
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 8-K**

**CURRENT REPORT
Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**

August 5, 2020
Date of Report (date of earliest event reported)

ANSYS, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of incorporation or organization)
2600 ANSYS Drive, Canonsburg, PA
(Address of Principal Executive Offices)

0-20853
(Commission File Number)

04-3219960
(I.R.S. Employer Identification No.)
15317
(Zip Code)

844-462-6797
(Registrant's telephone number, including area code)

N/A
(Former name, former address and former fiscal year, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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

Title of each class	Trading Symbol(s)	Name of exchange on which registered
Common Stock, \$0.01 par value per share	ANSS	Nasdaq Stock Market LLC (Nasdaq Global Select Market)

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

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

Item 2.02. Results of Operations and Financial Condition.

(a) On August 5, 2020, ANSYS, Inc. (“Ansys”) issued a press release announcing financial results for the second quarter ended June 30, 2020. Ansys also posted a copy of its prepared remarks about the completed quarter on the Investor Relations portion of its website. Copies of the press release and prepared remarks are furnished herewith as Exhibits 99.1 and 99.2, respectively.

(b) On August 5, 2020, Ansys posted on its website <https://investors.ansys.com/> an investor presentation titled “Q2 2020 Investor Presentation,” that will be complementary to the press release described above, as part of its earnings conference call to be held on August 6, 2020 at 8:30 a.m. Eastern Time.

Item 9.01. Financial Statements and Exhibits

Exhibit 99.1	Press release dated August 5, 2020
Exhibit 99.2	Prepared remarks dated August 5, 2020
Exhibit 104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURE

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

ANSYS, Inc.

Date: August 5, 2020

By: /s/ Ajei S. Gopal

Name: Ajei S. Gopal

Title: President and Chief Executive Officer

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**Ansys Announces Q2 Financial Results
With Q2 Record Revenue, ACV and Operating Cash Flow**

Company Initiates Q3 2020 Outlook

Increases Guidance to Reflect Currency Changes, Improved Cash Flow and Q2 EPS Overachievement

Details related to our financial guidance, including assumptions and economic impacts of COVID-19, are detailed in our prepared remarks document.

Key Highlights - Q2 2020

- GAAP revenue of \$385.7 million and non-GAAP revenue of \$389.7 million
- GAAP diluted earnings per share of \$1.11 and non-GAAP diluted earnings per share of \$1.55
- GAAP operating profit margin of 29.3% and non-GAAP operating profit margin of 42.9%
- Operating cash flows of \$131.6 million
- Deferred revenue and backlog of \$846.5 million at June 30, 2020

PITTSBURGH, PA, August 5, 2020/Globe Newswire/ -- ANSYS, Inc. (NASDAQ: ANSS), today reported second quarter 2020 GAAP and non-GAAP revenue growth of 5% in reported currency, or 5% and 6%, respectively, in constant currency. For the second quarter of 2020, the Company reported earnings per share of \$1.11 and \$1.55 on a GAAP and non-GAAP basis, respectively, compared to \$1.28 and \$1.61 on a GAAP and non-GAAP basis, respectively, for the second quarter of 2019.

"Q2 was a very strong quarter for Ansys, with revenue, operating margins and earnings exceeding the high end of our financial guidance. I'm excited that during the quarter we closed both the largest deal in our 50-year history as well as our largest sales agreement for new business. These results demonstrate the strength and resilience of our business and give us confidence for the future," said Ajei Gopal, Ansys president and CEO.

Gopal further stated, "Our recent launch of Ansys 2020 Release 2 delivers enhanced functionality across the simulation portfolio to help customers generate larger, more complex designs easier and faster than ever. And we recently hosted Simulation World, the largest virtual simulation event ever held, to build excitement for those world-class products."

"Our continued focus and ability to adjust our execution against the real-time operating realities of the current business environment yielded strong financial results. These reflect the resiliency of both our business model and our team. Our stronger than expected revenue performance drove operating margins and earnings that were also above the high end of our guidance. Our financial results included growth in both ACV and operating cash flows, while 83% of ACV was from recurring sources in the second quarter. We also reported a record second quarter balance of deferred revenue and backlog of \$846 million, an increase of 18% over the second quarter of 2019. While we continue to plan for a challenging market environment in the near term, we remain confident that Ansys is very well positioned with a combination of a strong balance sheet, cash flow from operations and ample liquidity for

our ongoing operations and to support future growth aspirations. As we look ahead into the second half of the year, we will continue to balance fiscal discipline with the need to continue to invest in our business to maintain our leadership and to pursue our strategy of making simulation pervasive," stated Maria Shields, chief financial officer of Ansys.

Financial Results

Ansys' second quarter and YTD 2020 and 2019 financial results are presented below. The 2020 and 2019 non-GAAP results exclude the income statement effects of the acquisition accounting adjustments to deferred revenue, stock-based compensation, amortization of acquired intangible assets, transaction expenses related to business combinations, and adjustments related to the transition tax associated with the Tax Cuts and Jobs Act.

GAAP and non-GAAP results are as follows:

<i>(in millions, except percentages and per share data)</i>	GAAP			Non-GAAP		
	Q2 QTD 2020	Q2 QTD 2019	% Change	Q2 QTD 2020	Q2 QTD 2019	% Change
Revenue	\$ 385.7	\$ 368.6	5 %	\$ 389.7	\$ 370.5	5 %
Net income	\$ 96.6	\$ 109.8	(12) %	\$ 134.3	\$ 137.9	(3) %
Diluted earnings per share	\$ 1.11	\$ 1.28	(13) %	\$ 1.55	\$ 1.61	(4) %
Operating profit margin	29.3 %	34.9 %		42.9 %	45.6 %	

<i>(in millions, except percentages and per share data)</i>	GAAP			Non-GAAP		
	Q2 YTD 2020	Q2 YTD 2019	% Change	Q2 YTD 2020	Q2 YTD 2019	% Change
Revenue	\$ 690.6	\$ 685.8	1 %	\$ 698.6	\$ 690.4	1 %
Net income	\$ 142.6	\$ 196.0	(27) %	\$ 206.6	\$ 248.6	(17) %
Diluted earnings per share	\$ 1.64	\$ 2.29	(28) %	\$ 2.37	\$ 2.91	(19) %
Operating profit margin	21.3 %	32.7 %		36.9 %	44.3 %	

The non-GAAP financial results highlighted above, and the non-GAAP financial outlook for 2020 discussed below, represent non-GAAP financial measures. Reconciliations of these measures to the appropriate GAAP measures, for the three and six months ended June 30, 2020 and 2019, and for the 2020 financial outlook, can be found in the condensed financial information included in this release.

Other Financial Metrics

<i>(in millions, except percentages)</i>	Q2 QTD 2020	Q2 QTD 2019	% Change	% Change in Constant Currency
Annual Contract Value (ACV)	\$ 344.4	\$ 326.1	6 %	6 %
Operating cash flows	\$ 131.6	\$ 88.5	49 %	

<i>(in millions, except percentages)</i>	Q2 YTD 2020	Q2 YTD 2019	% Change	% Change in Constant Currency
ACV	\$ 645.5	\$ 629.6	3 %	3 %
Operating cash flows	\$ 279.0	\$ 240.1	16 %	

ACV is a metric the Company uses to better understand the business. There is no GAAP measure comparable to ACV. ACV is composed of the following:

- the annualized value of maintenance and lease contracts with start dates or anniversary dates during the period, plus
- the value of perpetual license contracts with start dates during the period, plus
- the annualized value of fixed-term services contracts with start dates or anniversary dates during the period, plus
- the value of work performed during the period on fixed-deliverable services contracts.

Management's 2020 Financial Outlook

The Company's third quarter and fiscal year 2020 revenue and diluted earnings per share guidance is provided below. The Company is also providing its fiscal year 2020 guidance for ACV and operating cash flows. The revenue and diluted earnings per share guidance is provided on both a GAAP and non-GAAP basis. Non-GAAP financial measures exclude the income statement effects of acquisition adjustments to deferred revenue, stock-based compensation, amortization of acquired intangible assets and acquisition-related transaction expenses.

The financial guidance below reflects the Company's current estimates of the adverse impacts of the global pandemic. This guidance is based on certain assumptions made by the Company and the Company's evaluation of factual information it has determined to be relevant. Additional details related to the Company's financial guidance, including assumptions and economic impacts of COVID-19, are detailed in its prepared remarks document.

Third Quarter 2020 Guidance

The Company currently expects the following for the quarter ending September 30, 2020:

<i>(in millions, except per share data)</i>	<u>GAAP</u>	<u>Non-GAAP</u>
Revenue	\$344.9 - \$374.9	\$347.0 - \$377.0
Diluted earnings per share	\$0.61 - \$0.90	\$1.10 - \$1.34

Fiscal Year 2020 Guidance

The Company currently expects the following for the fiscal year ending December 31, 2020:

<i>(in millions, except per share data)</i>	<u>GAAP</u>	<u>Non-GAAP</u>
Revenue	\$1,558.7 - \$1,633.7	\$1,570.0 - \$1,645.0
Diluted earnings per share	\$4.01 - \$4.70	\$5.75 - \$6.35

In the third quarter and fiscal year 2020 guidance reflected above, the expected impacts of non-GAAP adjustments associated with the acquisition accounting for deferred revenue are \$2.1 million and \$11.3 million, respectively.

<i>(in millions)</i>	<u>Other Financial Metrics</u>
ACV	\$1,520.0 - \$1,585.0
Operating cash flows	\$435.0 - \$475.0

Conference Call Information

Ansys will hold a conference call at **8:30 a.m. Eastern Time** on August 6, 2020 to discuss second quarter results. The Company will provide its prepared remarks on the Company's investor relations homepage and as an exhibit in its Form 8-K in advance of the call to provide stockholders and analysts with additional time and detail for analyzing its results in preparation for the conference call. The prepared remarks will not be read on the call, and only brief remarks will be made prior to the Q&A session. The Company will also post a complementary investor presentation titled "Q2 2020 Investor Presentation" that can be accessed by clicking Events & Presentations, then Presentations at <https://investors.ansys.com>.

To participate in the live conference call, dial 855-239-2942 (US) or 412-542-4124 (Canada & Int'l). The call will be recorded and a replay will be available within two hours after the call. The replay will be available by dialing (877) 344-7529 (US), (855) 669-9658 (Canada) or (412) 317-0088 (Int'l) and entering the passcode 10146121. The

archived webcast can be accessed, along with other financial information, on Ansys' website at <https://investors.ansys.com/events-and-presentations/events-calendar>.

