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

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2021
OR

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

For the transition period from _________ to _________
Commission File Number: 0-20853

ANSYS, Inc.

(Exact name of registrant as specified in its charter)

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

844-462-6797
(Registrant's telephone number, including area code)
N/A
(Former name, former address and former fiscal year, if changed since last report)

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 (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes ☒ No ☐

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

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

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

☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ☐ No ☒

The number of shares of the Registrant's Common Stock, $0.01 par value per share, outstanding as of October 31, 2021 was 87,252,950 shares.

ANSYS, INC. AND SUBSIDIARIES

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PART I – FINANCIAL INFORMATION

Item 1. Financial Statements:

ANSYS, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS
(Unaudited)

(in thousands, except share and per share data)	September 30, 2021	December 31, 2020
ASSETS		
Current assets:		
Cash and cash equivalents	**$ 1,080,838**	$ 912,672
Short-term investments	**527**	479
Accounts receivable, less allowance for doubtful accounts of $14,600 and $14,000, respectively	**475,829**	537,564
Other receivables and current assets	**199,491**	268,522
Total current assets	**1,756,685**	1,719,237
Long-term assets:		
Property and equipment, net	**90,793**	96,503
Operating lease right-of-use assets	**119,938**	137,730
Goodwill	**3,101,623**	3,038,306
Other intangible assets, net	**667,268**	694,865
Other long-term assets	**215,259**	225,119
Deferred income taxes	**23,186**	28,830
Total long-term assets	**4,218,067**	4,221,353
Total assets	**$ 5,974,752**	$ 5,940,590
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	**$ 12,590**	$ 18,691
Accrued bonuses and commissions	**83,537**	112,491
Accrued income taxes	**8,024**	26,116
Other accrued expenses and liabilities	**178,248**	199,466
Deferred revenue	**318,032**	372,061
Total current liabilities	**600,431**	728,825
Long-term liabilities:		
Deferred income taxes	**84,566**	110,321
Long-term operating lease liabilities	**102,842**	120,940
Long-term debt	**753,451**	798,118
Other long-term liabilities	**94,218**	84,514
Total long-term liabilities	**1,035,077**	1,113,893
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, $0.01 par value; 2,000,000 shares authorized; zero shares issued or outstanding	**—**	—
Common stock, $0.01 par value; 300,000,000 shares authorized; 95,267,307 and 95,266,320 shares issued, respectively	**953**	953
Additional paid-in capital	**1,428,419**	1,434,203
Retained earnings	**4,056,049**	3,804,593
Treasury stock, at cost: 8,055,219 and 8,693,809 shares, respectively	**(1,097,051)**	(1,124,102)
Accumulated other comprehensive loss	**(49,126)**	(17,775)
Total stockholders' equity	**4,339,244**	4,097,872
Total liabilities and stockholders' equity	**$ 5,974,752**	$ 5,940,590

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

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

(in thousands, except per share data)	Three Months Ended September 30, 2021	Three Months Ended September 30, 2020	Nine Months Ended September 30, 2021	Nine Months Ended September 30, 2020
Revenue:				
Software licenses	**$ 200,394**	$ 141,622	**$ 547,820**	$ 398,793
Maintenance and service	**240,774**	225,343	**703,228**	658,818
Total revenue	**441,168**	366,965	**1,251,048**	1,057,611
Cost of sales:				
Software licenses	**8,289**	7,251	**23,960**	20,688
Amortization	**15,189**	9,911	**45,163**	29,227
Maintenance and service	**39,268**	36,223	**119,884**	107,446
Total cost of sales	**62,746**	53,385	**189,007**	157,361
Gross profit	**378,422**	313,580	**1,062,041**	900,250
Operating expenses:				
Selling, general and administrative	**165,368**	132,642	**471,993**	391,862
Research and development	**102,023**	86,616	**303,381**	258,861
Amortization	**3,403**	4,237	**12,244**	12,562
Total operating expenses	**270,794**	223,495	**787,618**	663,285
Operating income	**107,628**	90,085	**274,423**	236,965
Interest income	**541**	754	**1,544**	4,463
Interest expense	**(2,943)**	(1,853)	**(9,594)**	(8,544)
Other (expense) income, net	**(1,328)**	1,158	**14,008**	3,169
Income before income tax provision	**103,898**	90,144	**280,381**	236,053
Income tax provision	**18,556**	14,517	**28,925**	17,798
Net income	**$ 85,342**	$ 75,627	**$ 251,456**	$ 218,255
Earnings per share – basic:				
Earnings per share	**$ 0.98**	$ 0.88	**$ 2.89**	$ 2.55
Weighted average shares	**87,239**	85,798	**87,072**	85,749
Earnings per share – diluted:				
Earnings per share	**$ 0.97**	$ 0.87	**$ 2.86**	$ 2.50
Weighted average shares	**88,169**	87,224	**88,069**	87,176

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

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

	Three Months Ended		Nine Months Ended	
(in thousands)	September 30, 2021	September 30, 2020	September 30, 2021	September 30, 2020
Net income	**$ 85,342**	$ 75,627	**$ 251,456**	$ 218,255
Other comprehensive (loss) income:				
Foreign currency translation adjustments	**(16,304)**	28,048	**(31,351)**	14,044
Comprehensive income	**$ 69,038**	$ 103,675	**$ 220,105**	$ 232,299

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

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

	Nine Months Ended	
(in thousands)	**September 30, 2021**	**September 30, 2020**
Cash flows from operating activities:		
Net income	**$ 251,456**	$ 218,255
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and intangible assets amortization	**80,500**	62,197
Operating lease right-of-use assets expense	**16,896**	15,336
Deferred income tax benefit	**(22,459)**	(22,627)
Provision for bad debts	**827**	5,799
Stock-based compensation expense	**122,148**	103,256
Gain on equity investment	**(15,139)**	—
Other	**1,940**	2,294
Changes in operating assets and liabilities:		
Accounts receivable	**86,098**	62,184
Other receivables and current assets	**57,992**	12,735
Other long-term assets	**(2,548)**	(12,341)
Accounts payable, accrued expenses and current liabilities	**(58,520)**	(76,517)
Accrued income taxes	**(18,997)**	22,010
Deferred revenue	**(46,467)**	(29,978)
Other long-term liabilities	**(5,898)**	10,940
Net cash provided by operating activities	**447,829**	373,543
Cash flows from investing activities:		
Acquisitions, net of cash acquired	**(105,141)**	(100,194)
Capital expenditures	**(18,133)**	(24,195)
Other investing activities	**(382)**	(6,201)
Net cash used in investing activities	**(123,656)**	(130,590)
Cash flows from financing activities:		
Principal payments on long-term debt	**(45,000)**	(75,000)
Purchase of treasury stock	**(35,993)**	(161,029)
Restricted stock withholding taxes paid in lieu of issued shares	**(92,143)**	(66,774)
Proceeds from shares issued for stock-based compensation	**26,321**	26,957
Other financing activities	**(50)**	—
Net cash used in financing activities	**(146,865)**	(275,846)
Effect of exchange rate fluctuations on cash and cash equivalents	**(9,142)**	5,540
Net increase (decrease) in cash and cash equivalents	**168,166**	(27,353)
Cash and cash equivalents, beginning of period	**912,672**	872,094
Cash and cash equivalents, end of period	**$ 1,080,838**	$ 844,741
Supplemental disclosure of cash flow information:		
Income taxes paid	**$ 59,973**	$ 35,576
Interest paid	**$ 8,721**	$ 9,985

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

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

	Common Stock		Additional Paid-In Capital	Retained Earnings	Treasury Stock		Accumulated Other Comprehensive (Loss)/Income	Total Stockholders' Equity
(in thousands)	**Shares**	**Amount**			**Shares**	**Amount**		
Balance, January 1, 2021	**95,266**	**$ 953**	**$ 1,434,203**	**$ 3,804,593**	**8,694**	**$ (1,124,102)**	**$ (17,775)**	**$ 4,097,872**
Stock-based compensation activity			**(87,602)**		**(565)**	**48,565**		**(39,037)**
Other comprehensive loss							**(19,264)**	**(19,264)**
Net income				**72,398**				**72,398**
Balance, March 31, 2021	**95,266**	**$ 953**	**$ 1,346,601**	**$ 3,876,991**	**8,129**	**$ (1,075,537)**	**$ (37,039)**	**$ 4,111,969**
Acquisition of Analytical Graphics, Inc.	**1**		**328**					**328**
Stock-based compensation activity			**34,661**		**(63)**	**5,327**		**39,988**
Other comprehensive income							**4,217**	**4,217**
Net income				**93,716**				**93,716**
Balance, June 30, 2021	**95,267**	**$ 953**	**$ 1,381,590**	**$ 3,970,707**	**8,066**	**$ (1,070,210)**	**$ (32,822)**	**$ 4,250,218**
Acquisition of Analytical Graphics, Inc.			**454**		**(2)**	**152**		**606**
Treasury shares acquired					**97**	**(35,993)**		**(35,993)**
Stock-based compensation activity			**46,375**		**(106)**	**9,000**		**55,375**
Other comprehensive loss							**(16,304)**	**(16,304)**
Net income				**85,342**				**85,342**
Balance, September 30, 2021	**95,267**	**$ 953**	**$ 1,428,419**	**$ 4,056,049**	**8,055**	**$ (1,097,051)**	**$ (49,126)**	**$ 4,339,244**

	Common Stock		Additional Paid-In Capital	Retained Earnings	Treasury Stock		Accumulated Other Comprehensive (Loss)/Income	Total Stockholders' Equity
(in thousands)	**Shares**	**Amount**			**Shares**	**Amount**		
Balance, January 1, 2020	94,628	$ 946	$ 1,188,939	$ 3,370,706	8,893	$ (1,041,831)	$ (65,381)	$ 3,453,379
Treasury shares acquired					690	(161,029)		(161,029)
Stock-based compensation activity			(70,769)		(541)	48,997		(21,772)
Other comprehensive loss							(24,292)	(24,292)
Net income				46,064				46,064
Balance, March 31, 2020	94,628	$ 946	$ 1,118,170	$ 3,416,770	9,042	$ (1,153,863)	$ (89,673)	$ 3,292,350
Acquisition of Livermore Software Technology, LLC			1,030		(6)	501		1,531
Stock-based compensation activity			24,993		(146)	12,322		37,315
Other comprehensive income							10,288	10,288
Net income				96,564				96,564
Balance, June 30, 2020	94,628	$ 946	$ 1,144,193	$ 3,513,334	8,890	$ (1,141,040)	$ (79,385)	$ 3,438,048
Stock-based compensation activity			37,934		(116)	9,956		47,890
Other comprehensive income							28,048	28,048
Net income				75,627				75,627
Balance, September 30, 2020	94,628	$ 946	$ 1,182,127	$ 3,588,961	8,774	$ (1,131,084)	$ (51,337)	$ 3,589,613

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

ANSYS, INC. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
September 30, 2021
(Unaudited)

1. Organization

ANSYS, Inc. (Ansys, we, us, our) develops and globally markets engineering simulation software and services widely used by engineers, designers, researchers and students across a broad spectrum of industries and academia, including aerospace and defense, automotive, electronics, semiconductors, energy, turbomachinery, consumer products, and healthcare.

