude the income statement effects of the acquisition accounting adjustment to deferred revenue, stock-based compensation, acquisition-related amortization of intangible assets, restructuring charges and transaction costs related to business combinations. For further disclosure regarding non-GAAP results, see the section titled "Non-GAAP Results" immediately preceding the section titled "Liquidity and Capital Resources."

The Company's comparative financial results were impacted by fluctuations in the U.S. Dollar during the three and six months ended June 30, 2017 as compared to the three and six months ended June 30, 2016. The impacts on the Company's revenue and operating income due to currency fluctuations are reflected in the table below.

The amounts in the table represent the difference between the actual 2017 results and the same results calculated at the 2016 exchange rates. Amounts in brackets indicate a net adverse impact from currency fluctuations.

<i>(in thousands)</i>	Three Months Ended June 30, 2017		Six Months Ended June 30, 2017	
	GAAP	Non-GAAP	GAAP	Non-GAAP
Revenue	\$ (2,069)	\$ (2,069)	\$ (3,865)	\$ (3,865)
Operating income	\$ (716)	\$ (750)	\$ (744)	\$ (804)

In constant currency<sup>(1)</sup>, the Company's growth rates were as follows:

	Three Months Ended June 30, 2017		Six Months Ended June 30, 2017	
	GAAP	Non-GAAP	GAAP	Non-GAAP
Revenue	8.1%	8.3%	10.4%	10.5%
Operating income	5.3%	11.2%	3.0%	11.6%

<sup>(1)</sup> Constant currency amounts exclude the effect of foreign currency fluctuations on the reported results. To present this information, the 2017 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 2016, rather than the actual exchange rates in effect for 2017.

The Company's financial position includes \$863.5 million in cash and short-term investments, and working capital of \$630.9 million as of June 30, 2017.

During the three months ended June 30, 2017, the Company repurchased 1.0 million shares for \$122.9 million at an average price of \$122.94 per share under the Company's stock repurchase program. During the six months ended June 30, 2017, the Company repurchased 2.0 million shares for \$223.3 million at an average price of \$111.65 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, industrial equipment, electronics, biomedical, energy, materials and chemical processing, and semiconductors. Headquartered south of Pittsburgh, Pennsylvania, the Company employed approximately 2,800 people as of June 30, 2017. 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, based upon the customer location, during the three and six months ended June 30, 2017 as compared to the three and six months ended June 30, 2016:

	<u>Three Months Ended June 30, 2017</u>	<u>Six Months Ended June 30, 2017</u>
North America	13.2%	15.2%
Europe	3.0%	4.1%
Asia-Pacific	6.8%	10.6%
Total	8.1%	10.4%

In North America, the Company's performance was led by strength in the aerospace and defense, electronics, semiconductors and automotive industries. The strong demand in electronics continued to drive revenue in the Company's high-tech customer base. The performance within aerospace and defense was heavily influenced by major and strategic accounts. The automotive manufacturers continued their strong investments in developing advanced technologies for connected, autonomous and electric vehicles.

European revenue results continued to lag the other regions. France led the region, but was partially offset by weak performance in both Germany and the United Kingdom. In the second quarter, the Company continued to make progress in rebuilding the sales organization with the addition of new leadership. The Company remained focused on building the sales pipeline and finalizing initiatives to update the Company's go-to-market strategy. The indirect channel performance helped to offset some of the weakness in the direct business.

The results in Asia-Pacific were driven by continued solid growth in China and Taiwan. From an industry perspective, the regional performance was driven by the electronics, aerospace and defense, automotive and industrial equipment sectors. The region also continued to benefit from investment in domestic development programs, particularly in China, India and South Korea.

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.

#### **Note About Forward-Looking Statements**

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, 2017, and with the Company's audited consolidated financial statements and notes thereto for the year ended December 31, 2016 filed on the Annual Report on Form 10-K 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. 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 valuation of goodwill and other intangible assets, deferred compensation, income taxes, uncertain tax positions, tax valuation reserves, 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.

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 future restructuring charges.
- The Company's assessment of the ultimate liabilities arising from various investigations, claims and legal proceedings.
- The Company's expectations regarding the outcome of its service tax audit cases.
- The Company's expectations regarding future claims related to indemnification obligations.
- The Company's expectations regarding the impacts of new accounting guidance.
- 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 the adverse impact on license and maintenance revenue growth in the near term due to an increased customer preference for time-based licenses.
- The Company's estimates regarding the expected impact on reported revenue related to the acquisition accounting treatment of deferred revenue.
- The Company's expectation that it will continue to make targeted investments in its global sales and marketing organization 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 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.