ANSYS, INC. AND SUBSIDIARIES
Condensed Consolidated Balance Sheets
(Unaudited)

<i>(in thousands)</i>	June 30, 2020	December 31, 2019
ASSETS:		
Cash & short-term investments	\$ 744,979	\$ 872,382
Accounts receivable, net	343,247	433,479
Goodwill	2,474,299	2,413,280
Other intangibles, net	481,694	476,711
Other assets	627,647	643,035
Total assets	<u>\$ 4,671,866</u>	<u>\$ 4,838,887</u>
LIABILITIES & STOCKHOLDERS' EQUITY:		
Current deferred revenue	\$ 325,098	\$ 351,353
Long-term debt	423,683	423,531
Other liabilities	485,037	610,624
Stockholders' equity	3,438,048	3,453,379
Total liabilities & stockholders' equity	<u>\$ 4,671,866</u>	<u>\$ 4,838,887</u>

ANSYS, INC. AND SUBSIDIARIES
Condensed Consolidated Statements of Income
(Unaudited)

	Three Months Ended		Six Months Ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
<i>(in thousands, except per share data)</i>				
Revenue:				
Software licenses	\$ 169,341	\$ 170,499	\$ 257,171	\$ 293,543
Maintenance and service	216,320	198,136	433,475	392,222
Total revenue	<u>385,661</u>	<u>368,635</u>	<u>690,646</u>	<u>685,765</u>
Cost of sales:				
Software licenses	8,511	6,204	13,437	10,912
Amortization	9,764	4,755	19,316	9,302
Maintenance and service	35,585	29,538	71,223	55,098
Total cost of sales	<u>53,860</u>	<u>40,497</u>	<u>103,976</u>	<u>75,312</u>
Gross profit	<u>331,801</u>	<u>328,138</u>	<u>586,670</u>	<u>610,453</u>
Operating expenses:				
Selling, general and administrative	128,698	120,412	259,220	232,581
Research and development	86,133	75,302	172,245	146,040
Amortization	4,163	3,796	8,325	7,555
Total operating expenses	<u>218,994</u>	<u>199,510</u>	<u>439,790</u>	<u>386,176</u>
Operating income	<u>112,807</u>	<u>128,628</u>	<u>146,880</u>	<u>224,277</u>
Interest income	934	2,980	3,709	6,422
Interest expense	(3,040)	(231)	(6,691)	(322)
Other income (expense), net	1,884	(1,436)	2,011	(1,770)
Income before income tax provision	<u>112,585</u>	<u>129,941</u>	<u>145,909</u>	<u>228,607</u>
Income tax provision	16,021	20,191	3,281	32,627
Net income	<u>\$ 96,564</u>	<u>\$ 109,750</u>	<u>\$ 142,628</u>	<u>\$ 195,980</u>
Earnings per share – basic:				
Earnings per share	<u>\$ 1.13</u>	<u>\$ 1.31</u>	<u>\$ 1.66</u>	<u>\$ 2.34</u>
Weighted average shares	<u>85,651</u>	<u>83,978</u>	<u>85,724</u>	<u>83,871</u>
Earnings per share – diluted:				
Earnings per share	<u>\$ 1.11</u>	<u>\$ 1.28</u>	<u>\$ 1.64</u>	<u>\$ 2.29</u>
Weighted average shares	<u>86,934</u>	<u>85,483</u>	<u>87,152</u>	<u>85,488</u>

ANSYS, INC. AND SUBSIDIARIES
Reconciliation of Non-GAAP Measures
(Unaudited)

Three Months Ended
June 30, 2020

<i>(in thousands, except percentages and per share data)</i>	Revenue	Gross Profit	%	Operating Income	%	Net Income	EPS - Diluted¹
Total GAAP	\$ 385,661	\$ 331,801	86.0 %	\$ 112,807	29.3 %	\$ 96,564	\$ 1.11
Acquisition accounting for deferred revenue	4,040	4,040	0.2 %	4,040	0.7 %	4,040	0.05
Stock-based compensation expense	—	3,464	0.8 %	34,130	8.9 %	34,130	0.40
Excess payroll taxes related to stock-based awards	—	166	0.1 %	1,876	0.4 %	1,876	0.02
Amortization of intangible assets from acquisitions	—	9,764	2.5 %	13,927	3.6 %	13,927	0.16
Transaction expenses related to business combinations	—	—	— %	309	— %	309	—
Rabbi trust (income) / expense	—	—	— %	—	— %	(1)	—
Adjustment for income tax effect	—	—	— %	—	— %	(16,518)	(0.19)
Total non-GAAP	\$ 389,701	\$ 349,235	89.6 %	\$ 167,089	42.9 %	\$ 134,327	\$ 1.55

¹ Diluted weighted average shares were 86,934.

Three Months Ended
June 30, 2019

<i>(in thousands, except percentages and per share data)</i>	Revenue	Gross Profit	%	Operating Income	%	Net Income	EPS - Diluted¹
Total GAAP	\$ 368,635	\$ 328,138	89.0 %	\$ 128,628	34.9 %	\$ 109,750	\$ 1.28
Acquisition accounting for deferred revenue	1,873	1,873	0.1 %	1,873	0.3 %	1,873	0.02
Stock-based compensation expense	—	2,374	0.7 %	29,122	7.9 %	29,122	0.35
Excess payroll taxes related to stock-based awards	—	11	— %	389	0.1 %	389	—
Amortization of intangible assets from acquisitions	—	4,755	1.2 %	8,551	2.3 %	8,551	0.10
Transaction expenses related to business combinations	—	—	— %	450	0.1 %	450	0.01
Rabbi trust (income) / expense	—	—	— %	—	— %	(58)	—
Adjustment related to the Tax Cuts and Jobs Act	—	—	— %	—	— %	(498)	(0.01)
Adjustment for income tax effect	—	—	— %	—	— %	(11,673)	(0.14)
Total non-GAAP	\$ 370,508	\$ 337,151	91.0 %	\$ 169,013	45.6 %	\$ 137,906	\$ 1.61

¹ Diluted weighted average shares were 85,483.

ANSYS, INC. AND SUBSIDIARIES
Reconciliation of Non-GAAP Measures
(Unaudited)

Six Months Ended
June 30, 2020

<i>(in thousands, except percentages and per share data)</i>	Revenue	Gross Profit	%	Operating Income	%	Net Income	EPS - Diluted¹
Total GAAP	\$ 690,646	\$ 586,670	84.9 %	\$ 146,880	21.3 %	\$ 142,628	\$ 1.64
Acquisition accounting for deferred revenue	7,952	7,952	0.2 %	7,952	0.9 %	7,952	0.09
Stock-based compensation expense	—	6,330	1.0 %	65,071	9.4 %	65,071	0.75
Excess payroll taxes related to stock-based awards	—	689	0.1 %	8,859	1.2 %	8,859	0.10
Amortization of intangible assets from acquisitions	—	19,316	2.7 %	27,641	4.0 %	27,641	0.32
Transaction expenses related to business combinations	—	—	— %	1,259	0.1 %	1,259	0.01
Rabbi trust (income) / expense	—	—	— %	—	— %	(5)	—
Adjustment for income tax effect	—	—	— %	—	— %	(46,773)	(0.54)
Total non-GAAP	<u>\$ 698,598</u>	<u>\$ 620,957</u>	<u>88.9 %</u>	<u>\$ 257,662</u>	<u>36.9 %</u>	<u>\$ 206,632</u>	<u>\$ 2.37</u>

¹ Diluted weighted average shares were 87,152.

Six Months Ended
June 30, 2019

<i>(in thousands, except percentages and per share data)</i>	Revenue	Gross Profit	%	Operating Income	%	Net Income	EPS - Diluted¹
Total GAAP	\$ 685,765	\$ 610,453	89.0 %	\$ 224,277	32.7 %	\$ 195,980	\$ 2.29
Acquisition accounting for deferred revenue	4,653	4,653	0.1 %	4,653	0.5 %	4,653	0.05
Stock-based compensation expense	—	3,602	0.5 %	52,922	7.5 %	52,922	0.62
Excess payroll taxes related to stock-based awards	—	476	0.1 %	4,379	0.6 %	4,379	0.05
Amortization of intangible assets from acquisitions	—	9,302	1.3 %	16,857	2.5 %	16,857	0.20
Transaction expenses related to business combinations	—	—	— %	3,111	0.5 %	3,111	0.04
Rabbi trust (income) / expense	—	—	— %	—	— %	(223)	—
Adjustment related to the Tax Cuts and Jobs Act	—	—	— %	—	— %	(1,834)	(0.02)
Adjustment for income tax effect	—	—	— %	—	— %	(27,269)	(0.32)
Total non-GAAP	<u>\$ 690,418</u>	<u>\$ 628,486</u>	<u>91.0 %</u>	<u>\$ 306,199</u>	<u>44.3 %</u>	<u>\$ 248,576</u>	<u>\$ 2.91</u>

¹ Diluted weighted average shares were 85,488.

ANSYS, INC. AND SUBSIDIARIES
Reconciliation of Forward-Looking Guidance
Quarter Ending September 30, 2020

	Earnings Per Share - Diluted
U.S. GAAP expectation	\$0.61 - \$0.90
Exclusions before tax:	
Acquisition adjustments to deferred revenue	\$0.02
Acquisition-related amortization	\$0.15 - \$0.17
Stock-based compensation and related excess payroll tax	\$0.38 - \$0.43
Adjustment for income tax effect	(\$0.11) - (\$0.13)
Non-GAAP expectation	<u>\$1.10 - \$1.34</u>

ANSYS, INC. AND SUBSIDIARIES
Reconciliation of Forward-Looking Guidance
Year Ending December 31, 2020

	Earnings Per Share - Diluted
U.S. GAAP expectation	\$4.01 - \$4.70
Exclusions before tax:	
Acquisition adjustments to deferred revenue	\$0.13
Acquisition-related amortization	\$0.62 - \$0.65
Stock-based compensation and related excess payroll tax	\$1.61 - \$1.72
Transaction expenses related to business combinations	\$0.01
Adjustment for income tax effect	(\$0.72) - (\$0.77)
Non-GAAP expectation	<u>\$5.75 - \$6.35</u>

Use of Non-GAAP Measures

We provide 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 our operational performance. These financial measures exclude the impact of certain items and, therefore, have not been calculated in accordance with GAAP. A detailed explanation of each of the adjustments to such financial measures is described below. This press release also contains a reconciliation of each of these non-GAAP financial measures to its most comparable GAAP financial measure.