As defined by the accounting guidance for segment reporting, we operate as one segment.

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

2. Accounting Policies

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States for interim financial information for commercial and industrial companies, the instructions to Form 10-Q and Rule 10-01 of Regulation S-X. Accordingly, the accompanying unaudited condensed consolidated financial statements do not include all of the information and footnotes required by accounting principles generally accepted in the United States for complete financial statements. The accompanying unaudited condensed consolidated financial statements should be read in conjunction with our audited consolidated financial statements (and notes thereto) included in our Annual Report on Form 10-K for the year ended December 31, 2020 (2020 Form 10-K). The condensed consolidated December 31, 2020 balance sheet presented is derived from the audited December 31, 2020 balance sheet included in the 2020 Form 10-K. In our opinion, all adjustments considered necessary for a fair presentation of the financial statements have been included, and all adjustments are of a normal and recurring nature. Operating results for the three and nine months ended September 30, 2021 are not necessarily indicative of the results that may be expected for any future period.

Recently Adopted Accounting Guidance

Income taxes: In December 2019, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes* (ASU 2019-12), as part of its initiative to reduce complexity in the accounting standards. The amendments in ASU 2019-12 eliminated certain exceptions related to the approach for intraperiod tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for outside basis differences. ASU 2019-12 also clarified and simplified other aspects of the accounting for income taxes. We adopted ASU 2019-12 on January 1, 2021 with no material impact to our condensed consolidated financial statements.

Cash and Cash Equivalents

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

	September 30, 2021		December 31, 2020	
(in thousands, except percentages)	Amount	% of Total	Amount	% of Total
Cash accounts	**$ 960,228**	**88.8**	$ 571,587	62.6
Money market funds	**120,610**	**11.2**	341,085	37.4
Total	**$ 1,080,838**		$ 912,672	

Our money market fund balances are held in various funds of two issuers.

3. Revenue from Contracts with Customers

Disaggregation of Revenue

The following table summarizes revenue:

	Three Months Ended		Nine Months Ended	
(in thousands, except percentages)	**September 30, 2021**	**September 30, 2020**	**September 30, 2021**	**September 30, 2020**
Revenue:				
Lease licenses	**$ 120,516**	$ 78,917	**$ 315,387**	$ 237,000
Perpetual licenses	**79,878**	62,705	**232,433**	161,793
Software licenses	**200,394**	141,622	**547,820**	398,793
Maintenance	**223,872**	211,942	**655,843**	615,609
Service	**16,902**	13,401	**47,385**	43,209
Maintenance and service	**240,774**	225,343	**703,228**	658,818
Total revenue	**$ 441,168**	$ 366,965	**$ 1,251,048**	$ 1,057,611
Direct revenue, as a percentage of total revenue	**74.4 %**	74.9 %	**74.0 %**	75.7 %
Indirect revenue, as a percentage of total revenue	**25.6 %**	25.1 %	**26.0 %**	24.3 %

Our software license revenue is recognized up front, while maintenance and service revenue is generally recognized over the term of the contract.

Deferred Revenue

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

The changes in deferred revenue, inclusive of both current and long-term deferred revenue, during the nine months ended September 30, 2021 and 2020 were as follows:

(in thousands)	**2021**	**2020**
Beginning balance – January 1	**$ 388,810**	$ 365,274
Acquired deferred revenue	**746**	1,405
Deferral of revenue	**1,202,547**	1,025,057
Recognition of revenue	**(1,251,048)**	(1,057,611)
Currency translation	**(8,591)**	4,307
Ending balance – September 30	**$ 332,464**	$ 338,432

Total revenue allocated to remaining performance obligations as of September 30, 2021 will be recognized as revenue as follows:

(in thousands)	
Next 12 months	**$ 575,771**
Months 13-24	**171,906**
Months 25-36	**93,487**
Thereafter	**58,331**
Total revenue allocated to remaining performance obligations	**$ 899,495**

Revenue allocated to remaining performance obligations represents contracted revenue that has not yet been recognized, which includes both deferred revenue and backlog. Our backlog represents installment billings for periods beyond the current quarterly billing cycle. Revenue recognized during the nine months ended September 30, 2021 and 2020 included amounts in deferred revenue and backlog at the beginning of the period of $507.0 million and $465.5 million, respectively.

4. Acquisitions

During the nine months ended September 30, 2021 we completed several acquisitions to expand our solution offerings and enhance our customers' experience. The effects of the acquisitions were not material to our condensed consolidated results of operations individually or in the aggregate. The combined purchase price of the acquisitions during the nine months ended September 30, 2021 was approximately $110.7 million, which was paid in cash.

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

Fair Value of Consideration Transferred:

(in thousands)		
Cash	**$**	**110,739**

Recognized Amounts of Identifiable Assets Acquired and Liabilities Assumed:

(in thousands)		
Cash	**$**	**4,320**
Accounts receivable and other tangible assets		**3,013**
Developed software and core technologies (11 year weighted-average life)		**32,200**
Customer lists (7 year weighted-average life)		**2,300**
Trade names (10 year weighted-average life)		**1,000**
Accounts payable and other liabilities		**(2,852)**
Deferred revenue		**(746)**
Net deferred tax liabilities		**(7,311)**
Total identifiable net assets	**$**	**31,924**
Goodwill	**$**	**78,815**

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

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

On December 1, 2020, we acquired 100% of the shares of Analytical Graphics, Inc. (AGI), a premier provider of mission-simulation, modeling, testing and analysis software for aerospace, defense and intelligence applications. The acquisition expands the scope of our offerings, empowering users to solve challenges by simulating from the chip level all the way to a customer's entire mission. The purchase price was approximately $720.6 million, inclusive of net working capital adjustments.

On April 1, 2020, we acquired 100% of the shares of Lumerical Inc. (Lumerical), a leading developer of photonic design and simulation tools, for a purchase price of approximately $107.5 million, which was paid in cash. The acquisition adds best-in-class photonic products to our multiphysics portfolio, providing customers with a full set of solutions to solve their next-generation product challenges.

The operating results of each acquisition have been included in our condensed consolidated financial statements since each respective date of acquisition.

See Note 16, Subsequent Event, for information on our acquisition of Zemax, LLC (Zemax).

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

Our other receivables and current assets and other accrued expenses and liabilities comprise the following balances:

(in thousands)	September 30, 2021	December 31, 2020
Receivables related to unrecognized revenue	**$ 119,073**	$ 192,154
Income taxes receivable, including overpayments and refunds	**29,947**	31,628
Prepaid expenses and other current assets	**50,471**	44,740
Total other receivables and current assets	**$ 199,491**	$ 268,522
Accrued vacation	**38,396**	34,132
Consumption, VAT and sales tax liabilities	**26,123**	45,156
Accrued expenses and other current liabilities	**113,729**	120,178
Total other accrued expenses and liabilities	**$ 178,248**	$ 199,466

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

6. Earnings Per Share

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

The details of basic and diluted EPS are as follows:

	Three Months Ended		Nine Months Ended	
(in thousands, except per share data)	September 30, 2021	September 30, 2020	September 30, 2021	September 30, 2020
Net income	**$ 85,342**	$ 75,627	**$ 251,456**	$ 218,255
Weighted average shares outstanding – basic	**87,239**	85,798	**87,072**	85,749
Dilutive effect of stock plans	**930**	1,426	**997**	1,427
Weighted average shares outstanding – diluted	**88,169**	87,224	**88,069**	87,176
Basic earnings per share	**$ 0.98**	$ 0.88	**$ 2.89**	$ 2.55
Diluted earnings per share	**$ 0.97**	$ 0.87	**$ 2.86**	$ 2.50
Anti-dilutive shares	**32**	30	**30**	28

7. Goodwill and Intangible Assets

Intangible assets are classified as follows:

	September 30, 2021		December 31, 2020	
(in thousands)	**Gross Carrying Amount**	**Accumulated Amortization**	**Gross Carrying Amount**	**Accumulated Amortization**
Finite-lived intangible assets:				
Developed software and core technologies	**$ 887,926**	**$ (409,288)**	$ 859,620	$ (370,338)
Customer lists	**194,047**	**(54,546)**	288,085	(136,093)
Trade names	**175,785**	**(127,013)**	175,626	(122,392)
Total	**$ 1,257,758**	**$ (590,847)**	$ 1,323,331	$ (628,823)
Indefinite-lived intangible asset:				
Trade name	**$ 357**		$ 357	

Finite-lived intangible assets are amortized over their estimated useful lives of two years to seventeen years. Amortization expense for the intangible assets reflected above was $18.6 million and $14.1 million for the three months ended September 30, 2021 and 2020, respectively. Amortization expense for the intangible assets reflected above was $57.4 million and $41.8 million for the nine months ended September 30, 2021 and 2020, respectively

As of September 30, 2021, estimated future amortization expense for the intangible assets reflected above was as follows:

(in thousands)	
Remainder of 2021	**$ 18,000**
2022	**78,125**
2023	**80,348**
2024	**79,784**
2025	**77,509**
2026	**75,325**
Thereafter	**257,820**
Total intangible assets subject to amortization	**666,911**
Indefinite-lived trade name	**357**
Other intangible assets, net	**$ 667,268**

The changes in goodwill during the nine months ended September 30, 2021 and 2020 were as follows:

(in thousands)	**2021**	**2020**
Beginning balance – January 1	**$ 3,038,306**	$ 2,413,280
Acquisitions and adjustments[1]	**79,905**	69,598
Currency translation	**(16,588)**	8,712
Ending balance – September 30	**$ 3,101,623**	$ 2,491,590

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

During the first quarter of 2021, we completed the annual impairment test for goodwill and the indefinite-lived intangible asset and determined that these assets had not been impaired as of the test date, January 1, 2021. No other events or circumstances changed during the nine months ended September 30, 2021 that would indicate that the fair values of our reporting unit and indefinite-lived intangible asset are below their carrying amounts.

8. Fair Value Measurement

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

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

A financial asset's or liability's classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement.

Our long-term debt is classified within Level 2 of the fair value hierarchy because these borrowings are not actively traded and have a variable interest rate structure based upon market rates. The carrying amount of our long-term debt approximates the estimated fair value. See Note 10, "Debt", for additional information on our borrowings.

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

		Fair Value Measurements at Reporting Date Using:		
(in thousands)	September 30, 2021	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets				
Cash equivalents	**$ 120,610**	**$ 120,610**	**$ —**	**$ —**
Short-term investments	**$ 527**	**$ —**	**$ 527**	**$ —**
Deferred compensation plan investments	**$ 1,602**	**$ 1,602**	**$ —**	**$ —**
Equity securities	**$ 2,642**	**$ 2,642**	**$ —**	**$ —**

		Fair Value Measurements at Reporting Date Using:		
(in thousands)	December 31, 2020	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets				
Cash equivalents	$ 341,085	$ 341,085	$ —	$ —
Short-term investments	$ 479	$ —	$ 479	$ —
Deferred compensation plan investments	$ 1,602	$ 1,602	$ —	$ —

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

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

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

The equity securities represent our investment in a publicly traded company. These securities are traded in an active market with quoted prices. As a result, the securities are classified as Level 1 in the fair value hierarchy. The securities are recorded within other long-term assets on our condensed consolidated balance sheets.