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 most recent Annual Report on Form 10-K, Part I, Item 1A. Information regarding new risk factors or material changes to these risk factors have been included within Part II, Item 1A of this Quarterly Report on Form 10-Q.

## Results of Operations

### Three Months Ended June 30, 2017 Compared to Three Months Ended June 30, 2016

#### Revenue:

<i>(in thousands, except percentages)</i>	Three Months Ended June 30,		Change	
	2017	2016	Amount	%
Revenue:				
Lease licenses	\$ 92,265	\$ 83,169	\$ 9,096	10.9
Perpetual licenses	57,615	57,918	(303)	(0.5)
Software licenses	149,880	141,087	8,793	6.2
Maintenance	107,632	98,869	8,763	8.9
Service	6,412	6,113	299	4.9
Maintenance and service	114,044	104,982	9,062	8.6
Total revenue	\$ 263,924	\$ 246,069	\$ 17,855	7.3

The Company's revenue in the quarter ended June 30, 2017 increased 7.3% as compared to the quarter ended June 30, 2016, while revenue grew 8.1% in constant currency. The growth rate was favorably impacted by the Company's continued investment in its global sales, support and marketing organizations. Lease license revenue increased 10.9% as compared to the prior-year quarter. Annual maintenance contracts that were sold with new perpetual licenses, along with maintenance contracts sold with new perpetual licenses in previous quarters, contributed to maintenance revenue growth of 8.9%.

With respect to revenue, on average for the quarter ended June 30, 2017, the U.S. Dollar was approximately 1.6% stronger, when measured against the Company's primary foreign currencies, than for the quarter ended June 30, 2016. The table below presents the impacts of currency fluctuations on revenue for the quarter ended June 30, 2017. Amounts in brackets indicate a net adverse impact from currency fluctuations.

<i>(in thousands)</i>	Three Months Ended June 30, 2017
Euro	\$ (1,290)
British Pound	(806)
Japanese Yen	(770)
South Korean Won	383
Taiwan Dollar	254
Indian Rupee	218
Other	(58)
Total	\$ (2,069)

The net overall stronger U.S. Dollar also resulted in decreased operating income of \$0.7 million for the quarter ended June 30, 2017 as compared to the quarter ended June 30, 2016.

A substantial portion of the Company's license and maintenance revenue is derived from annual lease and maintenance contracts. These contracts are generally renewed on an annual basis and typically have a high rate of customer renewal. In addition to the recurring revenue base associated with these contracts, a majority of customers purchasing new perpetual licenses also purchase related annual maintenance contracts. As a result of the significant recurring revenue base, the Company's license and maintenance revenue growth rate in any period does not necessarily correlate to the growth rate of new license and maintenance contracts sold during that period. To the extent the rate of customer renewal for lease and maintenance contracts is high, incremental lease contracts, and maintenance contracts sold with new perpetual licenses, will result in license and maintenance revenue growth in constant currency. Conversely, if the rate of renewal for these contracts is adversely affected by economic or other factors, the Company's license and maintenance growth will be adversely affected over the term that the revenue for those contracts would have otherwise been recognized.

The Company has been experiencing an 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 revenue from these contracts is typically deferred and recognized over the period of the contract, resulting in increased deferred revenue and backlog. To the extent these types of contracts replace sales of perpetual licenses, there could be a near-term adverse impact on software license and maintenance

revenue growth. The Company is similarly experiencing a shifting preference from perpetual licenses to time-based licenses across a broader spectrum of its customers, particularly in the more mature geographic markets, such as the U.S. and Japan. To the extent this shift continues or becomes more prevalent, the result could be a similar and incremental near-term adverse impact on software license and maintenance revenue growth.

International and domestic revenues, as a percentage of total revenue, were 61.5% and 38.5%, respectively, during the quarter ended June 30, 2017, and 63.7% and 36.3%, respectively, during the quarter ended June 30, 2016. The Company derived 24.3% and 24.4% of its total revenue through the indirect sales channel for the quarters ended June 30, 2017 and 2016, respectively.

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 impact on reported revenue was \$0.4 million for the quarter ended June 30, 2017. There was no impact on reported revenue for the quarter ended June 30, 2016. The expected impacts on reported revenue are \$1.0 million to \$1.4 million and \$2.4 million to \$3.2 million for the quarter ending September 30, 2017 and for the year ending December 31, 2017, respectively.