We use non-GAAP financial measures (a) to evaluate our historical and prospective financial performance as well as our performance relative to our 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 employees. In addition, many financial analysts that follow us focus on and publish both historical results and future projections based on non-GAAP financial measures. We believe that it is in the best interest of our investors to provide this information to analysts so that they accurately report the non-GAAP financial information. Moreover, investors have historically requested, and we have historically reported, these non-GAAP financial measures as a means of providing consistent and comparable information with past reports of financial results.

While we believe 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 our competitors and may not be

directly comparable to similarly titled measures of our competitors due to potential differences in the exact method of calculation. We compensate 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. Historically, we have consummated acquisitions in order to support our 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 our business or cash flow, it adversely impacts our 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, we provide non-GAAP financial measures which exclude the impact of the acquisition accounting adjustment. We believe 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 us in our financial and operational decision-making, and (b) compare our past and future reports of financial results 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. We incur amortization of intangible assets, included in our GAAP presentation of amortization expense, related to various acquisitions we have made. We exclude 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 we evaluate our continuing operational performance 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 us after the acquisition. Accordingly, we do not consider these expenses for purposes of evaluating our performance during the applicable time period after the acquisition, and we exclude such expenses when making decisions to allocate resources. We believe 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 us in our financial and operational decision-making, and (b) compare our past reports of financial results as we have historically reported these non-GAAP financial measures.

Stock-based compensation expense. We incur expense related to stock-based compensation included in our GAAP presentation of cost of maintenance and service; research and development expense; and selling, general and administrative expense. This non-GAAP adjustment also includes excess payroll tax expense related to stock-based compensation. Stock-based compensation expense (benefit) incurred in connection with our 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 and viewed as a form of compensation, we exclude 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 we evaluate our continuing operational performance. We similarly exclude income (expense) related to assets held in a rabbi trust in connection with our deferred compensation plan. Specifically, we exclude stock-based compensation and income (expense) related to assets held in the deferred compensation plan rabbi trust during our annual budgeting process and our quarterly and annual assessments of our performance. The annual budgeting process is the primary mechanism whereby we allocate resources to various initiatives and operational requirements. Additionally, the annual review by our board of directors during which it compares our 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 our senior management and department managers, charges related to stock-based compensation are excluded from expenditure and profitability results. In fact, we record stock-based compensation expense into a stand-alone cost center for which no single operational manager is responsible or accountable. In this way, we can review, on a period-to-period basis, each manager's performance and assess financial discipline over operational expenditures without the effect of stock-based compensation. We believe that these non-GAAP financial measures are useful to investors because they allow investors to (a) evaluate our operating results and the effectiveness of the methodology used by us to review our operating results, and (b) review historical comparability in our financial reporting as well as comparability with competitors' operating results.

Transaction expenses related to business combinations. We incur expenses for professional services rendered in connection with business combinations, which are included in our GAAP presentation of selling, general and administrative expense. These expenses are generally not tax-deductible. We exclude these acquisition-related transaction expenses, derived from announced acquisitions, for the purpose of calculating non-GAAP operating

income, non-GAAP operating profit margin, non-GAAP net income and non-GAAP diluted earnings per share when we evaluate our continuing operational performance, as we generally would not have otherwise incurred these expenses in the periods presented as a part of our operations. We believe that these non-GAAP financial measures are useful to investors because they allow investors to (a) evaluate our operating results and the effectiveness of the methodology used by us to review our operating results, and (b) review historical comparability in our financial reporting as well as comparability with competitors' operating results.

Tax Cuts and Jobs Act. We recorded impacts to our income tax provision related to the enactment of the Tax Cuts and Jobs Act of 2017, specifically for the transition tax related to unrepatriated cash and the impacts of the tax rate change on net deferred tax assets. We exclude these impacts for the purpose of calculating non-GAAP net income and non-GAAP diluted earnings per share when we evaluate our continuing operational performance, as (i) the charges are not expected to recur as part of our normal operations and (ii) the charges resulted from the extremely infrequent event of major U.S. tax reform, the last such reform having occurred in 1986. We believe that these non-GAAP financial measures are useful to investors because they allow investors to (a) evaluate our operating results and the effectiveness of the methodology used by us to review our operating results, and (b) review historical comparability in our financial reporting.

Non-GAAP tax provision. We utilize a normalized non-GAAP annual effective tax rate (AETR) to calculate non-GAAP measures. This methodology provides better consistency across interim reporting periods by eliminating the effects of non-recurring items and aligning the non-GAAP tax rate with our expected geographic earnings mix. To project this rate, we analyzed our historic and projected non-GAAP earnings mix by geography along with other factors such as our current tax structure, recurring tax credits and incentives, and expected tax positions. On an annual basis we will re-evaluate this rate for significant items that may materially affect our projections.

Non-GAAP financial measures are not in accordance with, or an alternative for, GAAP. Our 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 our consolidated financial statements prepared in accordance with GAAP.

We have provided a reconciliation of the non-GAAP financial measures to the most directly comparable GAAP financial measures as listed below:

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

About Ansys

If you've ever seen a rocket launch, flown on an airplane, driven a car, used a computer, touched a mobile device, crossed a bridge or put on wearable technology, chances are you've used a product where Ansys software played a critical role in its creation. Ansys is the global leader in engineering simulation. Through our strategy of Pervasive Engineering Simulation, we help the world's most innovative companies deliver radically better products to their customers. By offering the best and broadest portfolio of engineering simulation software, we help them solve the most complex design challenges and create products limited only by imagination. Founded in 1970, Ansys is headquartered south of Pittsburgh, Pennsylvania, U.S.A. Visit <https://www.ansys.com> for more information.

Forward-Looking Information

This document contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are statements that provide current expectations or forecasts of future events based on certain assumptions. Forward-looking statements are subject to risks, uncertainties, and factors relating to our business which could cause our actual results to differ materially from the expectations expressed in or implied by such forward-looking statements. Many of these risks, uncertainties, and factors are currently amplified by, and may continue to be amplified by, the COVID-19 pandemic. Forward-looking statements use words such as "anticipate," "believe," "could," "estimate," "expect," "forecast," "intend," "likely," "may," "outlook," "plan," "predict," "project," "should," "target," or other words of similar meaning. Forward-looking statements include those about market opportunity, including our total addressable market. Risks, uncertainties, and factors that could cause actual results to differ materially from those implied by these forward-looking statements include: current and

potential future impacts of the COVID-19 pandemic on the global economy and our business, financial position, results of operations and cash flows; adverse changes in global economic and/or political conditions; declines in our customers' businesses resulting in adverse changes in customer procurement patterns; disruptions in accounts receivable and cash flow due to customers' liquidity challenges and commercial deterioration; uncertainties regarding demand for our products and services in the future and our customers' acceptance of new products, including those arising from the need of customers to utilize our products from remote locations; plans for future capital spending; delays or declines in anticipated sales due to reduced or altered sales and marketing interactions with customers; disruptions in the global economy and financial markets that may limit or delay availability of credit under existing or new credit facilities, or that may limit our ability to obtain credit or financing on acceptable terms or at all; investments in complementary companies, products, services and technologies; our ability to complete and successfully integrate our acquisitions and realize the financial and business benefits of the transactions; political, economic, regulatory and public health and safety risks and uncertainties in the countries and regions in which we operate; impacts from tariffs, trade sanctions, export license requirements or other trade barriers; the effect of changes in currency exchange rates and changes in interest rates; potential variations in our sales forecasts compared to actual sales; the volatility of our stock price; failures or errors in our products and services; our industry's rapidly changing technology; the quality of our products, including the strength of features, functionality and integrated multi-physics capabilities; lease license volatility; higher than anticipated costs for research and development or slowdown in our research and development activities; increased pricing pressure as a result of the competitive environment in which we operate; our ability to recruit and retain key personnel including any delays in recruitment caused by restrictions on travel and in person interactions and the absence of key personnel or teams due to illness or recuperation; our ability to protect our proprietary technology; cybersecurity threats or other security breaches, including in relation to an increased level of our activity that is occurring from remote global off-site locations; disclosure and misuse of employee or customer data whether as a result of a cybersecurity incident or otherwise; implementation of our new IT systems; investments in global sales and marketing organizations and global business infrastructure; dependence on our channel partners for the distribution of our products; increased volatility in our revenue due to the timing, duration and value of multi-year lease contracts; our reliance on high renewal rates for annual lease and maintenance contracts; operational disruptions generally or specifically in connection with transitions to and from remote work environments, or the failure of our technological infrastructure; the outcome of contingencies, including legal proceedings and government or regulatory investigations and service tax audit cases; uncertainty regarding income tax estimates in the jurisdictions in which we operate; changes in accounting principles or standards; the effect of changes in tax laws and regulations in the jurisdictions in which we operate; the uncertainty of estimates relating to the impact on reported revenue related to the acquisition accounting treatment of deferred revenue; and other risks and uncertainties described in our reports filed from time to time with the Securities and Exchange Commission. We caution readers not to place undue reliance upon any such forward-looking statements, which speak only as of the date they are made. We undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

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**ANSYS, INC. SECOND QUARTER 2020
EARNINGS ANNOUNCEMENT
PREPARED REMARKS
August 5, 2020**

We are providing a copy of our prepared remarks in connection with our earnings announcement. These remarks are offered to provide additional detail for analyzing our Q2 2020 results in advance of our quarterly conference call. These prepared remarks will not be read on the call.

**Conference call details:
August 6, 2020
8:30 a.m. Eastern Time**

- To access the live broadcast, please visit the Investor Relations section of our website at <https://investors.ansys.com> and click on Events & Presentations, then Events Calendar.
- The call can also be heard by dialing (855) 239-2942 (US) or (412) 542-4124 (CAN & INT'L) at least five minutes prior to the call and asking the operator to connect you to our conference call.
- A replay will be available within two hours of the call's completion at <https://investors.ansys.com/events-and-presentations/events-calendar> or by dialing (877) 344-7529 (US), (855) 669-9658 (CAN) or (412) 317-0088 (INT'L) and referencing the access code 10146121.

SUPPLEMENTAL INFORMATION

In addition to our GAAP information, we have historically provided non-GAAP supplemental information. Our reasons for providing this information are described later in this document, as well as in our Q2 2020 earnings press release, which can be found on our website in the "About Ansys - News Center" section. Reconciliations of GAAP to non-GAAP information are also provided.