9. Leases

Our right-of-use (ROU) assets and lease liabilities primarily include operating leases for office space. Our executive offices and those related to certain domestic product development, marketing, production and administration are located in a 186,000 square foot office facility in Canonsburg, Pennsylvania. The term of the lease is 183 months, which began on October 1, 2014 and expires on December 31, 2029. The lease agreement includes options to renew the contract through August 2044, an option to lease additional space in January 2025 and an option to terminate the lease in December 2025. No options are included in the lease liability as renewal is not reasonably certain. In addition, we are reasonably certain we will not terminate the lease agreement. Absent the exercise of options in the lease, our remaining base rent (inclusive of property taxes and certain operating costs) is $4.5 million per annum through 2024 and $4.7 million per annum for 2025 - 2029.

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

	Three Months Ended		Nine Months Ended	
(in thousands)	**September 30, 2021**	**September 30, 2020**	**September 30, 2021**	**September 30, 2020**
Lease liability cost	**$ 7,139**	$ 6,206	**$ 21,278**	$ 18,704
Variable lease cost not included in the lease liability[1]	**1,017**	1,033	**3,203**	3,354
Total lease cost	**$ 8,156**	$ 7,239	**$ 24,481**	$ 22,058

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

Other information related to operating leases is as follows:

	Three Months Ended		Nine Months Ended	
(in thousands)	**September 30, 2021**	**September 30, 2020**	**September 30, 2021**	**September 30, 2020**
Cash paid for amounts included in the measurement of the lease liability:				
Operating cash flows from operating leases	**$ (7,217)**	$ (5,921)	**$ (21,183)**	$ (17,322)
Right-of-use assets obtained in exchange for new operating lease liabilities	**1,301**	1,076	**6,895**	21,319

	As of September 30,	
	2021	**2020**
Weighted-average remaining lease term of operating leases	**6.7 years**	7.5 years
Weighted-average discount rate of operating leases	**3.0 %**	3.3 %

The maturity schedule of the operating lease liabilities as of September 30, 2021 is as follows:

(in thousands)	
Remainder of 2021	**$ 7,188**
2022	**25,964**
2023	**20,393**
2024	**18,956**
2025	**17,727**
Thereafter	**50,382**
Total future lease payments	**140,610**
Less: Present value adjustment	**(14,053)**
Present value of future lease payments[1]	**$ 126,557**

[1] Includes the current portion of operating lease liabilities of $23.7 million, which is reflected in other accrued expenses and liabilities in the condensed consolidated balance sheets.

There were no material leases that have been signed but not yet commenced as of September 30, 2021.

10. Debt

In February 2019, we entered into a credit agreement for a $500.0 million unsecured revolving credit facility, which includes a $50.0 million sublimit for the issuance of letters of credit (Revolving Credit Facility), with Bank of America, N.A. as the Administrative Agent. The Revolving Credit Facility becomes payable in full on February 22, 2024 and is available for general corporate purposes, including, among others, to finance acquisitions and capital expenditures. The Revolving Credit Facility had not been utilized as of September 30, 2021.

We amended our credit agreement (Amended Credit Agreement) on October 16, 2019. The amendment provided for a new $500.0 million unsecured term loan facility to finance our acquisition of Livermore Software Technology (LST) in the fourth quarter of 2019. The term loan was funded on November 1, 2019 and matures on November 1, 2024. Principal on the term loan will be payable on the last business day of each fiscal quarter commencing with the ninth full fiscal quarter after the funding date at a rate of 1.25% per quarter, increasing to 2.50% per quarter after the next four fiscal quarters. We repaid $75.0 million of the unsecured term loan balance in January 2020 prior to the scheduled maturity dates in 2022 ($25.0 million) and 2023 ($50.0 million). In June 2021, we repaid $26.0 million of the unsecured term loan balance prior to the scheduled maturity date in 2024.

In connection with the acquisition of AGI, we entered into a credit agreement (AGI Credit Agreement) on November 9, 2020, with Bank of America, N.A. as the Administrative Agent. The AGI Credit Agreement provided for a new $375.0 million unsecured term loan facility to finance a portion of the cash consideration for the acquisition. The term loan was funded on December 1, 2020 and matures on November 1, 2024. Principal on the term loan will be payable on the last business day of each fiscal quarter commencing with the fifth full fiscal quarter after the funding date at a rate of 1.25% per quarter, increasing to 2.50% per quarter after the next four fiscal quarters. We repaid $19.0 million of the unsecured term loan balance in June 2021 prior to the scheduled maturity dates in 2022 ($18.8 million) and 2023 ($0.2 million).

Borrowings under the Amended Credit Agreement and the AGI Credit Agreement (collectively, the Credit Agreements) accrue interest at the Eurodollar rate plus an applicable margin or at the base rate, at our election. For the quarter ended September 30, 2021, we elected to apply the Eurodollar rate. The base rate is the applicable margin plus the highest of (i) the federal funds rate plus 0.500%, (ii) the Bank of America prime rate and (iii) the Eurodollar rate plus 1.000%. The applicable margin for these borrowings is a percentage per annum based on the lower of (1) a pricing level determined by our then-current consolidated leverage ratio and (2) a pricing level determined by our debt ratings (if such debt ratings exist). This results in a margin ranging from 1.125% to 1.750% and 0.125% to 0.750% for the Eurodollar rate and base rate, respectively.

The weighted average interest rate in effect during each of the three and nine months ended September 30, 2021 was 1.33% and 1.41%, respectively. As of September 30, 2021, the rate in effect for the Credit Agreements was 1.26%.

The Credit Agreements contain language in the event the Eurodollar rate is not available due to LIBOR changes. If this occurs, the base rate will be used for borrowings. However, we may work with the Administrative Agent to amend the Credit Agreements to replace the Eurodollar rate with (i) one or more rates based on the Secured Overnight Financing Rate (SOFR); or (ii) another alternative benchmark rate, subject to the lenders' approval.

The Credit Agreements contain customary representations and warranties, affirmative and negative covenants and events of default. The Credit Agreements also each contain a financial covenant requiring us to maintain a consolidated leverage ratio of indebtedness to earnings before interest, taxes, depreciation and amortization not exceeding 3.50 to 1.00 as of the end of any fiscal quarter (for the four-quarter period ending on such date) with an opportunity for a temporary increase in such consolidated leverage ratio to 4.00 to 1.00 upon the consummation of certain qualified acquisitions for which the aggregate consideration is at least $250.0 million.

As of September 30, 2021 and December 31, 2020, the carrying values of the term loans were $753.5 million, which is net of $1.5 million of unamortized debt issuance costs, and $798.1 million, which is net of $1.9 million of unamortized debt issuance costs, respectively. We were in compliance with all covenants as of September 30, 2021 and December 31, 2020.

11. Income Taxes

Our income before income tax provision, income tax provision and effective tax rates were as follows:

	Three Months Ended		Nine Months Ended	
(in thousands, except percentages)	September 30, 2021	September 30, 2020	September 30, 2021	September 30, 2020
Income before income tax provision	**$ 103,898**	$ 90,144	**$ 280,381**	$ 236,053
Income tax provision	**18,556**	14,517	**28,925**	17,798
Effective tax rate	**17.9 %**	16.1 %	**10.3 %**	7.5 %

Tax expense for the nine months ended September 30, 2021 and 2020 benefited due to increased stock compensation benefits, many of which were recognized discretely in the first quarter of each year. These benefits were partially offset by an increase in non-deductible compensation in 2021.

12. Stock Repurchase Program

Under our stock repurchase program, we repurchased shares as follows:

	Nine Months Ended	
(in thousands, except per share data)	September 30, 2021	September 30, 2020
Number of shares repurchased	**97**	690
Average price paid per share	**$ 371.83**	$ 233.48
Total cost	**$ 35,993**	$ 161,029

As of September 30, 2021, 2.7 million shares remained available for repurchase under the program.

13. Stock-Based Compensation

On May 14, 2021, our stockholders approved the ANSYS, Inc. 2021 Equity and Incentive Compensation Plan (the 2021 Plan). The 2021 Plan is a long-term incentive plan pursuant to which awards may be granted to directors, officers, other employees and certain consultants of Ansys and its subsidiaries. These awards include stock option rights, stock appreciation rights, restricted stock, restricted stock units, cash incentives, performance shares, performance units and other awards. The 2021 Plan authorizes 4.4 million shares of common stock for issuance, plus 1.6 million shares that remained available for issuance under the Fifth Amended and Restated ANSYS, Inc. 1996 Stock Option and Grant Plan (the Predecessor Plan) as of the effective date of the 2021 Plan plus any shares relating to the outstanding awards under the Predecessor Plan or the 2021 Plan that are subsequently forfeited. As of the effective date of the 2021 Plan, grants are no longer made under the Predecessor Plan.

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

	Three Months Ended		Nine Months Ended	
(in thousands, except per share data)	**September 30, 2021**	**September 30, 2020**	**September 30, 2021**	**September 30, 2020**
Cost of sales:				
Maintenance and service	**$ 2,753**	$ 3,626	**$ 9,834**	$ 9,956
Operating expenses:				
Selling, general and administrative	**25,420**	18,954	**66,158**	50,417
Research and development	**15,971**	15,605	**46,156**	42,883
Stock-based compensation expense before taxes	**44,144**	38,185	**122,148**	103,256
Related income tax benefits	**(10,743)**	(10,060)	**(62,151)**	(46,849)
Stock-based compensation expense, net of taxes	**$ 33,401**	$ 28,125	**$ 59,997**	$ 56,407
Net impact on earnings per share:				
Basic earnings per share	**$ (0.38)**	$ (0.33)	**$ (0.69)**	$ (0.66)
Diluted earnings per share	**$ (0.38)**	$ (0.32)	**$ (0.68)**	$ (0.65)

14. Geographic Information

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

	Three Months Ended		Nine Months Ended	
(in thousands)	**September 30, 2021**	**September 30, 2020**	**September 30, 2021**	**September 30, 2020**
United States	**$ 208,998**	$ 156,663	**$ 570,101**	$ 465,919
Japan	**45,298**	40,565	**147,511**	133,773
Germany	**27,826**	27,677	**89,781**	85,048
South Korea	**22,364**	21,083	**67,853**	54,105
China	**26,677**	17,414	**62,934**	42,016
United Kingdom	**19,441**	26,595	**45,894**	46,334
Other Europe, Middle East and Africa (EMEA)	**54,365**	52,244	**174,189**	151,898
Other international	**36,199**	24,724	**92,785**	78,518
Total revenue	**$ 441,168**	$ 366,965	**$ 1,251,048**	$ 1,057,611

Property and equipment by geographic area is as follows:

(in thousands)	**September 30, 2021**	**December 31, 2020**
United States	**$ 64,740**	$ 65,633
India	**6,002**	7,408
Germany	**4,730**	5,277
France	**4,581**	5,749
Other EMEA	**5,027**	5,847
Other international	**5,713**	6,589
Total property and equipment, net	**$ 90,793**	$ 96,503

15. Contingencies and Commitments

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

Our Indian subsidiary has several service tax audits pending that have resulted in formal inquiries being received on transactions through mid-2012. We could incur tax charges and related liabilities of approximately $7.4 million. As such charges are not probable at this time, a reserve has not been recorded on the condensed consolidated balance sheet as of September 30, 2021. The service tax issues raised in our notices and inquiries are very similar to the case, M/s Microsoft Corporation (I) (P) Ltd. Vs. Commissioner of Service Tax, New Delhi, wherein the Delhi Customs, Excise and Service Tax Appellate Tribunal (CESTAT) issued a favorable ruling to Microsoft. The Microsoft ruling was subsequently challenged in the Supreme Court by the Indian tax authority and a decision is still pending. We can provide no assurances on the impact that the present Microsoft case's decision will have on our cases, however, an unfavorable ruling in the Microsoft case may impact our assessment of probability and result in the recording of a $7.4 million reserve. We are uncertain as to when these service tax matters will be concluded.