#### Deferred Revenue and Backlog:

Deferred revenue consists of billings made or payments received in advance of revenue recognition from software license and maintenance agreements. The deferred revenue on the Company's condensed consolidated balance sheets does not represent the total value of annual or multi-year noncancellable software license and maintenance 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, 2017 and December 31, 2016 consist of the following:

<i>(in thousands)</i>	Balance at June 30, 2017		
	Total	Current	Long-Term
Deferred revenue	\$ 430,621	\$ 411,646	\$ 18,975
Backlog	225,203	77,491	147,712
Total	\$ 655,824	\$ 489,137	\$ 166,687

  

<i>(in thousands)</i>	Balance at December 31, 2016		
	Total	Current	Long-Term
Deferred revenue	\$ 415,846	\$ 403,279	\$ 12,567
Backlog	221,994	64,361	157,633
Total	\$ 637,840	\$ 467,640	\$ 170,200

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

#### Cost of Sales and Gross Profit:

The table below reflects 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 discussion that follows are provided in constant currency. The impact, where material, of foreign exchange translation on each expense line is provided separately.

<i>(in thousands, except percentages)</i>	Three Months Ended June 30,					
	2017		2016		Change	
	Amount	% of Revenue	Amount	% of Revenue	Amount	%
Cost of sales:						
Software licenses	\$ 7,525	2.9	\$ 6,534	2.7	\$ 991	15.2
Amortization	8,952	3.4	9,520	3.9	(568)	(6.0)
Maintenance and service	19,861	7.5	20,957	8.5	(1,096)	(5.2)
Total cost of sales	36,338	13.8	37,011	15.0	(673)	(1.8)
Gross profit	\$ 227,586	86.2	\$ 209,058	85.0	\$ 18,528	8.9

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

- Increased third-party royalties of \$0.6 million.
- Increased salaries of \$0.3 million.

Amortization: The decrease in amortization expense was primarily due to a net decrease in the amortization of acquired technology.

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

- Decreased salaries and other headcount-related costs of \$1.2 million, primarily due to a reallocation of technical personnel resources to pre-sales activities.
- Restructuring costs of \$0.7 million.

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

Operating Expenses:

The table below reflects 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 discussion that follows are provided in constant currency. The impact, where material, of foreign exchange translation on each expense line is provided separately.

(in thousands, except percentages)	Three Months Ended June 30,					
	2017		2016		Change	
	Amount	% of Revenue	Amount	% of Revenue	Amount	%
Operating expenses:						
Selling, general and administrative	\$ 77,051	29.2	\$ 64,259	26.1	\$ 12,792	19.9
Research and development	49,002	18.6	47,443	19.3	1,559	3.3
Amortization	3,139	1.2	3,201	1.3	(62)	(1.9)
Total operating expenses	\$ 129,192	49.0	\$ 114,903	46.7	\$ 14,289	12.4

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

- Increased salaries and incentive compensation of \$5.4 million.
- Increased stock-based compensation of \$4.7 million.
- Increased consulting costs of \$1.7 million.

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

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

- Increased incentive compensation of \$1.1 million.
- Restructuring costs of \$0.9 million.
- Increased stock-based compensation of \$0.5 million.
- Cost reduction of \$1.0 million, primarily due to the removal of a reserve associated with the French research and development credit matter discussed in Note 11 to the Company's financial statements.

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, 2017 was \$1.7 million as compared to \$1.1 million for the quarter ended June 30, 2016. Interest income increased as a result of an increase in both the Company's average invested cash balances and the average rate of return on those balances.

Other (Expense) Income, net: The Company's other (expense) income consists of the following:

<i>(in thousands)</i>	Three Months Ended	
	June 30, 2017	June 30, 2016
Foreign currency (losses) gains, net	\$ (165)	\$ 297
Other	(25)	(51)
Total other (expense) income, net	<u>\$ (190)</u>	<u>\$ 246</u>

Income Tax Provision: The Company recorded income tax expense of \$30.1 million and had income before income taxes of \$99.9 million for the quarter ended June 30, 2017. During the quarter ended June 30, 2016, the Company recorded income tax expense of \$25.9 million and had income before income taxes of \$95.5 million. The effective tax rates were 30.2% and 27.1% for the second quarters of 2017 and 2016, respectively.