Constant currency amounts exclude the effects of foreign currency fluctuations on the reported results. To present this information, the 2020 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 2019, rather than the actual exchange rates in effect for 2020. The constant currency growth rates are calculated by adjusting the 2020 reported results to exclude the 2020 currency fluctuation impacts and comparing them to the 2019 reported results. We have provided this non-GAAP financial information to aid investors in better understanding our performance.

SECOND QUARTER 2020 OVERVIEW AND COVID-19 UPDATE

We reported second quarter consolidated GAAP revenue of \$385.7 million, an increase of 5% in both reported and constant currency when compared to the prior year quarter. We reported year-to-date (YTD) consolidated GAAP revenue of \$690.6 million, an increase of 1% in both reported and constant currency when compared to 2019 YTD. We reported GAAP EPS of \$1.11 and \$1.64 in the second quarter and YTD 2020, respectively, compared to \$1.28 and \$2.29 for the second quarter and YTD 2019, respectively. Our financial results included operating cash flows of \$131.6 million for the second quarter and \$279.0 million for YTD 2020.

We reported second quarter consolidated non-GAAP revenue of \$389.7 million, an increase of 5% and 6% in reported and constant currency, respectively. We reported YTD consolidated non-GAAP revenue of \$698.6 million, an increase of 1% and 2% in reported and constant currency, respectively. We reported non-GAAP EPS of \$1.55 and \$2.37 in the second quarter and YTD 2020, respectively, compared to \$1.61 and \$2.91 for the second quarter and YTD 2019, respectively.

Update on the Impact of COVID-19:

- We are continuing to closely monitor the spread of COVID-19 and assess its potential effects on our business. The COVID-19 pandemic has had, and is expected to continue to have, an adverse impact on our business, employees, liquidity, financial condition, results of operations and cash flows. See below for the operational, financial and liquidity impacts of the COVID-19 outbreak:

Operational Impacts

- Our first responsibility during these unprecedented times continues to be the health and safety of our employees and their families, our partners and our broad Ansys community around the world. At the onset of the crisis, we closed our offices and transitioned to a remote work environment and implemented certain travel restrictions, both of which have disrupted how we operate our business. While most of our offices have since reopened, many have reopened on a limited basis, so remote access remains the primary means of work for a majority of our workforce.
- We continue to pay all of our salaried and hourly workers. Our direct and indirect sales and support teams are using collaboration technology to access both Ansys' data centers and the public cloud, and to meet virtually with customers to help ensure their needs are being met while working to mitigate disruptions to our sales pipeline. Our sales teams continue to close contracts, despite the purchasing process being slowed and particularly impacted at those customers with lower levels of remote working sophistication. In June, we hosted our inaugural Simulation World digital event, which was one of the world's largest virtual events focused on engineering simulation, in conjunction with the 16th annual LS-DYNA user group focused on finite element analysis. Our R&D teams have also continued to be productive and we continue to meet our product release targets, as evidenced by the recent releases of Ansys 2020 R2 and Ansys Discovery™ in July. We have also been able to maintain our financial operations, including our financial systems, internal controls over financial reporting and disclosure controls and procedures. We expect to continue to maintain effective financial operations, systems and internal controls as we work remotely during the pandemic.
- We continued to hire during the second quarter and adapted our process to on-board new employees remotely. Our 2020 hiring has been below the level that we originally planned due to a more difficult recruiting environment and our decision to slow our hiring pace for some positions due to COVID-19.

Financial Impact

- While the COVID-19 pandemic did have an adverse financial impact on the updated guidance we provided in May and on our actual Q2 results, the resilience of our business contributed to our delivery of revenue, operating margin and earnings that exceeded the high end of our financial guidance. Due to our diverse customer base, both from an industry vertical and geographic perspective, as well as the close relationships with customers that enabled us to close a large amount of business remotely, we successfully mitigated additional significant impacts in Q2 as compared to the assumptions made in our financial guidance, most notably our continued lack of ability to visit customers during the latter part of the quarter. The Q3 and full year guidance, and the related assumptions, are detailed later in this document.

Liquidity Impact

- We saw an increase in our cash and cash equivalents during the second quarter with a balance of \$744.5 million as of June 30, 2020 compared to \$717.7 million as of March 31, 2020. We believe that this balance, together with cash generated from operations and access to our \$500.0 million revolving credit facility, are well in excess of the cash required for our operations over the next twelve months.

- We have an unsecured term loan with an outstanding principal balance of \$425.0 million as of June 30, 2020 and are compliant with our debt covenants. Our debt agreement currently requires no principal payments until 2024. Accordingly, our only debt service requirements are interest payments in a low-rate environment. We believe we will have adequate liquidity to service this debt over the next twelve months.
- Our cash flows from operations were strong in the second quarter and the first half of 2020 and totaled \$131.6 million and \$279.0 million, respectively. The second quarter cash flow growth was driven primarily by the ability to delay certain income, employment and indirect tax payments into the second half of 2020 and beyond. These positive cash flows were partially offset by delays in some customer payments on existing contracts, primarily in China, and longer payment terms requested for new contracts. While such requests were initially in the automotive industry, during the second quarter we experienced the expansion of such requests in other industries, particularly related to larger contract commitments. These requests have increased the uncertainty of cash collections and resulted in an increase in our reserves for bad debt during the first half of 2020. They also have affected our outlook for cash flows from operations in 2020, which is provided later in this document.
- We delayed our spending on certain facilities and infrastructure projects; however, we did not reduce our spending on critical digital transformation projects, such as CRM and our human resources information system (HRIS).

Other Recent Highlights

- We released Ansys 2020 R2, which brings enhanced solving and collaboration capabilities, key for enabling globally distributed teams to further organization-wide innovation. This release upgrades our high-performance computing (HPC) resources and platform solutions that help reduce costs and speed production. Our newly updated advanced digital engineering tools help engineering teams develop new products, sustain business continuity, improve productivity and win the race to market.

We also released the new Ansys Discovery, a next generation, easy-to-use product design software application. Ansys Discovery is the first simulation-driven design tool to combine instant physics simulation, Ansys' proven high-fidelity simulation and interactive geometry modeling into a single design exploration application. Conducting real-time, rapid iterative design explorations, more engineers can now explore larger design spaces and quickly answer critical design questions earlier in the product design process.

- In June, more than 54,000 people from more than 160 countries registered for our inaugural Simulation World digital event. Simulation World was the world's largest virtual event focused on engineering simulation and was held in conjunction with the 16th annual LS-DYNA user group focused on finite element analysis. These events featured nearly 300 sessions and 200 speakers delivering 48 hours of continuous, cross-industry content across multiple time zones. The free and interactive virtual event also provided attendees with unique digital networking opportunities, connecting thousands of industry executives, engineers and manufacturing professionals across several digital networking lounges. All sessions are now available online for on-demand viewing through 2020.
- We are empowering university students around the world to design, build and test next-generation autonomous vehicle (AV) software through the Indy Autonomous Challenge (IAC). Students participating in the \$1.5 million prize competition will program modified Dallara race cars for the world's first autonomous race at the Indianapolis Motor Speedway. The challenge was created to advance technology that will speed the commercialization of fully autonomous vehicles and advanced driver-assistance systems (ADAS). As the exclusive Simulation Sponsor of the IAC, we are providing free access to products in our Ansys Autonomy suite — enabling students to develop and refine automated driving software for the modified Dallara IL-15 vehicle and validate it virtually in a closed-loop simulation environment. A shared goal of ours and the IAC is to enable the development of software that can overcome existing barriers to help speed the commercialization of fully autonomous vehicles and enhance ADAS in cars under human control.
- We were recognized as a winner of the 2020 Bay Area Best Places to Work for creating an exceptional employee workplace. The awards program was presented by the San Francisco Business Times and Silicon Valley Business Journal. Award applicants were evaluated and ranked across five categories

according to the number of Bay Area employees. The ranking found companies in the region whose employees rated them as the highest on such values as collaboration, solid compensation, benefits offerings, management practices, other amenities and fun.

- Through a new sponsorship with Air Race E, our technologies will help accelerate the design of innovative all-electric race planes competing in the 2021 Air Race E World Championship, a series of international air racing competitions that are spurring the future technology developments needed to drive more sustainable aviation. Our solutions will help team engineers significantly improve batteries and battery management systems to deliver more power with less weight penalty, create small electric machines that are reliable and efficient, design electric powertrains equipped with power electronics to overcome thermal and high voltage challenges, and perform safe system-wide integration. Air Race E serves as a testbed for furthering the development and adoption of these clean technologies for urban air mobility and commercial airplanes.
- Together with our European Channel Partner DYNAmore, we are supplying the BMW Group with Ansys LS-DYNA for passive safety system development in the next generation of safe, high-performance vehicles. Ansys LS-DYNA empowers users to optimize the design and analysis of passive safety systems — supporting more accurate predictions of vehicle behavior during collisions. Our solutions support virtual crash testing by enabling engineers to optimize structural design for energy absorption during crashes and improve the interplay between different restraint systems, such as seatbelt tensioners and both front and side airbags. Ansys LS-DYNA users can implement a coherent, passive safety concept within a short development timeframe and with minimal use of hardware.
- To help accelerate the adoption and implementation of physics-based digital twin technologies across multiple industries, we joined Microsoft, Dell and Lendlease on the steering committee of the Digital Twin Consortium. The Consortium represents an international ecosystem of pioneering technologists that are influencing digital twin development, usage and standards requirements. As a founding member of the Consortium, we will play a leadership role in influencing requirements for new digital twin standards and will be instrumental in creating a unified terminology to simplify digital twin adoption. This will help speed the implementation of digital twin technology across a wide ecosystem of companies in sectors ranging from aerospace and defense to manufacturing to natural resources.
- Total headcount on June 30, 2020 was approximately 4,400 employees.

DEFERRED REVENUE AND BACKLOG

<i>(in thousands)</i>	June 30, 2020	March 31, 2020	June 30, 2019	March 31, 2019
Current Deferred Revenue	\$ 325,098	\$ 352,964	\$ 321,060	\$ 330,890
Current Backlog	226,995	211,842	175,837	146,202
Total Current Deferred Revenue and Backlog	552,093	564,806	496,897	477,092
Long-Term Deferred Revenue	11,090	12,787	14,324	13,386
Long-Term Backlog	283,287	257,433	206,093	182,170
Total Long-Term Deferred Revenue and Backlog	294,377	270,220	220,417	195,556
Total Deferred Revenue and Backlog	\$ 846,470	\$ 835,026	\$ 717,314	\$ 672,648

The table above represents GAAP deferred revenue and backlog. As a result of the fair value provisions applicable to the accounting for business combinations, we typically record acquired deferred revenue at an amount that is lower than the historical carrying value. This results in expected reductions in reported revenue of \$2.1 million and \$11.3 million for the quarter ending September 30, 2020 and the year ending December 31, 2020, respectively.