We sell software licenses and services to our customers under contractual agreements. Such agreements generally include certain provisions indemnifying the customer against claims, by third parties, of infringement or misappropriation of their intellectual property rights arising from such customer's usage of our products or services. To date, payments related to these indemnification provisions have been immaterial. For several reasons, including the lack of prior material indemnification claims, we cannot determine the maximum amount of potential future payments, if any, related to such indemnification provisions.

16. Subsequent Event

On October 1, 2021, we acquired 100% of the shares of Zemax, a leader in high-performance optical imaging system simulation, for a purchase price of $411.5 million, paid in cash, or $399.1 million net of cash acquired from Zemax. The acquisition expands the scope of our optical and photonics simulation portfolio by giving users comprehensive solutions that could drive innovation in healthcare, autonomy, consumer electronics and the industrial internet of things (IIoT). Due to the limited time since the acquisition date, the initial accounting for the business combination is incomplete. As a result, we are unable to provide the amounts recognized as of the acquisition date for the major classes of assets acquired and liabilities assumed.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

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

Results of Review of Interim Financial Information

We have reviewed the accompanying condensed consolidated balance sheet of ANSYS, Inc. and subsidiaries (the "Company") as of September 30, 2021,the related condensed consolidated statements of income, comprehensive income, and stockholders' equity for the three-month and nine-month periods ended September 30, 2021 and 2020, and of cash flows for the nine-month periods ended September 30, 2021 and 2020, and the related notes (collectively referred to as the "interim financial information"). Based on our reviews, we are not aware of any material modifications that should be made to the accompanying interim financial information for it to be in conformity with accounting principles generally accepted in the United States of America.

We have previously audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheet of the Company as of December 31, 2020, and the related consolidated statements of income, comprehensive income, stockholders' equity, and cash flows for the year then ended (not presented herein); and in our report dated February 24, 2021, we expressed an unqualified opinion on those consolidated financial statements. In our opinion, the information set forth in the accompanying condensed consolidated balance sheet as of December 31, 2020, is fairly stated, in all material respects, in relation to the consolidated balance sheet from which it has been derived.

Basis for Review Results

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

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

/s/ Deloitte & Touche LLP

Pittsburgh, Pennsylvania
November 3, 2021

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

The following discussion should be read in conjunction with the accompanying unaudited condensed consolidated financial statements and notes thereto for the nine months ended September 30, 2021, and with our audited consolidated financial statements and notes thereto for the year ended December 31, 2020 included in the 2020 Form 10-K filed with the Securities and Exchange Commission. The discussion and analysis of our financial condition and results of operations are based upon our condensed consolidated financial statements, which have been prepared in accordance with generally accepted accounting principles (GAAP).

Business:

Ansys, a corporation formed in 1994, develops and globally markets engineering simulation software and services widely used by engineers, designers, researchers and students across a broad spectrum of industries and academia, including aerospace and defense, automotive, electronics, semiconductors, energy, turbomachinery, consumer products, and healthcare. Headquartered south of Pittsburgh, Pennsylvania, we employed approximately 5,000 people as of September 30, 2021. We focus on the development of open and flexible solutions that enable users to analyze designs directly on the desktop, which can be delivered both on-premises and in the cloud. We provide a common platform for fast, efficient and cost-conscious product development, from design concept to final-stage testing and validation. We distribute our suite of simulation technologies through direct sales offices in strategic, global locations and a global network of independent resellers and distributors (collectively, channel partners). It is our intention to continue to maintain this hybrid sales and distribution model.

Our strategy of Pervasive Engineering Simulation seeks to deepen the use of simulation in our core, to amplify usage of simulation throughout the product lifecycle and to embed simulation into our partners' ecosystems. The engineering software simulation market is strong and growing. The market growth is driven by customers' needs for rapid, quality innovation in a cost-efficient manner, enabling faster time to market of new products and lower warranty costs. While the transition away from physical prototyping toward simulation is prevalent across all industries, simulation demand is heightened by investments in high-growth solutions, including 5G, electrification, autonomous and the IIoT. Our strategy of Pervasive Engineering Simulation is aligned with this market growth.

We license our technology to businesses, educational institutions and governmental agencies. Growth in our revenue is affected by the strength of global economies, general business conditions, currency exchange rate fluctuations, customer budgetary constraints and the competitive position of our products. We believe that the features, functionality and integrated multiphysics capabilities of our software products are as strong as they have ever been. However, the software business is generally characterized by long sales cycles. These long sales cycles increase the difficulty of predicting sales for any particular quarter. We make many operational and strategic decisions based upon short- and long-term sales forecasts that are impacted not only by these long sales cycles, but also by current global economic conditions, including the impact of the current COVID-19 pandemic. As a result, we believe that our overall performance is best measured by fiscal year results rather than by quarterly results.

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

Overview:

Update on the Impact of the COVID-19 Pandemic

During the third quarter, we continued to work to mitigate the effects of the COVID-19 pandemic on our business by adapting our local guidelines based on the impact of the virus in the countries and sub-regions in which we operate. The health and safety of our employees and their families, our partners and our broad Ansys community around the world remain a high priority. Remote access continued to remain the primary means of work for much of our workforce. We previously announced our plans for post-pandemic work arrangements. These plans include options for our employees to work from home, in the office or on a flexible basis where they can alternate between the office and home. The adoption of the arrangements is subject to evolving local guidelines on precautions to be taken to mitigate COVID-19 risk to our employees and customers. Remote work arrangements have not adversely affected our ability to maintain effective financial operations, including our financial reporting systems, internal controls over financial reporting and disclosure controls and procedures. We expect to maintain these effective controls as we continue to work remotely during and after the COVID-19 pandemic. The spread of the virus and its variants and economic deterioration caused by them could have an impact on our business, as well as on our ability to achieve our financial guidance.

Our direct and indirect sales and support teams continue to use collaborative technology to access both Ansys' data centers and the public cloud, and to meet virtually with customers to mitigate disruptions to our sales pipeline. Additionally, in-person meetings started to resume as well as live attendance at trade events. Our research and development teams have also continued to be productive and meet our product release targets.

Our spending reflects our expectations for the pace at which economic recovery will occur, and we continue to invest in long-term opportunities. We have also maintained and intend to maintain our commitment to invest in our acquisitions, research and development, and certain digital transformation projects, as those projects are critical to our ability to operate efficiently and scale the business for future growth.

Please see "Note About Forward-Looking Statements" and "Risk Factors" in Part I, Item 1A of our 2020 Form 10-K and Part II, Item 1A of this Quarterly Report on Form 10-Q for discussion on additional business risks, including those associated with the COVID-19 pandemic.

Overall GAAP and Non-GAAP Results

This section includes a discussion of GAAP and non-GAAP results. For reconciliations of non-GAAP results to GAAP results, see the section titled "Non-GAAP Results" herein.

The non-GAAP results exclude the income statement effects of the acquisition accounting adjustments to deferred revenue, stock-based compensation, amortization of acquired intangible assets, and transaction expenses related to business combinations.

Our GAAP and non-GAAP results for the three and nine months ended September 30, 2021 as compared to the three and nine months ended September 30, 2020 reflected the following variances:

	Three Months Ended September 30, 2021		Nine Months Ended September 30, 2021	
	GAAP	Non-GAAP	GAAP	Non-GAAP
Revenue	**20.2 %**	20.7 %	**18.3 %**	19.0 %
Operating income	**19.5 %**	20.5 %	**15.8 %**	21.2 %
Diluted earnings per share	**11.5 %**	16.9 %	**14.4 %**	22.3 %

Our results reflect an increase in revenue during the three and nine months ended September 30, 2021 due to growth across all revenue streams, driven by strong execution, acquisitions and by the improving global economic environment in 2021 as compared to 2020. We also experienced increased operating expenses during the three and nine months ended September 30, 2021, primarily due to increased personnel costs, additional operating expenses related to acquisitions, higher stock-based compensation and increased costs related to foreign exchange translation due to a weaker U.S. Dollar. The COVID-19 pandemic did not have a material impact on our operating expenses during the three and nine months ended September 30, 2021.

Impact of Foreign Currency

Our comparative financial results were impacted by fluctuations in the U.S. Dollar during the three and nine months ended September 30, 2021 as compared to the three and nine months ended September 30, 2020. The impacts on our GAAP and non-GAAP revenue and operating income as a result of the fluctuations of the U.S. Dollar when measured against our primary foreign currencies are reflected in the table below. Amounts in brackets indicate an adverse impact from currency fluctuations.

	Three Months Ended September 30, 2021		Nine Months Ended September 30, 2021	
(in thousands)	GAAP	Non-GAAP	GAAP	Non-GAAP
Revenue	**$ 1,148**	$ 1,170	**$ 20,259**	$ 20,366
Operating income	**$ (752)**	$ (652)	**$ 2,706**	$ 3,698

In constant currency, our increases were as follows:

	Three Months Ended September 30, 2021		Nine Months Ended September 30, 2021	
	GAAP	Non-GAAP	GAAP	Non-GAAP
Revenue	**19.9 %**	20.4 %	**16.4 %**	17.0 %
Operating income	**20.3 %**	20.9 %	**14.7 %**	20.3 %

Constant currency amounts exclude the effects of foreign currency fluctuations on the reported results. To present this information, the 2021 results for entities whose functional currency is a currency other than the U.S. Dollar were converted to U.S. Dollars at rates that were in effect for the 2020 comparable period, rather than the actual exchange rates in effect for 2021. Constant currency growth rates are calculated by adjusting the 2021 reported revenue and operating income amounts by the 2021 currency fluctuation impacts and comparing the adjusted amounts to the 2020 comparable period reported revenue and operating income amounts.

Other Key Business Metric

Annual Contract Value (ACV) is one of our key performance metrics and is useful to investors in assessing the strength and trajectory of our business. Given that revenue is more volatile due to the upfront revenue recognition of perpetual licenses and multi-year lease license sales, we provide ACV as a supplemental metric to help evaluate the annual performance of the business. Summed over the long term, ACV and revenue are equal. However, there will be years in which ACV growth lags revenue growth and other years in which ACV growth leads revenue growth. It is used by management in financial and operational decision-making and in setting sales targets used for compensation. ACV should be viewed independently of revenue and deferred revenue as ACV is a performance metric and is not intended to be combined with any of these items. 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.