The increase in the effective tax rate from the prior year is primarily due to tax benefits of \$5.4 million related to entity structuring and related repatriation activities recognized in the second quarter of 2016 that did not recur in 2017. The increase in the effective tax rate was partially offset by 2017 tax benefits related to stock-based compensation. In the first quarter of 2017, the Company adopted ASU 2016-09, which requires excess tax benefits and deficiencies related to stock-based compensation to be reflected in the income statement as a component of the provision for income taxes. Previously, these tax effects were reflected in stockholders' equity. The Company recognized a \$3.0 million tax benefit related to excess tax benefits from stock-based compensation in the second quarter of 2017.

When compared to the federal and state combined statutory rate, the effective tax rates for the quarters ended June 30, 2017 and 2016 were favorably impacted by the domestic manufacturing deduction and research and development credits. The rates were also favorably impacted by the recurring item of lower statutory tax rates in many of the Company's foreign jurisdictions.

Net Income: The Company's net income in the second quarter of 2017 was \$69.7 million as compared to net income of \$69.6 million in the second quarter of 2016. Diluted earnings per share was \$0.80 in the second quarter of 2017 and \$0.78 in the second quarter of 2016. The weighted average shares used in computing diluted earnings per share were 86.9 million and 89.3 million in the second quarters of 2017 and 2016, respectively.

**Six Months Ended June 30, 2017 Compared to Six Months Ended June 30, 2016**
Revenue:

<i>(in thousands, except percentages)</i>	Six Months Ended June 30,		Change	
	2017	2016	Amount	%
Revenue:				
Lease licenses	\$ 185,899	\$ 164,808	\$ 21,091	12.8
Perpetual licenses	105,889	102,330	3,559	3.5
Software licenses	291,788	267,138	24,650	9.2
Maintenance	212,038	192,487	19,551	10.2
Service	13,503	12,350	1,153	9.3
Maintenance and service	225,541	204,837	20,704	10.1
Total revenue	\$ 517,329	\$ 471,975	\$ 45,354	9.6

The Company's revenue in the six months ended June 30, 2017 increased 9.6% as compared to the six months ended June 30, 2016, while revenue grew 10.4% in constant currency. The growth rate was favorably impacted by the Company's continued investment in its global sales, support and marketing organizations. Lease license revenue increased 12.8% as compared to the six months ended June 30, 2016. Perpetual license revenue, which is derived primarily from new sales during the period, increased 3.5% as compared to the six months ended June 30, 2016. Annual maintenance contracts that were sold with new perpetual licenses, along with maintenance contracts sold with new perpetual licenses in previous quarters, contributed to maintenance revenue growth of 10.2%.

With respect to revenue, on average for the six months ended June 30, 2017, the U.S. Dollar was approximately 1.5% stronger, when measured against the Company's primary foreign currencies, than for the six months ended June 30, 2016. The table below presents the impacts of currency fluctuations on revenue for the six months ended June 30, 2017. Amounts in brackets indicate a net adverse impact from currency fluctuations.

<i>(in thousands)</i>	Six Months Ended June 30, 2017
Euro	\$ (3,355)
British Pound	(1,854)
Japanese Yen	(208)
South Korean Won	817
Taiwan Dollar	441
Indian Rupee	289
Other	5
Total	\$ (3,865)

The net overall stronger U.S. Dollar also resulted in decreased operating income of \$0.7 million for the six months ended June 30, 2017 as compared to the six months ended June 30, 2016.

International and domestic revenues, as a percentage of total revenue, were 60.9% and 39.1%, respectively, during the six months ended June 30, 2017, and 63.0% and 37.0%, respectively, during the six months ended June 30, 2016. The Company derived 24.4% and 24.0% of its total revenue through the indirect sales channel for the six months ended June 30, 2017 and 2016, respectively.

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 \$0.6 million and \$0.1 million for the six months ended June 30, 2017 and 2016, respectively.

Cost of Sales and Gross Profit:

The table below reflects 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 discussion that follows are provided in constant currency. The impact, where material, of foreign exchange translation on each expense line is provided separately.