ACV

<i>(in thousands, except percentages)</i>	Q2 QTD 2020	Q2 QTD 2019	% Change	% Change in Constant Currency
ACV	\$ 344,406	\$ 326,145	5.6 %	5.9 %
Recurring ACV as a percentage of ACV	83.2 %	77.7 %		

<i>(in thousands, except percentages)</i>	Q2 YTD 2020	Q2 YTD 2019	% Change	% Change in Constant Currency
ACV	\$ 645,456	\$ 629,635	2.5 %	3.2 %
Recurring ACV as a percentage of ACV	82.7 %	78.7 %		

Both lease licenses and maintenance contracts, as well as a meaningful reduction in perpetual licenses, due partially to the impacts of COVID-19, contributed to a strong recurring ACV base for the second quarter and first half of 2020.

REVENUE BY LICENSE TYPE

GAAP

<i>(in thousands, except percentages)</i>	Q2 QTD 2020	% of Total	Q2 QTD 2019	% of Total	% Change	% Change in Constant Currency
Lease	\$ 113,209	29.4 %	\$ 100,004	27.1 %	13.2 %	13.0 %
Perpetual	56,132	14.6 %	70,495	19.1 %	(20.4)%	(20.0)%
Maintenance	203,179	52.7 %	185,118	50.2 %	9.8 %	10.5 %
Service	13,141	3.4 %	13,018	3.5 %	0.9 %	1.9 %
Total	<u>\$ 385,661</u>		<u>\$ 368,635</u>		4.6 %	5.0 %

<i>(in thousands, except percentages)</i>	Q2 YTD 2020	% of Total	Q2 YTD 2019	% of Total	% Change	% Change in Constant Currency
Lease	\$ 158,083	22.9 %	\$ 169,260	24.7 %	(6.6)%	(6.6)%
Perpetual	99,088	14.3 %	124,283	18.1 %	(20.3)%	(19.8)%
Maintenance	403,667	58.4 %	366,579	53.5 %	10.1 %	11.0 %
Service	29,808	4.3 %	25,643	3.7 %	16.2 %	17.2 %
Total	<u>\$ 690,646</u>		<u>\$ 685,765</u>		0.7 %	1.3 %

Non-GAAP

<i>(in thousands, except percentages)</i>	Q2 QTD 2020	% of Total	Q2 QTD 2019	% of Total	% Change	% Change in Constant Currency
Lease	\$ 113,872	29.2 %	\$ 100,024	27.0 %	13.8 %	13.7 %
Perpetual	56,136	14.4 %	70,495	19.0 %	(20.4)%	(20.0)%
Maintenance	206,548	53.0 %	186,967	50.5 %	10.5 %	11.2 %
Service	13,145	3.4 %	13,022	3.5 %	0.9 %	1.9 %
Total	<u>\$ 389,701</u>		<u>\$ 370,508</u>		5.2 %	5.6 %

<i>(in thousands, except percentages)</i>	Q2 YTD 2020	% of Total	Q2 YTD 2019	% of Total	% Change	% Change in Constant Currency
Lease	\$ 158,804	22.7 %	\$ 169,421	24.5 %	(6.3)%	(6.3)%
Perpetual	99,128	14.2 %	124,508	18.0 %	(20.4)%	(19.9)%
Maintenance	410,850	58.8 %	370,840	53.7 %	10.8 %	11.7 %
Service	29,816	4.3 %	25,649	3.7 %	16.2 %	17.2 %
Total	<u>\$ 698,598</u>		<u>\$ 690,418</u>		1.2 %	1.8 %

The difference between the GAAP and non-GAAP revenue values presented above is a result of the application of the fair value provisions applicable to the accounting for business combinations.

We continue to experience increased interest by some of our larger customers in enterprise agreements that often include longer-term, time-based licenses involving a larger number of our software products. While these arrangements typically involve a higher overall transaction price, the upfront recognition of license revenue related to these larger, multi-year transactions can result in significantly higher lease license revenue volatility. As software products, across a large variety of applications and industries, become increasingly distributed in software-as-a-service, cloud and other subscription environments in which the licensing approach is time-based rather than perpetual, we are also experiencing a shifting preference from perpetual licenses to time-based licenses across a

broader spectrum of our customers. This shifting preference was elevated in the first half of 2020 as a result of the economic impacts of COVID-19, and we expect it to continue into the foreseeable future.

Under current accounting guidance, the value and duration of multi-year lease contracts entered into during the period significantly impact the recognition of revenue. As a result, revenue may fluctuate significantly, particularly on a quarterly basis, due to the timing of such contracts. Large swings in revenue growth rates are not necessarily indicative of customers' software usage changes or cash flows during the periods presented.

Service revenue growth was inhibited by our inability to perform on-site services during the pandemic.

REVENUE BY GEOGRAPHY

GAAP

<i>(in thousands, except percentages)</i>	Q2 QTD 2020	% of Total	Q2 QTD 2019	% of Total	% Change	% Change in Constant Currency
Americas	\$ 191,454	49.6 %	\$ 144,375	39.2 %	32.6 %	32.7 %
Germany	27,274	7.1 %	25,879	7.0 %	5.4 %	7.3 %
United Kingdom	9,907	2.6 %	12,970	3.5 %	(23.6)%	(21.3)%
Other EMEA	50,176	13.0 %	54,242	14.7 %	(7.5)%	(6.2)%
EMEA	87,357	22.7 %	93,091	25.3 %	(6.2)%	(4.6)%
Japan	55,849	14.5 %	47,042	12.8 %	18.7 %	16.4 %
Other Asia-Pacific	51,001	13.2 %	84,127	22.8 %	(39.4)%	(38.2)%
Asia-Pacific	106,850	27.7 %	131,169	35.6 %	(18.5)%	(18.6)%
Total	<u>\$ 385,661</u>		<u>\$ 368,635</u>		4.6 %	5.0 %

<i>(in thousands, except percentages)</i>	Q2 YTD 2020	% of Total	Q2 YTD 2019	% of Total	% Change	% Change in Constant Currency
Americas	\$ 322,954	46.8 %	\$ 290,836	42.4 %	11.0 %	11.1 %
Germany	57,371	8.3 %	56,306	8.2 %	1.9 %	4.2 %
United Kingdom	19,739	2.9 %	22,388	3.3 %	(11.8)%	(9.7)%
Other EMEA	99,654	14.4 %	104,688	15.3 %	(4.8)%	(3.1)%
EMEA	176,764	25.6 %	183,382	26.7 %	(3.6)%	(1.7)%
Japan	93,208	13.5 %	80,615	11.8 %	15.6 %	13.6 %
Other Asia-Pacific	97,720	14.1 %	130,932	19.1 %	(25.4)%	(23.9)%
Asia-Pacific	190,928	27.6 %	211,547	30.8 %	(9.7)%	(9.6)%
Total	<u>\$ 690,646</u>		<u>\$ 685,765</u>		0.7 %	1.3 %

Non-GAAP

<i>(in thousands, except percentages)</i>	Q2 QTD 2020	% of Total	Q2 QTD 2019	% of Total	% Change	% Change in Constant Currency
Americas	\$ 193,262	49.6 %	\$ 145,386	39.2 %	32.9 %	33.1 %
Germany	27,512	7.1 %	26,032	7.0 %	5.7 %	7.6 %
United Kingdom	10,003	2.6 %	13,188	3.6 %	(24.2)%	(21.9)%
Other EMEA	50,454	12.9 %	54,590	14.7 %	(7.6)%	(6.3)%
EMEA	87,969	22.6 %	93,810	25.3 %	(6.2)%	(4.6)%
Japan	56,442	14.5 %	47,068	12.7 %	19.9 %	17.6 %
Other Asia-Pacific	52,028	13.4 %	84,244	22.7 %	(38.2)%	(37.1)%
Asia-Pacific	108,470	27.8 %	131,312	35.4 %	(17.4)%	(17.5)%
Total	\$ 389,701		\$ 370,508		5.2 %	5.6 %

<i>(in thousands, except percentages)</i>	Q2 YTD 2020	% of Total	Q2 YTD 2019	% of Total	% Change	% Change in Constant Currency
Americas	\$ 326,386	46.7 %	\$ 292,939	42.4 %	11.4 %	11.5 %
Germany	57,840	8.3 %	56,716	8.2 %	2.0 %	4.3 %
United Kingdom	20,020	2.9 %	22,811	3.3 %	(12.2)%	(10.2)%
Other EMEA	100,203	14.3 %	105,492	15.3 %	(5.0)%	(3.3)%
EMEA	178,063	25.5 %	185,019	26.8 %	(3.8)%	(1.8)%
Japan	94,731	13.6 %	81,012	11.7 %	16.9 %	14.9 %
Other Asia-Pacific	99,418	14.2 %	131,448	19.0 %	(24.4)%	(22.8)%
Asia-Pacific	194,149	27.8 %	212,460	30.8 %	(8.6)%	(8.4)%
Total	\$ 698,598		\$ 690,418		1.2 %	1.8 %

Regional and Industry Commentary

As explained under Revenue by License Type, under the current accounting for revenue, the value and duration of multi-year leases entered into during the period significantly impact revenue recognition. As a result, regional revenues may fluctuate significantly on a quarterly basis and are not necessarily indicative of customer usage changes or our cash flows for such regions during the periods presented.

Global

Despite the pandemic and its implications for businesses, our customers remain committed to investing in R&D, digital transformation and simulation to reduce cost, increase productivity and deliver innovation. This is particularly evident in the strong renewal rates in the quarter across industries and go-to-market segments. Our focus over the past several years of establishing multi-year relationships with our larger enterprise customers has also played an important role in helping to insulate us. New business, on the other hand, was more challenging, particularly that related to small- and medium-sized businesses, a majority of which is typically derived from the indirect channel.

Our recent strategic acquisitions continued to have a positive impact in the quarter. In Europe, our channel partner DYNAmore inked an important deal with BMW to adopt LS-DYNA for virtual crash testing, replacing an incumbent competitor. Our optical solutions were adopted by a North American autonomous electric vehicle developer and by an Asian automotive OEM to advance their ADAS programs.