Our ACV was as follows:

	Three Months Ended September 30,		Change		
(in thousands, except percentages)	**2021**	**2020**	**Amount**	**%**	**Constant Currency %**
ACV	**$ 365,444**	$ 305,334	$ 60,110	19.7	19.3
Recurring ACV as a percentage of ACV	**76.3 %**	77.6 %			

	Nine Months Ended September 30,		Change		
(in thousands, except percentages)	**2021**	**2020**	**Amount**	**%**	**Constant Currency %**
ACV	**$ 1,115,365**	$ 950,790	$ 164,575	17.3	15.4
Recurring ACV as a percentage of ACV	**78.9 %**	81.1 %			

Recurring ACV includes both lease licenses and maintenance contracts. The reduction as a percentage of total ACV in 2021 as compared to 2020 was driven by an increase in perpetual licensing due to relatively lower perpetual sales during the pandemic in Q3 2020.

Industry Commentary:

We experienced industry trends consistent with those of the first half of 2021 as customers continued investing in innovation and leveraging our simulation solutions to offset revenue challenges by reducing costs. The high-tech industry growth was strengthened by 5G, pervasive connectivity and data centers. Despite the aerospace and defense industry continuing to feel impacts from the pandemic, process integration and design optimization, as well as our missions and materials capabilities, contributed to the growth in the industry. Growth in the automotive industry was aided by original equipment manufacturers' and suppliers' continued investment in simulation to reduce time-to-market, meet commitments to expanding electric vehicle lineups and production, and improve the safety, reliability and performance of batteries. Sustainability initiatives are driving growth in the energy industry as companies rush to achieve aggressive net zero carbon goals.

Other Financial Information

Our financial position includes $1,081.4 million in cash and short-term investments, and working capital of $1,156.3 million as of September 30, 2021.

We repurchased 0.1 million shares during the nine months ended September 30, 2021 for $36.0 million as compared to the 0.7 million shares repurchased during the nine months ended September 30, 2020 for $161.0 million. As of September 30, 2021, we had 2.7 million shares remaining available for repurchase under our authorized share repurchase program.

Geographic Trends:

The following tables present our GAAP and non-GAAP geographic revenue variances using actual and constant currency rates during the three and nine months ended September 30, 2021 as compared to the three and nine months ended September 30, 2020:

	GAAP			
	Three Months Ended September 30, 2021		Nine Months Ended September 30, 2021	
	Actual	Constant Currency	Actual	Constant Currency
Americas	**36.3 %**	36.2 %	**23.0 %**	22.8 %
EMEA	**(4.6)%**	(6.1)%	**9.4 %**	3.7 %
Asia-Pacific	**20.6 %**	21.4 %	**19.1 %**	18.0 %
Total	**20.2 %**	19.9 %	**18.3 %**	16.4 %

	Non-GAAP			
	Three Months Ended September 30, 2021		Nine Months Ended September 30, 2021	
	Actual	Constant Currency	Actual	Constant Currency
Americas	37.5 %	37.3 %	25.2 %	25.0 %
EMEA	(4.6)%	(6.1)%	9.2 %	3.5 %
Asia-Pacific	20.4 %	21.1 %	18.2 %	17.0 %
Total	20.7 %	20.4 %	19.0 %	17.0 %

The value and duration of multi-year lease contracts executed 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, relative differences in duration of long-term contracts from quarter to quarter and changes in the mix of license types sold compared to the prior year. Large swings in revenue growth rates are not necessarily indicative of customers' software usage changes or cash flows during the periods presented.

To drive growth, we continue to focus on a number of sales improvement activities across the geographic regions, including sales hiring, pipeline building, productivity initiatives and customer engagement activities.

Continued trade tensions between the U.S. and China have had an impact on, and in the future may further restrict, our ability to sell and distribute our products to certain customers. As a result, this has had, and in the future could continue to have, an adverse effect on our business, results of operations or financial condition. Refer to additional details in Part I, "Item 1A. Risk Factors" in our 2020 Form 10-K.

Use of Estimates:

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

Forward-Looking Information:

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 (the Exchange Act). 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.

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. 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 update forward-looking statements, whether as a result of new information, future events or otherwise.

The risks associated with the following, among others, could cause actual results to differ materially from those described in any forward-looking statements:

- current and future impacts of a natural disaster or catastrophe, including the COVID-19 pandemic and actions taken to address the pandemic by our customers, suppliers, regulatory authorities, and our business, on the global economy and our business and condensed consolidated financial statements; adverse changes in global economic and/or political conditions; and political, economic, regulatory and public health and safety risks and uncertainties in the countries and regions in which we operate;

- declines in our customers’ businesses resulting in adverse changes in 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; delays or declines in anticipated sales due to reduced or altered sales and marketing interactions with customers; and potential variations in our sales forecast compared to actual sales;

- impacts from tariffs, trade sanctions, export license requirements or other trade barriers; disruptions in the global economy and financial markets that may limit or delay availability of credit under our existing or new credit facilities, or that may limit our ability to obtain credit or financing on acceptable terms or at all; the volatility of our stock price; and the effect of changes in currency exchange rates or interest rates;

- 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; and the uncertainty of estimates associated with the acquisition accounting treatment of deferred revenue;

- our ability to recruit and retain key personnel including the impact of any government actions or mandates surrounding the COVID-19 pandemic; 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; and disclosure and misuse of employee or customer data whether as a result of a cybersecurity incident or otherwise;

- the quality of our products, including the strength of features, functionality and integrated multi-physics capabilities; our ability to develop and market new products to address the industry’s rapidly changing technology; failures or errors in our products and services; and increased pricing pressure as a result of the competitive environment in which we operate;
- 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; and the impact indebtedness incurred in connection with any acquisition could have on our operations;

- investments in global sales and marketing organizations and global business infrastructure; and dependence on our channel partners for the distribution of our products;

- operational disruptions generally or specifically in connection with transitions to and from remote work environments; and the failure of our technological infrastructure or those of the service providers upon whom we rely including for infrastructure and cloud services;

- our and our channel partners’ ability to comply with laws and regulations in relevant jurisdictions; the outcome of contingencies, including legal proceedings, government or regulatory investigations and service tax audit cases;

- our intention to repatriate previously taxed earnings in excess of working capital needs and to reinvest all other earnings of our non-U.S. subsidiaries;
- plans for future capital spending; the extent of corporate benefits from such spending including with respect to customer relationship management; and higher than anticipated costs for research and development or slowdown in our research and development activities;
- uncertainty regarding income tax estimates in the jurisdictions in which we operate; and the effect of changes in tax laws and regulations in the jurisdictions in which we operate; and
- other risks and uncertainties described in our reports filed from time to time with the Securities and Exchange Commission.

Results of Operations

The three and nine months results of operations discussed below are on a GAAP basis unless otherwise stated.

Three Months Ended September 30, 2021 Compared to Three Months Ended September 30, 2020

Revenue:

(in thousands, except percentages)	Three Months Ended September 30, 2021 GAAP	2021 Constant Currency Amount	2020 GAAP	Change GAAP Amount	Change GAAP %	Change Constant Currency Amount	Change Constant Currency %
Revenue:							
Lease licenses	**$ 120,516**	$ 120,112	$ 78,917	$ 41,599	52.7	$ 41,195	52.2
Perpetual licenses	**79,878**	79,686	62,705	17,173	27.4	16,981	27.1
Software licenses	**200,394**	199,798	141,622	58,772	41.5	58,176	41.1
Maintenance	**223,872**	223,351	211,942	11,930	5.6	11,409	5.4
Service	**16,902**	16,871	13,401	3,501	26.1	3,470	25.9
Maintenance and service	**240,774**	240,222	225,343	15,431	6.8	14,879	6.6
Total revenue	**$ 441,168**	$ 440,020	$ 366,965	$ 74,203	20.2	$ 73,055	19.9

Revenue for the quarter ended September 30, 2021 increased 20.2% compared to the quarter ended September 30, 2020, or 19.9% in constant currency. The growth rate was favorably impacted by our continued investment in our global sales, support and marketing organizations, the timing and duration of our multi-year lease contracts, strong perpetual license sales, sales to our small- and medium-sized businesses, and our recent acquisitions. Lease license revenue increased 52.7%, or 52.2% in constant currency, as compared to the prior-year quarter. Perpetual license revenue, which is derived from new sales during the quarter, increased 27.4%, or 27.1% in constant currency, as compared to the prior-year quarter. Service revenue increased 26.1%, or 25.9% in constant currency, as compared to the prior-year quarter. Annual maintenance contracts that were sold with new perpetual licenses, maintenance contracts for new perpetual licenses sold in previous quarters, maintenance renewals and the maintenance portion of lease license contracts collectively contributed to maintenance revenue growth of 5.6%, or 5.4% in constant currency.

We continue to experience increased demand from our customers for contracts that often include longer-term, time-based licenses involving a larger number of our software products. 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 significant lease license revenue volatility. Software products, across a large variety of applications and industries, are increasingly distributed in software-as-a-service, cloud and other subscription environments in which the licensing approach is time-based rather than perpetual. This preference could result in a shift from perpetual licenses to time-based licenses over the long term.

In relation to the COVID-19 pandemic and our revenue, we continue to expect a recovery in the business environment during the fourth quarter. Globally, businesses have not resumed full operations. Additional waves or mutated variants of COVID-19 could result in renewed shutdowns that stop or regress economic recovery.

With respect to revenue, on average for the quarter ended September 30, 2021, the U.S. Dollar was approximately 0.7% weaker, when measured against our primary foreign currencies, than for the quarter ended September 30, 2020. The table below presents the net impacts of currency fluctuations on revenue for the quarter ended September 30, 2021. Amounts in brackets indicate an adverse impact from currency fluctuations.

(in thousands)	Three Months Ended September 30, 2021
British Pound	**1,063**
South Korean Won	**447**
Euro	**434**
Japanese Yen	**(1,554)**
Other	**758**
Total	**$ 1,148**

The impacts from currency fluctuations resulted in decreased operating income of $0.8 million for the quarter ended September 30, 2021 as compared to the quarter ended September 30, 2020.

As a percentage of revenue, our international and domestic revenues, and our direct and indirect revenues, were as follows:

	Three Months Ended September 30,	
	2021	**2020**
International	**52.6 %**	57.3 %
Domestic	**47.4 %**	42.7 %
Direct	**74.4 %**	74.9 %
Indirect	**25.6 %**	25.1 %

In valuing deferred revenue on the balance sheets of our recent acquisitions as of their respective acquisition dates, we applied the fair value provisions applicable to the accounting for business combinations, resulting in a reduction of deferred revenue as compared to the historical carrying amount. As a result, our post-acquisition revenue will be less than the sum of what would have otherwise been reported by us and each acquiree absent the acquisitions. The impacts on reported revenue were $4.3 million and $2.2 million for the quarters ended September 30, 2021 and 2020, respectively. The expected impacts on reported revenue, inclusive of the expected impact from the Zemax acquisition, are $5.6 million and $24.7 million for the quarter and the year ending December 31, 2021, respectively.