(in thousands, except percentages)	Six Months Ended June 30,					
	2017		2016		Change	
	Amount	% of Revenue	Amount	% of Revenue	Amount	%
Cost of sales:						
Software licenses	\$ 16,802	3.2	\$ 13,272	2.8	\$ 3,530	26.6
Amortization	17,888	3.5	19,031	4.0	(1,143)	(6.0)
Maintenance and service	38,679	7.5	39,993	8.5	(1,314)	(3.3)
Total cost of sales	73,369	14.2	72,296	15.3	1,073	1.5
Gross profit	\$ 443,960	85.8	\$ 399,679	84.7	\$ 44,281	11.1

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

- Increased third-party royalties of \$2.0 million.
- Increased salaries and other headcount-related costs of \$0.7 million.
- Restructuring costs of \$0.6 million.

Amortization: The decrease in amortization expense was primarily due to a net decrease in the amortization of acquired technology.

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

- Net decrease in salaries, incentive compensation and other headcount-related costs of \$2.0 million, primarily due to a reallocation of technical personnel resources to pre-sales activities.
- Cost decrease related to foreign exchange translation of \$0.7 million due to a stronger U.S. Dollar.
- Restructuring costs of \$1.5 million.
- Increased third-party technical support of \$0.6 million.

The improvement in gross profit was a result of the increase in revenue, partially offset by the increase in the related cost of sales.

Operating Expenses:

The table below reflects 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 discussion that follows are provided in constant currency. The impact, where material, of foreign exchange translation on each expense line is provided separately.

(in thousands, except percentages)	Six Months Ended June 30,					
	2017		2016		Change	
	Amount	% of Revenue	Amount	% of Revenue	Amount	%
Operating expenses:						
Selling, general and administrative	\$ 150,468	29.1	\$ 122,028	25.9	\$ 28,440	23.3
Research and development	103,380	20.0	92,115	19.5	11,265	12.2
Amortization	6,246	1.2	6,359	1.3	(113)	(1.8)
Total operating expenses	\$ 260,094	50.3	\$ 220,502	46.7	\$ 39,592	18.0

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

- Increased salaries, incentive compensation and other headcount-related costs of \$13.1 million.



- Increased stock-based compensation of \$7.7 million.
- Increased consulting costs of \$4.0 million.
- Restructuring costs of \$2.6 million.
- Increased business travel of \$1.7 million.

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

- Restructuring costs of \$6.8 million.
- Increased incentive compensation and other headcount-related costs of \$4.3 million.

Interest Income: Interest income for the six months ended June 30, 2017 was \$2.9 million as compared to \$2.0 million for the six months ended June 30, 2016. Interest income increased as a result of an increase in both the Company's average invested cash balances and the average rate of return on those balances.

Other (Expense) Income, net: The Company's other (expense) income consists of the following:

<i>(in thousands)</i>	Six Months Ended	
	June 30, 2017	June 30, 2016
Foreign currency (losses) gains, net	\$ (1,290)	\$ 190
Other	(54)	(138)
<b>Total other (expense) income, net</b>	<b>\$ (1,344)</b>	<b>\$ 52</b>

Income Tax Provision: The Company recorded income tax expense of \$52.4 million and had income before income taxes of \$185.4 million for the six months ended June 30, 2017. During the six months ended June 30, 2016, the Company recorded income tax expense of \$55.2 million and had income before income taxes of \$181.3 million. The effective tax rates were 28.3% and 30.4% for the six months ended June 30, 2017 and 2016, respectively.

The decrease in the effective tax rate from the prior year is primarily due to tax benefits related to stock-based compensation, partially offset by entity structuring and related repatriation benefits of \$5.4 million recognized in 2016 that did not recur in 2017. In the first quarter of 2017, the Company adopted ASU 2016-09, which requires excess tax benefits and deficiencies related to stock-based compensation to be reflected in the income statement as a component of the provision for income taxes. Previously, these tax effects were reflected in stockholders' equity. The Company recognized a \$10.1 million tax benefit related to excess tax benefits from stock-based compensation in the first six months of 2017.

When compared to the federal and state combined statutory rate, the effective tax rates for the six months ended June 30, 2017 and 2016 were favorably impacted by the domestic manufacturing deduction and research and development credits. The rates were also favorably impacted by the recurring item of lower statutory tax rates in many of the Company's foreign jurisdictions.

Net Income: The Company's net income for the six months ended June 30, 2017 was \$133.0 million as compared to net income of \$126.1 million for the six months ended June 30, 2016. Diluted earnings per share was \$1.53 for the six months ended June 30, 2017 and \$1.41 for the six months ended June 30, 2016. The weighted average shares used in computing diluted earnings per share were 87.1 million and 89.7 million for the six months ended June 30, 2017 and 2016, respectively.