Consistent with the trends observed over numerous quarters, our performance in the high-tech and defense industries remained strong. In addition, the automotive sector continues to invest in R&D focused on electrification and autonomy projects. In energy, the oil and gas segment remained challenged due both to the pandemic situation and the industry environment. However, we expect the segment's commitment to increasing productivity through digital transformation remains, positioning simulation for a strong future role with our digital twin, platform and additive manufacturing solutions. Due to the decline in air travel, not unexpectedly, commercial aerospace also continues to struggle.

Regional

The North America region led the second quarter with 33.1% non-GAAP constant currency revenue growth as compared to the second quarter of 2019. Notable deals within this region included a multi-year agreement at a global multinational, multiproduct high-tech company and a record deal at a global leader in automotive and ground transportation.

In APAC, Japan contributed 17.6% non-GAAP constant currency growth for the second quarter, but its revenue results were more than offset by contractions within the rest of the region due to a strong comparable of 74.0% non-GAAP constant currency growth in Q2 of 2019. In Q2 2020, multiple multi-year deals were concluded in the high-tech industry and a global automotive components manufacturer committed to an eight-figure, three-year deal. Despite an overall slowdown in the industrial equipment industry, we successfully closed a number of multi-year, multi-million-dollar agreements, leveraging solutions focused on process optimization and digital twins.

Despite a net contraction in the region, EMEA reflected relative stability in the defense segment due to a focus on technology in support of national security resulting in a seven-figure, multi-year deal at a European defense contractor during the quarter. Reflecting the relative buoyancy of the semiconductor market, a multi-year deal was also concluded with a central European semiconductor manufacturer in Q2. Softness in the oil and gas industry, exacerbated by the impacts of the pandemic, continued to impact our business in the UK.

REVENUE BY CHANNEL

GAAP

	Three Months Ended		Six Months Ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Direct revenue, as a percentage of total revenue	78.1 %	79.7 %	76.2 %	75.4 %
Indirect revenue, as a percentage of total revenue	21.9 %	20.3 %	23.8 %	24.6 %

Non-GAAP

	Three Months Ended		Six Months Ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Direct revenue, as a percentage of total revenue	77.9 %	79.8 %	75.9 %	75.6 %
Indirect revenue, as a percentage of total revenue	22.1 %	20.2 %	24.1 %	24.4 %

INCOME STATEMENT HIGHLIGHTS

GAAP

	Three Months Ended		Six Months Ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Gross margin	86.0 %	89.0 %	84.9 %	89.0 %
Operating margin	29.3 %	34.9 %	21.3 %	32.7 %
Effective tax rate	14.2 %	15.5 %	2.2 %	14.3 %

Non-GAAP

	Three Months Ended		Six Months Ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Gross margin	89.6 %	91.0 %	88.9 %	91.0 %
Operating margin	42.9 %	45.6 %	36.9 %	44.3 %
Effective tax rate	19.5 %	19.0 %	19.5 %	19.9 %

BALANCE SHEET AND CASH FLOW HIGHLIGHTS

- Cash and short-term investments totaled \$745.0 million as of June 30, 2020, of which 54% was held domestically.
- Deferred revenue and backlog was \$846.5 million at June 30, 2020, an increase of 18% over June 30, 2019.
- Operating cash flows were \$131.6 million for the second quarter of 2020 as compared to \$88.5 million for the second quarter of 2019. Operating cash flows were \$279.0 million for YTD 2020 as compared to \$240.1 million for YTD 2019.
- Capital expenditures totaled \$10.0 million and \$17.0 million for the second quarter and YTD 2020. We are currently planning total 2020 capital expenditures in the range of \$40.0 - \$50.0 million.

SHARE COUNT AND SHARE REPURCHASES

We had 86.9 million fully diluted weighted average shares outstanding in Q2. We repurchased 0.7 million shares during the first six months at an average price of \$233.48 per share. Those repurchases occurred during the first quarter of 2020; there were no repurchases during the second quarter. As of June 30, 2020, we had 2.8 million shares remaining available for repurchase under our authorized share repurchase program.

STOCK-BASED COMPENSATION EXPENSE

	Three Months Ended		Six Months Ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
<i>(in thousands, except per share data)</i>				
Cost of sales:				
Maintenance and service	\$ 3,464	\$ 2,374	\$ 6,330	\$ 3,602
Operating expenses:				
Selling, general and administrative	16,319	14,503	31,463	27,634
Research and development	14,347	12,245	27,278	21,686
Stock-based compensation expense before taxes	34,130	29,122	65,071	52,922
Related income tax benefits	(10,883)	(9,152)	(36,789)	(20,228)
Stock-based compensation expense, net of taxes	\$ 23,247	\$ 19,970	\$ 28,282	\$ 32,694
Net impact on earnings per share:				
Diluted earnings per share	\$ (0.27)	\$ (0.23)	\$ (0.32)	\$ (0.38)

CURRENCY

CURRENCY IMPACTS: The second quarter and YTD 2020 revenue and operating income, as compared to the second quarter and YTD 2019, were impacted by fluctuations in the exchange rates of foreign currencies against the U.S. Dollar. The impacts on GAAP and non-GAAP revenue and operating income are reflected in the table below. Amounts in brackets indicate an adverse impact from currency fluctuations.

GAAP:

<i>(in thousands)</i>	Three Months Ended June 30, 2020	Six Months Ended June 30, 2020
Revenue	\$ (1,542)	\$ (4,132)
Operating income	\$ 477	\$ 216

Non-GAAP:

<i>(in thousands)</i>	Three Months Ended June 30, 2020	Six Months Ended June 30, 2020
Revenue	\$ (1,615)	\$ (4,211)
Operating income	\$ 320	\$ (51)

The foreign exchange impacts on deferred revenue and backlog were \$3.7 million favorable and \$3.0 million unfavorable for the second quarter and YTD 2020, respectively.

OUTLOOK

Guidance Commentary on COVID-19 Outbreak and China Trade Restrictions:

The impact from the rapidly changing market and economic conditions due to the COVID-19 outbreak is uncertain, disrupting the business of our customers and partners, and will affect our business and consolidated results of operations. While our current expectation, and that reflected in our financial guidance, is that the impact will be a delay in business with an adverse impact on our full year results, this expectation is subject to significant uncertainty and dependent upon how widespread the virus becomes, the duration and severity of its impact, the geographic markets affected, the actions taken by governmental authorities and other factors. Further spreading of the virus or economic deterioration caused by the direct and indirect impacts of the virus could have a material adverse impact on our business, employees, liquidity, financial condition, results of operations and cash flows, as well as on our ability to achieve our financial guidance.

During 2019, trade discussions between the U.S. and China led to certain entities being placed on a restricted entity list. These restrictions limited our ability to deliver products and services to these customers. While our 2019 results were adversely impacted by these restrictions for a portion of the year, the 2019 operating results include approximately \$20 million each of ACV and revenue related to transactions that occurred prior to the placement of the restrictions. The guidance provided below assumes that the existing trade restrictions related to these entities will remain throughout 2020. Additional restrictions or a further deterioration in the trade environment could have a material adverse impact on our business, as well as on our ability to achieve our financial guidance.

Our third quarter and full year financial guidance estimates are provided below. Because of the very significant market and economic uncertainty associated with the COVID-19 outbreak, these ranges are wider than those that we have historically provided. They are also based on significant assumptions that may or may not be realized as we progress through the year.

Those assumptions, and certain related management actions, include the following, among others:

- When guidance was last provided in May, we expected a modest recovery in the business environment during the third quarter with the hope of an even stronger recovery in the fourth quarter. However, businesses have not resumed operations to the extent originally anticipated and many employees continue to work from home globally. The third quarter business environment is expected to be similar to or

marginally stronger than that of the second quarter, and will remain adversely impacted by the continuing effects of COVID-19, with a disproportionate impact on certain customers and industries. We expect a stronger recovery in the fourth quarter, perhaps buoyed by sales transactions that may have been deferred from earlier quarters. However, a second wave of COVID-19 could result in renewed shutdowns that stop or regress economic recovery.

- The pace of economic recovery continues to be highly uncertain. The lower end of our financial guidance assumes that the pace will occur more slowly than that provided above, and the higher end of our financial guidance assumes that the pace will be accelerated as compared to that provided above. We have no ability to reasonably predict the pace of economic recovery or whether the recovery will occur even more slowly than our worst-case assumptions.
- The up-front recognition of revenue on large, multi-year lease contracts has a significant impact on our operating results. While we were able to close certain large multi-year contracts in the second quarter, other customers in the second half of the year may be less willing to commit to such large-magnitude contracts in this environment and the sales cycles for many customers who are willing to commit to these contracts will be extended. As a result, our full-year guidance continues to reflect a reduction in such deals as compared to our original plans.
- While our expectations for the larger enterprise contracts are reduced, we continue to expect that our larger customer accounts will perform more strongly than the small- and medium-sized businesses. The R&D cycles with the larger customers remain largely unaffected, and their stronger liquidity and capital positions allow them to maintain normal procurement patterns or return to those patterns more quickly.
- Our blended renewal rates have historically been approximately 90%, with the renewal rates on maintenance agreements being even higher. Our renewal rates have remained high, with only a slight reduction as compared to our historical experience, and our assumptions are that they will continue to remain so for the majority of our business. Our assumptions include the expectation for some deterioration in renewal rates, primarily among our smaller customers, particularly the small- and medium-sized businesses that are not as well capitalized and may be experiencing cash flow issues.
- As was evidenced in the first half, we continue to expect a disproportionate reduction in sales of our perpetual licenses, as customers continue to work from home and find the flexibility of lease licensing and operating on the cloud more appealing. The reduced capital outlay associated with the leasing model is also more appealing to certain customers during a time of economic distress.
- While we successfully held Simulation World in June, a number of our demand generation events and those of our channel partners have been cancelled due to social distancing requirements. We continue to adjust to a stronger digital focus for demand generation. However, we expect the absence of certain demand generation activities to have an adverse impact on our second half results, particularly for certain channel partners.
- The world government stimulus programs continue to evolve as global economies recover. Our guidance continues to assume that such stimulus is not targeted to a single segment of our customer base, but is more broad and supportive in helping countries to avoid prolonged recessions. However, the timing of government stimulus loans and other stimulus activities could adversely impact our customers' ability to remit timely payment.
- We continue to adjust our spending to reflect our expectations for the pace at which economic recovery will occur. These adjustments include slowing the pace of our hiring and reducing non-headcount-related discretionary spending, as well as spending less on certain facilities and infrastructure projects. However, we have not and do not intend to reduce our spending on critical digital transformation projects, such as CRM and HRIS, as those projects are critical to our ability to operate efficiently and scale the business for future growth.
- Our operating cash flow guidance is provided for the full year. That guidance aligns with our May guidance except for a modest increase in 2020 operating cash flow that is partially offset by an incremental \$5 million adjustment to increase the assumption that an estimated \$15 - \$25 million of customer payments that would have otherwise been made in 2020 will be delayed to 2021 as a result of extended payment term requests on new contracts and delayed payments on existing contracts.