Deferred Revenue and Backlog:

Deferred revenue consists of billings made or payments received in advance of revenue recognition from customer agreements. The deferred revenue on our condensed consolidated balance sheets does not represent the total value of annual or multi-year, noncancellable agreements. Our backlog represents installment billings for periods beyond the current quarterly billing cycle. Our deferred revenue and backlog as of September 30, 2021 and December 31, 2020 consisted of the following:

	Balance at September 30, 2021		
(in thousands)	**Total**	**Current**	**Long-Term**
Deferred revenue	**$ 332,464**	**$ 318,032**	**$ 14,432**
Backlog	**567,031**	**257,739**	**309,292**
Total	**$ 899,495**	**$ 575,771**	**$ 323,724**

	Balance at December 31, 2020		
(in thousands)	**Total**	**Current**	**Long-Term**
Deferred revenue	$ 388,810	$ 372,061	$ 16,749
Backlog	578,317	234,719	343,598
Total	$ 967,127	$ 606,780	$ 360,347

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

Cost of Sales and Operating Expenses:

The tables below reflect our operating results on both a GAAP and constant currency basis. Amounts included in the discussions that follow each table are provided in constant currency and are inclusive of costs related to our acquisitions. The impact of foreign exchange translation is discussed separately, where material.

	Three Months Ended September 30,						Change			
	2021				2020					
	GAAP		Constant Currency		GAAP		GAAP		Constant Currency	
(in thousands, except percentages)	Amount	% of Revenue	Amount	% of Revenue	Amount	% of Revenue	Amount	%	Amount	%
Cost of sales:										
Software licenses	**$ 8,289**	**1.9**	$ 8,286	1.9	$ 7,251	2.0	$ 1,038	14.3	$ 1,035	14.3
Amortization	**15,189**	**3.4**	15,135	3.4	9,911	2.7	5,278	53.3	5,224	52.7
Maintenance and service	**39,268**	**8.9**	39,082	8.9	36,223	9.9	3,045	8.4	2,859	7.9
Total cost of sales	**62,746**	**14.2**	62,503	14.2	53,385	14.5	9,361	17.5	9,118	17.1
Gross profit	**$ 378,422**	**85.8**	$ 377,517	85.8	$ 313,580	85.5	$ 64,842	20.7	$ 63,937	20.4

Software Licenses: The increase in the cost of software licenses was primarily due to increased third-party royalties of $0.9 million.

Amortization: The increase in amortization expense was primarily due to the amortization of intangible assets acquired within the last year.

Maintenance and Service: The increase in maintenance and service costs was primarily due to increased salaries and incentive compensation of $2.5 million.

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

	Three Months Ended September 30,						Change			
	2021				2020					
	GAAP		Constant Currency		GAAP		GAAP		Constant Currency	
(in thousands, except percentages)	Amount	% of Revenue	Amount	% of Revenue	Amount	% of Revenue	Amount	%	Amount	%
Operating expenses:										
Selling, general and administrative	**$ 165,368**	**37.5**	$ 164,378	37.4	$ 132,642	36.1	$ 32,726	24.7	$ 31,736	23.9
Research and development	**102,023**	**23.1**	101,380	23.0	86,616	23.6	15,407	17.8	14,764	17.0
Amortization	**3,403**	**0.8**	3,380	0.8	4,237	1.2	(834)	(19.7)	(857)	(20.2)
Total operating expenses	**270,794**	**61.4**	269,138	61.2	223,495	60.9	47,299	21.2	45,643	20.4
Operating income	**$ 107,628**	**24.4**	$ 108,379	24.6	$ 90,085	24.5	$ 17,543	19.5	$ 18,294	20.3

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

- Increased salaries, incentive compensation and other headcount-related costs of $21.4 million.
- Increased stock-based compensation of $6.5 million.
- Increased IT maintenance and software hosting costs of $2.6 million.
- Increased business travel of $1.3 million as in-person meetings and live attendance at trade events started to resume.
- Decreased third-party commissions of $2.2 million.

We anticipate that we will continue to make targeted investments in our global sales and marketing organizations and our global business infrastructure to enhance and support our revenue-generating activities.

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

- Increased salaries and incentive compensation of $11.1 million.
- Increased IT maintenance and software hosting costs of $2.0 million.

We have traditionally invested significant resources in research and development activities and intend to continue to make investments in expanding the ease of use and capabilities of our broad portfolio of simulation software products.

Interest Income: Interest income for the quarter ended September 30, 2021 was $0.5 million as compared to $0.8 million for the quarter ended September 30, 2020. Interest income decreased as a result of a lower interest rate environment and the related decrease in the average rate of return on invested cash balances.

Interest Expense: Interest expense for the quarter ended September 30, 2021 was $2.9 million as compared to $1.9 million for the quarter ended September 30, 2020. Interest expense increased as a result of interest incurred on debt financing obtained in connection with the acquisition of AGI in the fourth quarter of 2020, partially offset by a lower interest rate environment.

Other (Expense) Income, net: Other expense for the quarter ended September 30, 2021 was $1.3 million as compared to other income of $1.2 million for the quarter ended September 30, 2020. Other (expense) income consisted primarily of foreign currency (losses) gains.

Income Tax Provision: Our income before income tax provision, income tax provision and effective tax rates were as follows:

	Three Months Ended September 30,	
(in thousands, except percentages)	**2021**	**2020**
Income before income tax provision	**$ 103,898**	$ 90,144
Income tax provision	**$ 18,556**	$ 14,517
Effective tax rate	**17.9 %**	16.1 %

The increase in the effective tax rate from the third quarter of 2020 was primarily due to the release of a valuation allowance in a foreign jurisdiction in the third quarter of 2020 that did not recur in 2021.

When compared to the federal and state combined statutory rate for each respective period, the effective tax rates for the quarters ended September 30, 2021 and 2020 were favorably impacted by the foreign-derived intangible income (FDII) deduction and research and development credits.

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

	Three Months Ended September 30,	
(in thousands, except per share data)	**2021**	**2020**
Net income	**$ 85,342**	$ 75,627
Diluted earnings per share	**$ 0.97**	$ 0.87
Weighted average shares outstanding - diluted	**88,169**	87,224

Nine Months Ended September 30, 2021 Compared to Nine Months Ended September 30, 2020

Revenue:

(in thousands, except percentages)	Nine Months Ended September 30, 2021 GAAP	2021 Constant Currency Amount	2020 GAAP	Change GAAP Amount	Change GAAP %	Change Constant Currency Amount	Change Constant Currency %
Revenue:							
Lease licenses	**$ 315,387**	$ 313,025	$ 237,000	$ 78,387	33.1	$ 76,025	32.1
Perpetual licenses	**232,433**	228,456	161,793	70,640	43.7	66,663	41.2
Software licenses	**547,820**	541,481	398,793	149,027	37.4	142,688	35.8
Maintenance	**655,843**	642,818	615,609	40,234	6.5	27,209	4.4
Service	**47,385**	46,490	43,209	4,176	9.7	3,281	7.6
Maintenance and service	**703,228**	689,308	658,818	44,410	6.7	30,490	4.6
Total revenue	**$ 1,251,048**	$ 1,230,789	$ 1,057,611	$ 193,437	18.3	$ 173,178	16.4

Revenue for the nine months ended September 30, 2021 increased 18.3% compared to the nine months ended September 30, 2020, or 16.4% in constant currency. The growth rate was favorably impacted by our continued investment in our global sales, support and marketing organizations, strong perpetual license sales, the timing and duration of our multi-year lease contracts, sales to our small- and medium-sized businesses, and our recent acquisitions. Perpetual license revenue, which is derived from new sales during the nine months ended September 30, 2021, increased 43.7%, or 41.2% in constant currency, as compared to the nine months ended September 30, 2020. Lease license revenue increased 33.1%, or 32.1% in constant currency, as compared to the nine months ended September 30, 2020. Service revenue increased 9.7%, or 7.6% in constant currency, as compared to the nine months ended September 30, 2020. Annual maintenance contracts that were sold with new perpetual licenses, maintenance contracts for new perpetual licenses sold in previous quarters, maintenance renewals and the maintenance portion of lease license contracts collectively contributed to maintenance revenue growth of 6.5%, or 4.4% in constant currency.

With respect to revenue, on average for the nine months ended September 30, 2021, the U.S. Dollar was approximately 4.1% weaker, when measured against our primary foreign currencies, than for the nine months ended September 30, 2020. The table below presents the net impacts of currency fluctuations on revenue for the nine months ended September 30, 2021. Amounts in brackets indicate an adverse impact from currency fluctuations.

(in thousands)	Nine Months Ended September 30, 2021
Euro	**$ 12,649**
South Korean Won	**3,511**
British Pound	**3,107**
Japanese Yen	**(1,704)**
Other	**2,696**
Total	**$ 20,259**

The impacts from currency fluctuations resulted in increased operating income of $2.7 million for the nine months ended September 30, 2021 as compared to the nine months ended September 30, 2020.

As a percentage of revenue, our international and domestic revenues, and our direct and indirect revenues, were as follows:

	Nine Months Ended September 30,	
	2021	2020
International	**54.4 %**	55.9 %
Domestic	**45.6 %**	44.1 %
Direct	**74.0 %**	75.7 %
Indirect	**26.0 %**	24.3 %

In valuing deferred revenue on the balance sheets of our recent acquisitions as of their respective acquisition dates, we applied the fair value provisions applicable to the accounting for business combinations, resulting in a reduction of deferred revenue as compared to the historical carrying amount. As a result, our post-acquisition revenue will be less than the sum of what would have otherwise been reported by us and each acquiree absent the acquisitions. The impacts on reported revenue were $19.1 million and $10.1 million for the nine months ended September 30, 2021 and 2020, respectively.

Cost of Sales and Operating Expenses:

The tables below reflect our operating results on both a GAAP and constant currency basis. Amounts included in the discussions that follow each table are provided in constant currency and are inclusive of costs related to our acquisitions. The impact of foreign exchange translation is discussed separately, where material.

	Nine Months Ended September 30,						Change			
	2021				2020					
	GAAP		Constant Currency		GAAP		GAAP		Constant Currency	
(in thousands, except percentages)	Amount	% of Revenue	Amount	% of Revenue	Amount	% of Revenue	Amount	%	Amount	%
Cost of sales:										
Software licenses	**$ 23,960**	**1.9**	$ 23,819	1.9	$ 20,688	2.0	$ 3,272	15.8	$ 3,131	15.1
Amortization	**45,163**	**3.6**	44,629	3.6	29,227	2.8	15,936	54.5	15,402	52.7
Maintenance and service	**119,884**	**9.6**	117,150	9.5	107,446	10.2	12,438	11.6	9,704	9.0
Total cost of sales	**189,007**	**15.1**	185,598	15.1	157,361	14.9	31,646	20.1	28,237	17.9
Gross profit	**$ 1,062,041**	**84.9**	$ 1,045,191	84.9	$ 900,250	85.1	$ 161,791	18.0	$ 144,941	16.1

Software Licenses: The increase in the cost of software licenses was primarily due to increased third-party royalties of $3.1 million.