## 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.

<i>(in thousands, except percentages and per share data)</i>	Three Months Ended					
	June 30, 2017			June 30, 2016		
	As Reported	Adjustments	Non-GAAP Results	As Reported	Adjustments	Non-GAAP Results
Total revenue	\$ 263,924	\$ 424 <sup>(1)</sup>	\$ 264,348	\$ 246,069	\$ —	\$ 246,069
Operating income	98,394	29,163 <sup>(2)</sup>	127,557	94,155	21,255 <sup>(4)</sup>	115,410
Operating profit margin	37.3%		48.3%	38.3%		46.9%
Net income	\$ 69,730	\$ 16,659 <sup>(3)</sup>	\$ 86,389	\$ 69,628	\$ 13,542 <sup>(5)</sup>	\$ 83,170
Earnings per share – diluted:						
Earnings per share	\$ 0.80		\$ 0.99	\$ 0.78		\$ 0.93
Weighted average shares	86,895		86,895	89,305		89,305

- (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 \$14.1 million of stock-based compensation expense, \$12.1 million of amortization expense associated with intangible assets acquired in business combinations, \$2.0 million of restructuring charges, \$0.5 million of transaction expenses related to business combinations and the \$0.4 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, adjusted for the related income tax impact of \$12.5 million.
- (4) Amount represents \$12.7 million of amortization expense associated with intangible assets acquired in business combinations and \$8.5 million of stock-based compensation expense.
- (5) Amount represents the impact of the adjustments to operating income referred to in (4) above, adjusted for the related income tax impact of \$7.7 million.

<i>(in thousands, except percentages and per share data)</i>	Six Months Ended					
	June 30, 2017			June 30, 2016		
	As Reported	Adjustments	Non-GAAP Results	As Reported	Adjustments	Non-GAAP Results
Total revenue	\$ 517,329	\$ 567 (1)	\$ 517,896	\$ 471,975	\$ 103 (4)	\$ 472,078
Operating income	183,866	61,274 (2)	245,140	179,177	41,105 (5)	220,282
Operating profit margin	35.5%		47.3%	38.0%		46.7%
Net income	\$ 133,036	\$ 30,842 (3)	\$ 163,878	\$ 126,096	\$ 26,507 (6)	\$ 152,603
Earnings per share – diluted:						
Earnings per share	\$ 1.53		\$ 1.88	\$ 1.41		\$ 1.70
Weighted average shares	87,060		87,060	89,694		89,694

- (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 \$24.6 million of stock-based compensation expense, \$24.1 million of amortization expense associated with intangible assets acquired in business combinations, \$11.3 million of restructuring charges, \$0.7 million of transaction expenses related to business combinations and the \$0.6 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, adjusted for the related income tax impact of \$30.4 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 \$25.4 million of amortization expense associated with intangible assets acquired in business combinations, \$15.6 million of stock-based compensation expense and the \$0.1 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, adjusted for the related income tax impact of \$14.6 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 of 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. 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 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 is able to 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 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.

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:

<b><u>GAAP Reporting Measure</u></b>	<b><u>Non-GAAP Reporting Measure</u></b>
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

<i>(in thousands)</i>	June 30, 2017	December 31, 2016	Change
Cash, cash equivalents and short-term investments	\$ 863,482	\$ 822,860	\$ 40,622
Working capital	\$ 630,893	\$ 630,301	\$ 592

### 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, 2017 and December 31, 2016:

<i>(in thousands, except percentages)</i>	June 30, 2017	% of Total	December 31, 2016	% of Total
Domestic	\$ 577,911	66.9	\$ 593,348	72.1
Foreign	285,571	33.1	229,512	27.9
Total	<u>\$ 863,482</u>		<u>\$ 822,860</u>	

If the foreign balances were repatriated to the U.S., unless previously taxed in the U.S., they would be subject to domestic tax, resulting in a tax obligation in the period of repatriation. In general, it is the practice and intention of the Company to repatriate previously taxed earnings and to reinvest all other earnings of its non-U.S. subsidiaries. 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

<i>(in thousands)</i>	Six Months Ended June 30,		Change
	2017	2016	
Net cash provided by operating activities	\$ 238,075	\$ 182,372	\$ 55,703

Net cash provided by operating activities increased during the current fiscal year due to increased net cash flows from operating assets and liabilities of \$39.6 million and increased net income (net of non-cash operating adjustments) of \$16.1 million.