We are currently forecasting the following:

Q3 2020 OUTLOOK:

<i>(in millions, except percentages and per share data)</i>	GAAP	non-GAAP
Revenue	\$344.9 - \$374.9	\$347.0 - \$377.0
Operating margin	19.0% - 26.0%	34.5% - 38.5%
Effective tax rate	18.0% - 19.5%	19.5%
Diluted earnings per share	\$0.61 - \$0.90	\$1.10 - \$1.34

FY 2020 OUTLOOK:

<i>(in millions, except percentages and per share data)</i>	GAAP	non-GAAP
Revenue	\$1,558.7 - \$1,633.7	\$1,570.0 - \$1,645.0
Operating margin	26.0% - 29.5%	40.0% - 42.0%
Effective tax rate	13.5% - 15.0%	19.5%
Diluted earnings per share	\$4.01 - \$4.70	\$5.75 - \$6.35

In addition, we are currently forecasting the following for FY 2020:

<i>(in millions)</i>	Other Financial Metrics
ACV	\$1,520.0 - \$1,585.0
Operating cash flows	\$435.0 - \$475.0

We are currently expecting approximately 87.3 million and 87.2 million fully diluted shares outstanding for Q3 2020 and FY 2020, respectively.

CURRENCY OUTLOOK: Our results have been, and will continue to be, impacted by currency fluctuations, particularly by rate movements in the Euro and Japanese Yen. Our currency rate assumptions are as follows:

	Euro	Japanese Yen
Q3 2020	1.16 - 1.19	104 - 107
FY 2020	1.13 - 1.16	105 - 108

The outlook presented above factors in actual and planned increases in sales and channel capacity, our current visibility around major account activity, sales pipelines and forecasts. However, as we have said in the past, and will continue to reiterate, there are many factors over which we have no control, including the macro-economic environment, customer procurement patterns, government and tax policies, and currency rate volatility. We do, however, have the benefit of a solid, repeatable business base; a diversified geographic and industry footprint; and a world-class customer base that have helped us to succeed and to deliver on our commitments.

Please see the section entitled "Forward-Looking Statements and Risk Factors" for a discussion of risks, uncertainties and factors that could cause actual results to differ materially from those implied by forward-looking statements.

GLOSSARY OF TERMS

Annual Contract Value (ACV): ACV is composed of the following:

- the annualized value of maintenance and lease contracts with start dates or anniversary dates during the period, plus
- the value of perpetual license contracts with start dates during the period, plus
- the annualized value of fixed-term services contracts with start dates or anniversary dates during the period, plus
- the value of work performed during the period on fixed-deliverable services contracts.

Example 1: A \$300,000 lease or maintenance contract with a term of January 1, 2020 - December 31, 2022 would contribute \$100,000 to ACV in each of fiscal years 2020, 2021 and 2022.

Example 2: A perpetual license valued at \$200,000 with a contract start date of March 1, 2020 sold in connection with three years of annual maintenance valued at a total of \$120,000 would contribute to ACV as follows: fiscal year 2020: \$240,000 (\$200,000 + \$40,000); fiscal years 2021 and 2022: \$40,000 in each year.

Backlog: Installment billings for periods beyond the current quarterly billing cycle.

Deferred Revenue: Billings made or payments received in advance of revenue recognition.

Lease or Time-Based License: A license of a stated product of our software that is granted to a customer for use over a specified time period, which can be months or years in length. In addition to the use of the software, the customer is provided with access to maintenance (unspecified version upgrades and technical support) without additional charge. The revenue related to these contracts is recognized ratably over the contract period for the maintenance portion and up front for the license portion.

Perpetual / Paid-Up License: A license of a stated product and version of our software that is granted to a customer for use in perpetuity. The revenue related to this type of license is typically recognized up front.

Maintenance: A contract, typically one year in duration, that is purchased by the owner of a perpetual license and that provides access to unspecified version upgrades and technical support during the duration of the contract. The revenue from these contracts is recognized ratably over the contract period.

FORWARD-LOOKING STATEMENTS AND RISK FACTORS

This document contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are statements that provide current expectations or forecasts of future events based on certain assumptions. Forward-looking statements are subject to risks, uncertainties, and factors relating to our business which could cause our actual results to differ materially from the expectations expressed in or implied by such forward-looking statements. Many of these risks, uncertainties, and factors are currently amplified by, and may continue to be amplified by, the COVID-19 pandemic. Forward-looking statements use words such as “anticipate,” “believe,” “could,” “estimate,” “expect,” “forecast,” “intend,” “likely,” “may,” “outlook,” “plan,” “predict,” “project,” “should,” “target,” or other words of similar meaning. Forward-looking statements include those about market opportunity, including our total addressable market. Risks, uncertainties, and factors that could cause actual results to differ materially from those implied by these forward-looking statements include: current and potential future impacts of the COVID-19 pandemic on the global economy and our business, financial position, results of operations and cash flows; adverse changes in global economic and/or political conditions; declines in our customers’ businesses resulting in adverse changes in customer procurement patterns; disruptions in accounts receivable and cash flow due to customers’ liquidity challenges and commercial deterioration; uncertainties regarding demand for our products and services in the future and our customers’ acceptance of new products, including those arising from the need of customers to utilize our products from remote locations; plans for future capital spending; delays or declines in anticipated sales due to reduced or altered sales and marketing interactions with customers; disruptions in the global economy and financial markets that may limit or delay availability of credit under existing or new credit facilities, or that may limit our ability to obtain credit or financing on acceptable terms or at all; investments in complementary companies, products, services and technologies; our ability to complete and successfully integrate our acquisitions and realize the financial and business benefits of the transactions; political,

economic, regulatory and public health and safety risks and uncertainties in the countries and regions in which we operate; impacts from tariffs, trade sanctions, export license requirements or other trade barriers; the effect of changes in currency exchange rates and changes in interest rates; potential variations in our sales forecasts compared to actual sales; the volatility of our stock price; failures or errors in our products and services; our industry's rapidly changing technology; the quality of our products, including the strength of features, functionality and integrated multi-physics capabilities; lease license volatility; higher than anticipated costs for research and development or slowdown in our research and development activities; increased pricing pressure as a result of the competitive environment in which we operate; our ability to recruit and retain key personnel including any delays in recruitment caused by restrictions on travel and in person interactions and the absence of key personnel or teams due to illness or recuperation; our ability to protect our proprietary technology; cybersecurity threats or other security breaches, including in relation to an increased level of our activity that is occurring from remote global off-site locations; disclosure and misuse of employee or customer data whether as a result of a cybersecurity incident or otherwise; implementation of our new IT systems; investments in global sales and marketing organizations and global business infrastructure; dependence on our channel partners for the distribution of our products; increased volatility in our revenue due to the timing, duration and value of multi-year lease contracts; our reliance on high renewal rates for annual lease and maintenance contracts; operational disruptions generally or specifically in connection with transitions to and from remote work environments, or the failure of our technological infrastructure; the outcome of contingencies, including legal proceedings and government or regulatory investigations and service tax audit cases; uncertainty regarding income tax estimates in the jurisdictions in which we operate; changes in accounting principles or standards; the effect of changes in tax laws and regulations in the jurisdictions in which we operate; the uncertainty of estimates relating to the impact on reported revenue related to the acquisition accounting treatment of deferred revenue; and other risks and uncertainties described in our reports filed from time to time with the Securities and Exchange Commission. We caution readers not to place undue reliance upon any such forward-looking statements, which speak only as of the date they are made. We undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

RECONCILIATION OF GAAP TO NON-GAAP MEASURES

ANSYS, INC. AND SUBSIDIARIES
Reconciliation of Non-GAAP Measures
(Unaudited)

Three Months Ended
June 30, 2020

<i>(in thousands, except percentages and per share data)</i>	Revenue	Gross Profit	%	Operating Income	%	Net Income	EPS - Diluted¹
Total GAAP	\$ 385,661	\$ 331,801	86.0 %	\$ 112,807	29.3 %	\$ 96,564	\$ 1.11
Acquisition accounting for deferred revenue	4,040	4,040	0.2 %	4,040	0.7 %	4,040	0.05
Stock-based compensation expense	—	3,464	0.8 %	34,130	8.9 %	34,130	0.40
Excess payroll taxes related to stock-based awards	—	166	0.1 %	1,876	0.4 %	1,876	0.02
Amortization of intangible assets from acquisitions	—	9,764	2.5 %	13,927	3.6 %	13,927	0.16
Transaction expenses related to business combinations	—	—	— %	309	— %	309	—
Rabbi trust (income) / expense	—	—	— %	—	— %	(1)	—
Adjustment for income tax effect	—	—	— %	—	— %	(16,518)	(0.19)
Total non-GAAP	\$ 389,701	\$ 349,235	89.6 %	\$ 167,089	42.9 %	\$ 134,327	\$ 1.55

¹ Diluted weighted average shares were 86,934.

Three Months Ended
June 30, 2019

<i>(in thousands, except percentages and per share data)</i>	Revenue	Gross Profit	%	Operating Income	%	Net Income	EPS - Diluted¹
Total GAAP	\$ 368,635	\$ 328,138	89.0 %	\$ 128,628	34.9 %	\$ 109,750	\$ 1.28
Acquisition accounting for deferred revenue	1,873	1,873	0.1 %	1,873	0.3 %	1,873	0.02
Stock-based compensation expense	—	2,374	0.7 %	29,122	7.9 %	29,122	0.35
Excess payroll taxes related to stock-based awards	—	11	— %	389	0.1 %	389	—
Amortization of intangible assets from acquisitions	—	4,755	1.2 %	8,551	2.3 %	8,551	0.10
Transaction expenses related to business combinations	—	—	— %	450	0.1 %	450	0.01
Rabbi trust (income) / expense	—	—	— %	—	— %	(58)	—
Adjustment related to the Tax Cuts and Jobs Act	—	—	— %	—	— %	(498)	(0.01)
Adjustment for income tax effect	—	—	— %	—	— %	(11,673)	(0.14)
Total non-GAAP	\$ 370,508	\$ 337,151	91.0 %	\$ 169,013	45.6 %	\$ 137,906	\$ 1.61

¹ Diluted weighted average shares were 85,483.