Amortization: The increase in amortization expense was primarily due to the amortization of intangible assets acquired within the last year.

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

- Increased salaries, incentive compensation and other headcount-related costs of $7.5 million.
- Increased costs related to foreign exchange translation of $2.7 million due to a weaker U.S. Dollar.
- Increased consulting costs of $1.3 million.
- Increased IT maintenance and software hosting costs of $1.1 million.
- Decreased third-party technical support of $1.2 million.

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

(in thousands, except percentages)	Nine Months Ended September 30, 2021 GAAP Amount	2021 GAAP % of Revenue	2021 Constant Currency Amount	2021 Constant Currency % of Revenue	2020 GAAP Amount	2020 GAAP % of Revenue	Change GAAP Amount	Change GAAP %	Change Constant Currency Amount	Change Constant Currency %
Operating expenses:										
Selling, general and administrative	**$ 471,993**	**37.7**	$ 463,519	37.7	$ 391,862	37.1	$ 80,131	20.4	$ 71,657	18.3
Research and development	**303,381**	**24.3**	298,061	24.2	258,861	24.5	44,520	17.2	39,200	15.1
Amortization	**12,244**	**1.0**	11,894	1.0	12,562	1.2	(318)	(2.5)	(668)	(5.3)
Total operating expenses	**787,618**	**63.0**	773,474	62.8	663,285	62.7	124,333	18.7	110,189	16.6
Operating income	**$ 274,423**	**21.9**	$ 271,717	22.1	$ 236,965	22.4	$ 37,458	15.8	$ 34,752	14.7

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

- Increased salaries, incentive compensation and other headcount-related costs of $51.7 million.
- Increased stock-based compensation of $15.7 million.
- Increased costs related to foreign exchange translation of $8.5 million due to a weaker U.S. Dollar.
- Increased IT maintenance and software hosting costs of $5.5 million.
- Decreased bad debt expense of $5.0 million.

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

- Increased salaries, incentive compensation and other headcount-related costs of $28.6 million.
- Increased costs related to foreign exchange translation of $5.3 million due to a weaker U.S. Dollar.
- Increased IT maintenance and software hosting costs of $4.3 million.
- Increased stock-based compensation of $3.3 million.

Interest Income: Interest income for the nine months ended September 30, 2021 was $1.5 million as compared to $4.5 million for the nine months ended September 30, 2020. Interest income decreased as a result of a lower interest rate environment and the related decrease in the average rate of return on invested cash balances.

Interest Expense: Interest expense for the nine months ended September 30, 2021 was $9.6 million as compared to $8.5 million for the nine months ended September 30, 2020. Interest expense increased as a result of interest incurred on debt financing obtained in connection with the acquisition of AGI in the fourth quarter of 2020, partially offset by a lower interest rate environment.

Other Income, net: Other income for the nine months ended September 30, 2021 was $14.0 million as compared to $3.2 million for the nine months ended September 30, 2020. Other income consisted primarily of net investment gains.

Income Tax Provision: Our income before income tax provision, income tax provision and effective tax rates were as follows:

(in thousands, except percentages)	Nine Months Ended September 30, 2021	2020
Income before income tax provision	**$ 280,381**	$ 236,053
Income tax provision	**$ 28,925**	$ 17,798
Effective tax rate	**10.3 %**	7.5 %

The increase in the effective tax rate from the prior year was primarily due to an increase in non-deductible compensation in 2021 and the release of valuation allowances in foreign jurisdictions recognized in 2020 that did not recur in 2021. These tax increases were partially offset by increased benefits from stock-based compensation.

When compared to the federal and state combined statutory rate for each respective period, the effective tax rates for the nine months ended September 30, 2021 and 2020 were favorably impacted by tax benefits from stock-based compensation, the FDII deduction, and research and development credits, partially offset by the impact of non-deductible compensation.

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

	Nine Months Ended September 30,	
(in thousands, except per share data)	**2021**	**2020**
Net income	**$ 251,456**	$ 218,255
Diluted earnings per share	**$ 2.86**	$ 2.50
Weighted average shares outstanding - diluted	**88,069**	87,176

Non-GAAP Results

We provide non-GAAP revenue, non-GAAP gross profit, non-GAAP gross profit margin, 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 and a reconciliation of each non-GAAP financial measure to its most comparable GAAP financial measure are included below.

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

	Three Months Ended September 30, 2021						
(in thousands, except percentages and per share data)	**Revenue**	**Gross Profit**	**%**	**Operating Income**	**%**	**Net Income**	**EPS - Diluted[1]**
Total GAAP	**$ 441,168**	**$ 378,422**	**85.8 %**	**$ 107,628**	**24.4 %**	**$ 85,342**	**$ 0.97**
Acquisition accounting for deferred revenue	**4,256**	**4,256**	**0.1 %**	**4,256**	**0.7 %**	**4,256**	**0.05**
Stock-based compensation expense	**—**	**2,753**	**0.6 %**	**44,144**	**9.9 %**	**44,144**	**0.49**
Excess payroll taxes related to stock-based awards	**—**	**38**	**— %**	**626**	**0.1 %**	**626**	**0.01**
Amortization of intangible assets from acquisitions	**—**	**15,189**	**3.4 %**	**18,592**	**4.2 %**	**18,592**	**0.21**
Transaction expenses related to business combinations	**—**	**—**	**— %**	**1,716**	**0.4 %**	**1,716**	**0.02**
Adjustment for income tax effect	**—**	**—**	**— %**	**—**	**— %**	**(14,358)**	**(0.16)**
Total non-GAAP	**$ 445,424**	**$ 400,658**	**89.9 %**	**$ 176,962**	**39.7 %**	**$ 140,318**	**$ 1.59**

[1] Diluted weighted average shares were 88,169.

	Three Months Ended September 30, 2020						
(in thousands, except percentages and per share data)	**Revenue**	**Gross Profit**	**%**	**Operating Income**	**%**	**Net Income**	**EPS - Diluted[1]**
Total GAAP	$ 366,965	$ 313,580	85.5 %	$ 90,085	24.5 %	$ 75,627	$ 0.87
Acquisition accounting for deferred revenue	2,164	2,164	— %	2,164	0.5 %	2,164	0.02
Stock-based compensation expense	—	3,626	0.9 %	38,185	10.4 %	38,185	0.44
Excess payroll taxes related to stock-based awards	—	85	— %	732	0.2 %	732	0.01
Amortization of intangible assets from acquisitions	—	9,911	2.8 %	14,148	3.8 %	14,148	0.16
Transaction expenses related to business combinations	—	—	— %	1,549	0.4 %	1,549	0.02
Adjustment for income tax effect	—	—	— %	—	— %	(14,133)	(0.16)
Total non-GAAP	$ 369,129	$ 329,366	89.2 %	$ 146,863	39.8 %	$ 118,272	$ 1.36

[1] Diluted weighted average shares were 87,224.

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

	Nine Months Ended September 30, 2021						
(in thousands, except percentages and per share data)	**Revenue**	**Gross Profit**	**%**	**Operating Income**	**%**	**Net Income**	**EPS - Diluted[1]**
Total GAAP	**$ 1,251,048**	**$ 1,062,041**	**84.9 %**	**$ 274,423**	**21.9 %**	**$ 251,456**	**$ 2.86**
Acquisition accounting for deferred revenue	**19,075**	**19,075**	**0.2 %**	**19,075**	**1.1 %**	**19,075**	**0.22**
Stock-based compensation expense	**—**	**9,834**	**0.8 %**	**122,148**	**9.7 %**	**122,148**	**1.38**
Excess payroll taxes related to stock-based awards	**—**	**1,085**	**0.1 %**	**12,080**	**1.0 %**	**12,080**	**0.14**
Amortization of intangible assets from acquisitions	**—**	**45,163**	**3.5 %**	**57,407**	**4.5 %**	**57,407**	**0.65**
Transaction expenses related to business combinations	**—**	**—**	**— %**	**5,007**	**0.4 %**	**5,007**	**0.06**
Adjustment for income tax effect	**—**	**—**	**— %**	**—**	**— %**	**(65,334)**	**(0.75)**
Total non-GAAP	**$ 1,270,123**	**$ 1,137,198**	**89.5 %**	**$ 490,140**	**38.6 %**	**$ 401,839**	**$ 4.56**

[1] Diluted weighted average shares were 88,069.

	Nine Months Ended September 30, 2020						
(in thousands, except percentages and per share data)	**Revenue**	**Gross Profit**	**%**	**Operating Income**	**%**	**Net Income**	**EPS - Diluted[1]**
Total GAAP	$ 1,057,611	$ 900,250	85.1 %	$ 236,965	22.4 %	$ 218,255	$ 2.50
Acquisition accounting for deferred revenue	10,116	10,116	0.2 %	10,116	0.7 %	10,116	0.12
Stock-based compensation expense	—	9,956	0.9 %	103,256	9.7 %	103,256	1.19
Excess payroll taxes related to stock-based awards	—	774	0.1 %	9,591	0.9 %	9,591	0.11
Amortization of intangible assets from acquisitions	—	29,227	2.7 %	41,789	3.9 %	41,789	0.48
Transaction expenses related to business combinations	—	—	— %	2,808	0.3 %	2,808	0.03
Rabbi trust (income) / expense	—	—	— %	—	— %	(5)	—
Adjustment for income tax effect	—	—	— %	—	— %	(60,906)	(0.70)
Total non-GAAP	$ 1,067,727	$ 950,323	89.0 %	$ 404,525	37.9 %	$ 324,904	$ 3.73

[1] Diluted weighted average shares were 87,176.

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 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 gross profit, non-GAAP gross profit margin, 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 gross profit, non-GAAP gross profit margin, 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.

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:

GAAP Reporting Measure	Non-GAAP Reporting Measure
Revenue	Non-GAAP Revenue
Gross Profit	Non-GAAP Gross Profit
Gross Profit Margin	Non-GAAP Gross Profit Margin
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

Constant currency. In addition to the non-GAAP financial measures detailed above, we use constant currency results for financial and operational decision-making and as a means to evaluate period-to-period comparisons by excluding the effects of foreign currency fluctuations on the reported results. To present this information, the 2021 results for entities whose functional currency is a currency other than the U.S. Dollar were converted to U.S. Dollars at rates that were in effect for the 2020 comparable period, rather than the actual exchange rates in effect for 2021. Constant currency growth rates are calculated by adjusting the 2021 reported amounts by the 2021 currency fluctuation impacts and comparing the adjusted amounts to the 2020 comparable period reported amounts. 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 reported results to our past reports of financial results without the effects of foreign currency fluctuations.