### Cash Flows from Investing Activities

<i>(in thousands)</i>	Six Months Ended June 30,		Change
	2017	2016	
Net cash used in investing activities	\$ (25,250)	\$ (16,324)	\$ (8,926)

Net cash used in investing activities increased during the current fiscal year due primarily to increased acquisition-related net cash outlays of \$5.9 million. The Company currently plans capital spending of \$15 million to \$20 million for the 2017 fiscal year as compared to the \$12.4 million that was spent in 2016. The level of spending will depend on various factors, including growth of the business and general economic conditions.

### Cash Flows from Financing Activities

<i>(in thousands)</i>	Six Months Ended June 30,		Change
	2017	2016	
Net cash used in financing activities	\$ (190,702)	\$ (117,394)	\$ (73,308)

Net cash used in financing activities increased during the current fiscal year due primarily to increased stock repurchases of \$94.5 million, partially offset by increased proceeds from shares issued for stock-based compensation of \$24.2 million.

**Other Cash Flow Information**

The Company believes that existing cash and cash equivalent balances of \$858.0 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, 2017 and 2016, as follows:

<i>(in thousands, except per share data)</i>	Six Months Ended	
	June 30, 2017	June 30, 2016
Number of shares repurchased	2,000	1,500
Average price paid per share	\$ 111.65	\$ 85.84
Total cost	\$ 223,291	\$ 128,760

In February 2017, 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, 2017, 3.5 million shares remained available for repurchase under the program.

The Company's repurchase authorization 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 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. Additionally, the Company has in the past, and expects in the future, to 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.

**Off-Balance-Sheet Arrangements**

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

**Contractual Obligations**

There were no material changes to the Company's significant contractual obligations during the six months ended June 30, 2017 as compared to those previously reported in "Management's Discussion and Analysis of Financial Condition and Results of Operations" within the Company's most recent Annual Report on Form 10-K.

**Critical Accounting Policies and Estimates**

During the first quarter of 2017, 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, 2017. No other events or circumstances changed during the six months ended June 30, 2017 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 most recent Annual Report on 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, 2017, total interest income was \$1.7 million and \$2.9 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 Euro, British Pound, South Korean Won, Taiwan Dollar, Indian Rupee, Japanese Yen, Chinese Yuan and U.S. Dollar.

With respect to revenue, on average for the quarter ended June 30, 2017, the U.S. Dollar was approximately 1.6% stronger, when measured against the Company's primary foreign currencies, than for the quarter ended June 30, 2016. With respect to revenue, on average for the six months ended June 30, 2017, the U.S. Dollar was approximately 1.5% stronger, when measured against the Company's primary foreign currencies, than for the six months ended June 30, 2016. The table below presents the impacts of currency fluctuations on revenue for the three and six months ended June 30, 2017. Amounts in brackets indicate a net adverse impact from currency fluctuations.

<i>(in thousands)</i>	Three Months Ended June 30, 2017	Six Months Ended June 30, 2017
Euro	\$ (1,290)	\$ (3,355)
British Pound	(806)	(1,854)
Japanese Yen	(770)	(208)
South Korean Won	383	817
Taiwan Dollar	254	441
Indian Rupee	218	289
Other	(58)	5
<b>Total</b>	<b>\$ (2,069)</b>	<b>\$ (3,865)</b>

The net overall stronger U.S. Dollar also resulted in decreased operating income of \$0.7 million for both the three and six months ended June 30, 2017 as compared to the three and six months ended June 30, 2016.

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 as reflected in the charts below:

As of	Period-End Exchange Rates			
	GBP/USD	EUR/USD	USD/JPY	USD/KRW
June 30, 2016	1.331	1.110	103.327	1,153.669
December 31, 2016	1.234	1.051	116.918	1,208.313
<b>June 30, 2017</b>	<b>1.303</b>	<b>1.142</b>	<b>112.410</b>	<b>1,146.395</b>

Three Months Ended	Average Exchange Rates			
	GBP/USD	EUR/USD	USD/JPY	USD/KRW
June 30, 2016	1.435	1.129	107.967	1,163.964
<b>June 30, 2017</b>	<b>1.279</b>	<b>1.100</b>	<b>111.085</b>	<b>1,131.648</b>

Six Months Ended	Average Exchange Rates			
	GBP/USD	EUR/USD	USD/JPY	USD/KRW
June 30, 2016	1.433	1.116	111.493	1,182.080
<b>June 30, 2017</b>	<b>1.259</b>	<b>1.083</b>	<b>112.332</b>	<b>1,141.987</b>

No other material change has occurred in the Company's market risk subsequent to December 31, 2016.