ANSYS, INC. AND SUBSIDIARIES
Reconciliation of Non-GAAP Measures
(Unaudited)

Six Months Ended
June 30, 2020

<i>(in thousands, except percentages and per share data)</i>	Revenue	Gross Profit	%	Operating Income	%	Net Income	EPS - Diluted¹
Total GAAP	\$ 690,646	\$ 586,670	84.9 %	\$ 146,880	21.3 %	\$ 142,628	\$ 1.64
Acquisition accounting for deferred revenue	7,952	7,952	0.2 %	7,952	0.9 %	7,952	0.09
Stock-based compensation expense	—	6,330	1.0 %	65,071	9.4 %	65,071	0.75
Excess payroll taxes related to stock-based awards	—	689	0.1 %	8,859	1.2 %	8,859	0.10
Amortization of intangible assets from acquisitions	—	19,316	2.7 %	27,641	4.0 %	27,641	0.32
Transaction expenses related to business combinations	—	—	— %	1,259	0.1 %	1,259	0.01
Rabbi trust (income) / expense	—	—	— %	—	— %	(5)	—
Adjustment for income tax effect	—	—	— %	—	— %	(46,773)	(0.54)
Total non-GAAP	<u>\$ 698,598</u>	<u>\$ 620,957</u>	<u>88.9 %</u>	<u>\$ 257,662</u>	<u>36.9 %</u>	<u>\$ 206,632</u>	<u>\$ 2.37</u>

¹ Diluted weighted average shares were 87,152.

Six Months Ended
June 30, 2019

<i>(in thousands, except percentages and per share data)</i>	Revenue	Gross Profit	%	Operating Income	%	Net Income	EPS - Diluted¹
Total GAAP	\$ 685,765	\$ 610,453	89.0 %	\$ 224,277	32.7 %	\$ 195,980	\$ 2.29
Acquisition accounting for deferred revenue	4,653	4,653	0.1 %	4,653	0.5 %	4,653	0.05
Stock-based compensation expense	—	3,602	0.5 %	52,922	7.5 %	52,922	0.62
Excess payroll taxes related to stock-based awards	—	476	0.1 %	4,379	0.6 %	4,379	0.05
Amortization of intangible assets from acquisitions	—	9,302	1.3 %	16,857	2.5 %	16,857	0.20
Transaction expenses related to business combinations	—	—	— %	3,111	0.5 %	3,111	0.04
Rabbi trust (income) / expense	—	—	— %	—	— %	(223)	—
Adjustment related to the Tax Cuts and Jobs Act	—	—	— %	—	— %	(1,834)	(0.02)
Adjustment for income tax effect	—	—	— %	—	— %	(27,269)	(0.32)
Total non-GAAP	<u>\$ 690,418</u>	<u>\$ 628,486</u>	<u>91.0 %</u>	<u>\$ 306,199</u>	<u>44.3 %</u>	<u>\$ 248,576</u>	<u>\$ 2.91</u>

¹ Diluted weighted average shares were 85,488.

In the third quarter and fiscal year 2020 guidance, the expected impacts of non-GAAP adjustments to revenue associated with the acquisition accounting for deferred revenue are \$2.1 million and \$11.3 million, respectively. Over the same periods, the impacts of non-GAAP adjustments associated with stock-based compensation result in a higher non-GAAP normalized effective tax rate than the comparable GAAP annualized effective tax rate. See below for a reconciliation of GAAP to non-GAAP operating margins and diluted earnings per share:

ANSYS, INC. AND SUBSIDIARIES
Reconciliation of Forward-Looking Guidance
Quarter Ending September 30, 2020

	Operating Margin	Earnings Per Share - Diluted
U.S. GAAP expectation	19.0% - 26.0%	\$0.61 - \$0.90
Exclusions before tax:		
Acquisition adjustments to deferred revenue	0.6%	\$0.02
Acquisition-related amortization	3.6% - 4.2%	\$0.15 - \$0.17
Stock-based compensation and related excess payroll tax	8.3% - 10.7%	\$0.38 - \$0.43
Adjustment for income tax effect	N/A	(\$0.11) - (\$0.13)
Non-GAAP expectation	34.5% - 38.5%	\$1.10 - \$1.34

ANSYS, INC. AND SUBSIDIARIES
Reconciliation of Forward-Looking Guidance
Year Ending December 31, 2020

	Operating Margin	Earnings Per Share - Diluted
U.S. GAAP expectation	26.0% - 29.5%	\$4.01 - \$4.70
Exclusions before tax:		
Acquisition adjustments to deferred revenue	0.7%	\$0.13
Acquisition-related amortization	3.3% - 3.6%	\$0.62 - \$0.65
Stock-based compensation and related excess payroll tax	8.4% - 9.6%	\$1.61 - \$1.72
Transaction expenses related to business combinations	0.1%	\$0.01
Adjustment for income tax effect	N/A	(\$0.72) - (\$0.77)
Non-GAAP expectation	40.0% - 42.0%	\$5.75 - \$6.35

NON-GAAP MEASURES

We provide 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 our operational performance. These financial measures exclude the impact of certain items and, therefore, have not been calculated in accordance with GAAP. A detailed explanation of each of the adjustments to such financial measures is described below. These prepared remarks also contain a reconciliation of each of these non-GAAP financial measures to its most comparable GAAP financial measure.

We use non-GAAP financial measures (a) to evaluate our historical and prospective financial performance as well as our performance relative to our 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 employees. In addition, many financial analysts that follow us focus on and publish both historical results and future projections based on non-GAAP financial measures. We believe that it is in the best interest of our investors to provide this information to analysts so that they accurately report the non-GAAP financial information. Moreover, investors have historically requested, and we have historically reported, these non-GAAP financial measures as a means of providing consistent and comparable information with past reports of financial results.

While we believe 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 our competitors and may not be directly comparable to similarly titled measures of our competitors due to potential differences in the exact method of calculation. We compensate 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. Historically, we have consummated acquisitions in order to support our 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 our business or cash flow, it adversely impacts our 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, we provide non-GAAP financial measures which exclude the impact of the acquisition accounting adjustment. We believe 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 us in our financial and operational decision-making, and (b) compare our past and future reports of financial results 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. We incur amortization of intangible assets, included in our GAAP presentation of amortization expense, related to various acquisitions we have made. We exclude 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 we evaluate our continuing operational performance 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 us after the acquisition. Accordingly, we do not consider these expenses for purposes of evaluating our performance during the applicable time period after the acquisition, and we exclude such expenses when making decisions to allocate resources. We believe 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 us in our financial and operational decision-making, and (b) compare our past reports of financial results as we have historically reported these non-GAAP financial measures.

Stock-based compensation expense. We incur expense related to stock-based compensation included in our GAAP presentation of cost of maintenance and service; research and development expense; and selling, general and administrative expense. This non-GAAP adjustment also includes excess payroll tax expense related to stock-based compensation. Stock-based compensation expense (benefit) incurred in connection with our 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 and viewed as a form of compensation, we exclude 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 we evaluate our continuing operational performance. We similarly exclude income (expense) related to assets held in a rabbi trust in connection with our deferred compensation plan. Specifically, we exclude stock-based compensation and income (expense) related to assets held in the deferred compensation plan rabbi trust during our annual budgeting process and our quarterly and annual assessments of our performance. The annual budgeting process is the primary mechanism whereby we allocate resources to various initiatives and operational requirements. Additionally, the annual review by our board of directors during which it compares our 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 our senior management and department managers, charges related to stock-based compensation are excluded from expenditure and profitability results. In fact, we record stock-based compensation expense into a stand-alone cost center for which no single operational manager is responsible or accountable. In this way, we can review, on a period-to-period basis, each manager's performance and assess financial discipline over operational expenditures without the effect of stock-based compensation. We believe that these non-GAAP financial measures are useful to investors because they allow investors to (a) evaluate our operating results and the effectiveness of the methodology used by us to review our operating results, and (b) review historical comparability in our financial reporting as well as comparability with competitors' operating results.

Transaction expenses related to business combinations. We incur expenses for professional services rendered in connection with business combinations, which are included in our GAAP presentation of selling, general and administrative expense. These expenses are generally not tax-deductible. We exclude these acquisition-related

transaction expenses, derived from announced acquisitions, for the purpose of calculating non-GAAP operating income, non-GAAP operating profit margin, non-GAAP net income and non-GAAP diluted earnings per share when we evaluate our continuing operational performance, as we generally would not have otherwise incurred these expenses in the periods presented as a part of our operations. We believe that these non-GAAP financial measures are useful to investors because they allow investors to (a) evaluate our operating results and the effectiveness of the methodology used by us to review our operating results, and (b) review historical comparability in our financial reporting as well as comparability with competitors' operating results.

Tax Cuts and Jobs Act. We recorded impacts to our income tax provision related to the enactment of the Tax Cuts and Jobs Act of 2017, specifically for the transition tax related to unrepatriated cash and the impacts of the tax rate change on net deferred tax assets. We exclude these impacts for the purpose of calculating non-GAAP net income and non-GAAP diluted earnings per share when we evaluate our continuing operational performance, as (i) the charges are not expected to recur as part of our normal operations and (ii) the charges resulted from the extremely infrequent event of major U.S. tax reform, the last such reform having occurred in 1986. We believe that these non-GAAP financial measures are useful to investors because they allow investors to (a) evaluate our operating results and the effectiveness of the methodology used by us to review our operating results, and (b) review historical comparability in our financial reporting.

Non-GAAP tax provision. We utilize a normalized non-GAAP annual effective tax rate (AETR) to calculate non-GAAP measures. This methodology provides better consistency across interim reporting periods by eliminating the effects of non-recurring items and aligning the non-GAAP tax rate with our expected geographic earnings mix. To project this rate, we analyzed our historic and projected non-GAAP earnings mix by geography along with other factors such as our current tax structure, recurring tax credits and incentives, and expected tax positions. On an annual basis we will re-evaluate this rate for significant items that may materially affect our projections.

Non-GAAP financial measures are not in accordance with, or an alternative for, GAAP. Our 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 our consolidated financial statements prepared in accordance with GAAP.

We have provided a reconciliation of the non-GAAP financial measures to the most directly comparable GAAP financial measures as listed below:

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

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