**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 has a Disclosure Review Committee to assist in the quarterly evaluation of the Company's internal disclosure controls and procedures and in the review of the Company's periodic filings under the Exchange Act. The membership of the Disclosure Review Committee consists of the Company's President and Chief Executive Officer; Chief Financial Officer; Vice President of Finance; General Counsel; Senior Director, Global Investor Relations; Vice President of Worldwide Sales and Customer Excellence; Vice President of Human Resources; Vice President, Corporate Marketing and Business Development; Vice President, Design and Platform Business Unit; and Vice President and General Manager of Electronics, Fluids and Mechanical. This committee is advised by external counsel, particularly on SEC-related matters. Additionally, other members of the Company's global management team advise the committee with respect to disclosure via a sub-certification process.

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, 2017 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, in the future, 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 most recent Annual Report on Form 10-K, Part I, Item 1A. No material changes have occurred regarding the Company's risk factors subsequent to December 31, 2016.

**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 <sup>(1)</sup>
April 1 - April 30, 2017	—	\$ —	—	4,500,000
May 1 - May 31, 2017	820,933	\$ 122.18	820,933	3,679,067
June 1 - June 30, 2017	179,067	\$ 126.41	179,067	3,500,000
Total	1,000,000	\$ 122.94	1,000,000	3,500,000

<sup>(1)</sup> 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 5,000,000 shares, was approved by the Company's Board of Directors in February 2017. There is no expiration date to this amendment.

**Item 3. Defaults Upon Senior Securities**

None.

**Item 4. Mine Safety Disclosures**

Not applicable.

**Item 5. Other Information**

None.

**Item 6. Exhibits**

<u>Exhibit No.</u>	<u>Exhibit</u>
10.1	Form of Performance-Based Restricted Stock Unit Agreement (2017) (filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q, filed May 4, 2017, and incorporated herein by reference).*
10.2	Form of Performance-Based Restricted Stock Unit Agreement under Long-Term Incentive Plan (filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q, filed May 4, 2017, and incorporated herein by reference).*
10.3	Third Amended and Restated Long-Term Incentive Plan (filed as Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q, filed May 4, 2017, and incorporated herein by reference).*
10.4	Agreement and General Release by and between the Company and Walid Abu-Hadba, dated May 1, 2017 (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K, filed May 1, 2017, and incorporated herein by reference).*
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
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

\* Indicates management contract or compensatory plan, contract or arrangement.

**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 3, 2017

By: /s/ Ajei S. Gopal

Ajei S. Gopal

President and Chief Executive Officer

Date: August 3, 2017

By: /s/ Maria T. Shields

Maria T. Shields

Chief Financial Officer

August 3, 2017

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, 2017, and 2016, as indicated in our report dated August 3, 2017; 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, 2017, 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

## 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’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for 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’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d. Disclosed in this report any change in ANSYS’s internal control over financial reporting that occurred during ANSYS’s most recent fiscal quarter (ANSYS’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, ANSYS’s internal control over financial reporting; and
5. ANSYS’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to ANSYS’s auditors and the audit committee of ANSYS’s board of directors (or persons performing the equivalent functions):
  - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect ANSYS’s ability to record, process, summarize and report financial information; and
  - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in ANSYS’s internal control over financial reporting.

Date: August 3, 2017

*/s/ Ajei S. Gopal*

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Ajei S. Gopal

President and Chief Executive Officer

## 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’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for 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’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d. Disclosed in this report any change in ANSYS’s internal control over financial reporting that occurred during ANSYS’s most recent fiscal quarter (ANSYS’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, ANSYS’s internal control over financial reporting; and
5. ANSYS’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to ANSYS’s auditors and the audit committee of ANSYS’s board of directors (or persons performing the equivalent functions):
  - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect ANSYS’s ability to record, process, summarize and report financial information; and
  - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in ANSYS’s internal control over financial reporting.

Date: August 3, 2017

*/s/ Maria T. Shields*

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Maria T. Shields

Chief Financial Officer

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, 2017 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*

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Ajei S. Gopal

President and Chief Executive Officer

August 3, 2017



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, 2017 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*

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Maria T. Shields

Chief Financial Officer

August 3, 2017