Liquidity and Capital Resources

(in thousands)	September 30, 2021	December 31, 2020	Change
Cash, cash equivalents and short-term investments	**$ 1,081,365**	$ 913,151	$ 168,214
Working capital	**$ 1,156,254**	$ 990,412	$ 165,842

Cash, Cash Equivalents and Short-Term Investments

Cash and cash equivalents consist primarily of highly liquid investments such as money market funds and deposits held at major banks. Short-term investments consist primarily of deposits held by certain of our foreign subsidiaries with original maturities of three months to one year. The following table presents our foreign and domestic holdings of cash, cash equivalents and short-term investments as of September 30, 2021 and December 31, 2020:

(in thousands, except percentages)	September 30, 2021	% of Total	December 31, 2020	% of Total
Domestic	**$ 746,039**	**69.0**	$ 582,882	63.8
Foreign	**335,326**	**31.0**	330,269	36.2
Total	**$ 1,081,365**		$ 913,151	

In general, it is our intention to permanently reinvest all earnings in excess of previously taxed amounts. Substantially all of the pre-2018 earnings of our non-U.S. subsidiaries were taxed through the transition tax imposed as part of the Tax Cuts and Jobs Act of 2017 and post-2018 current earnings are taxed as part of global intangible low-taxed income tax expense. These taxes increase our previously taxed earnings and allow for the repatriation of the majority of our foreign earnings without any residual U.S. federal tax. While we believe that the financial reporting bases may be greater than the tax bases of investments in foreign subsidiaries for any earnings in excess of previously taxed amounts, such amounts are considered permanently reinvested. The cumulative temporary difference related to such permanently reinvested earnings is approximately $130.5 million, and we would anticipate the tax effect on those earnings to be immaterial.

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

Cash Flows from Operating Activities

	Nine Months Ended September 30,		
(in thousands)	2021	2020	Change
Net cash provided by operating activities	**$ 447,829**	$ 373,543	$ 74,286

Net cash provided by operating activities increased during the nine months ended September 30, 2021 compared to the nine months ended September 30, 2020 due to increased net income (net of non-cash operating adjustments) of $51.7 million and increased net cash flows from operating assets and liabilities of $22.6 million. The growth in net cash provided by operating activities was impacted by a meaningful increase in customer receipts driven primarily by ACV growth and stronger collections in 2021, partially offset by increased outflows related to operational payments and income taxes.

Cash Flows from Investing Activities

	Nine Months Ended September 30,		
(in thousands)	2021	2020	Change
Net cash used in investing activities	**$ (123,656)**	$ (130,590)	$ 6,934

Net cash used in investing activities decreased by $6.9 million during the nine months ended September 30, 2021 compared to the nine months ended September 30, 2020. Capital expenditures decreased by $6.1 million and other investments decreased by $5.8 million. These decreases were partially offset by increased acquisition-related net cash outlays of $4.9 million. We currently plan capital spending of $25.0 million to $35.0 million during fiscal year 2021 as compared to the $35.4 million that was spent in fiscal year 2020. The level of spending will depend on various factors, including the growth of the business and general economic conditions.

Cash Flows from Financing Activities

	Nine Months Ended September 30,		
(in thousands)	2021	2020	Change
Net cash used in financing activities	**$ (146,865)**	$ (275,846)	$ 128,981

Net cash used in financing activities decreased during the nine months ended September 30, 2021 compared to the nine months ended September 30, 2020 due to decreased stock repurchases of $125.0 million and decreased principal payments on long-term debt of $30.0 million, partially offset by increased restricted stock withholding taxes paid in lieu of issued shares of $25.4 million.

Other Cash Flow Information

As of September 30, 2021, the carrying value of our term loans was $753.5 million, with no principal payments due in the next twelve months. Borrowings under the term loans accrue interest at the Eurodollar rate plus an applicable margin or at the base rate, at our election. The base rate is the applicable margin plus the highest of (i) the federal funds rate plus 0.500%, (ii) the Bank of America prime rate and (iii) the Eurodollar rate plus 1.000%. The applicable margin for these borrowings is a percentage per annum based on the lower of (1) a pricing level determined by our then-current consolidated leverage ratio and (2) a pricing level determined by our debt ratings (if such debt ratings exist).

We previously entered into noncancellable operating lease commitments, primarily for our domestic and international offices. The commitments related to these operating leases is $140.6 million, of which $27.1 million is due in the next twelve months.

On October 1, 2021, we acquired 100% of the shares of Zemax, a leader in high-performance optical imaging system simulation, for a purchase price of $411.5 million, paid in cash, or $399.1 million net of cash acquired from Zemax. The acquisition expands the scope of our optical and photonics simulation portfolio by giving users comprehensive solutions that could drive innovation in healthcare, autonomy, consumer electronics and the IIoT.

We believe that existing cash and cash equivalent balances after this acquisition, together with cash generated from operations and access to the $500.0 million Revolving Credit Facility, will be sufficient to meet our working capital and capital expenditure requirements through the next twelve months. Our cash requirements in the future may also be financed through additional equity or debt financings. However, future disruptions in the capital markets could make financing more challenging, and there can be no assurance that such financing can be obtained on commercially reasonable terms, or at all.

Under our stock repurchase program, we repurchased shares as follows:

	Nine Months Ended	
(in thousands, except per share data)	September 30, 2021	September 30, 2020
Number of shares repurchased	**97**	690
Average price paid per share	**$ 371.83**	$ 233.48
Total cost	**$ 35,993**	$ 161,029

As of September 30, 2021, 2.7 million shares remained available for repurchase under the program.

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

We continue to generate positive cash flows from operating activities and believe that the best uses of our excess cash are to invest in the business; acquire or make investments in complementary companies, products, services and technologies; and make payments on our outstanding debt balances. Any future acquisitions may be funded by available cash and investments, cash generated from operations, debt financing, or the issuance of additional securities. Additionally, we have in the past, and expect in the future, to repurchase stock in order to both offset dilution and return capital, in excess of our requirements, to stockholders with the goal of increasing stockholder value.

Off-Balance-Sheet Arrangements

We do not have any special-purpose entities or off-balance-sheet arrangements.

Contractual Obligations

There were no material changes to our significant contractual obligations during the nine months ended September 30, 2021 as compared to those previously reported within "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our 2020 Form 10-K.

Critical Accounting Policies and Estimates

During the first quarter of 2021, we completed the annual impairment test for goodwill and the indefinite-lived intangible asset and determined that these assets had not been impaired as of the test date, January 1, 2021. No other events or circumstances changed during the nine months ended September 30, 2021 that would indicate that the fair values of our reporting unit and indefinite-lived intangible asset are below their carrying amounts.

No significant changes have occurred to our critical accounting policies and estimates as previously reported within "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our 2020 Form 10-K.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk. Changes in the overall level of interest rates affect the interest income that is generated from our cash, cash equivalents and short-term investments and the interest expense that is generated from our outstanding borrowings. For the three and nine months ended September 30, 2021, interest income was $0.5 million and $1.5 million, respectively, and interest expense was $2.9 million and $9.6 million, respectively.

Cash and cash equivalents consist primarily of highly liquid investments such as money market funds and deposits held at major banks. Short-term investments consist primarily of deposits held by certain foreign subsidiaries with original maturities of three months to one year. A hypothetical 100 basis point change in interest rates on these holdings would have an immaterial impact on our interest income.

Our outstanding borrowings of $755.0 million accrue interest at the Eurodollar rate plus an applicable margin or at the base rate, at our election. The base rate is the applicable margin plus the highest of (i) the federal funds rate plus 0.500%, (ii) the Bank of America prime rate and (iii) the Eurodollar rate plus 1.000%. The applicable margin for these borrowings is a percentage per annum based on the lower of (1) a pricing level determined by our then-current consolidated leverage ratio and (2) a pricing level determined by our debt ratings (if such debt ratings exist). This results in a margin ranging from 1.125% to 1.750% and 0.125% to 0.750% for the Eurodollar rate and base rate, respectively. Because interest rates applicable to the outstanding borrowings are variable, we are exposed to interest rate risk from changes in the underlying index rates, which affects our interest expense. A hypothetical increase of 100 basis points in interest rates would result in an increase in interest expense and a corresponding decrease in cash flows of $7.6 million over the next twelve months, based on outstanding borrowings at September 30, 2021.

Foreign Currency Exchange Risk. As we operate in international regions, a portion of our revenue, expenses, cash, accounts receivable and payment obligations are denominated in foreign currencies. As a result, changes in currency exchange rates will affect our financial position, results of operations and cash flows.

With respect to revenue, on average for the quarter ended September 30, 2021, the U.S. Dollar was approximately 0.7% weaker, when measured against our primary foreign currencies, than for the quarter ended September 30, 2020. With respect to revenue, on average for the nine months ended September 30, 2021, the U.S. Dollar was approximately 4.1% weaker, when measured against our primary foreign currencies, than for the nine months ended September 30, 2020. The table below presents the net impacts of currency fluctuations on revenue for the three and nine months ended September 30, 2021. Amounts in brackets indicate a net adverse impact from currency fluctuations.

(in thousands)	Three Months Ended September 30, 2021	Nine Months Ended September 30, 2021
Euro	$ 434	$ 12,649
South Korean Won	447	3,511
British Pound	1,063	3,107
Japanese Yen	(1,554)	(1,704)
Other	758	2,696
Total	$ 1,148	$ 20,259

The impacts from currency fluctuations resulted in decreased operating income of $0.8 million and increased operating income of $2.7 million for the three and nine months ended September 30, 2021 as compared to the three and nine months ended September 30, 2020, respectively.

A hypothetical 10% strengthening in the U.S. dollar against other currencies would have decreased our revenue by $17.1 million and $49.4 million for the three and nine months ended September 30, 2021, respectively, and decreased our operating income by $7.3 million and $18.7 million for the three and nine months ended September 30, 2021, respectively.

The most significant currency impacts on revenue and operating income are typically attributable to U.S. Dollar exchange rate changes against the Euro and Japanese Yen. Historical exchange rates for these currency pairs are reflected in the charts below:

	Period-End Exchange Rates	
As of	**EUR/USD**	**USD/JPY**
September 30, 2021	**1.16**	**111.30**
December 31, 2020	1.22	103.27
September 30, 2020	1.17	105.44

	Average Exchange Rates	
Three Months Ended	**EUR/USD**	**USD/JPY**
September 30, 2021	**1.18**	**110.09**
September 30, 2020	1.17	106.13

	Average Exchange Rates	
Nine Months Ended	**EUR/USD**	**USD/JPY**
September 30, 2021	**1.20**	**108.45**
September 30, 2020	1.12	107.55

No other material change has occurred in our market risk subsequent to December 31, 2020.

Item 4. Controls and Procedures

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

We believe, based on our knowledge, that the financial statements and other financial information included in this report fairly present, in all material respects, our financial condition, results of operations and cash flows as of and for the periods presented in this report. We are committed to both a sound internal control environment and to good corporate governance.

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

From time to time, we review the disclosure controls and procedures, and may periodically make changes to enhance their effectiveness and to ensure that our systems evolve with our business.

Changes in Internal Control. There were no changes in our internal control over financial reporting that occurred during the three months ended September 30, 2021 that materially affected, or that are reasonably likely to materially affect, our internal control over financial reporting. Although the majority of our employee base worked remotely, the remote work arrangements did not adversely affect our ability to maintain financial operations, including our financial reporting systems, internal controls over financial reporting and disclosure controls and procedures.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings

We are subject to various investigations, claims and legal proceedings that arise in the ordinary course of business, including commercial disputes, labor and employment matters, tax audits and litigations, alleged infringement of third party's intellectual property rights and other matters. Use or distribution of our products could generate product liability, regulatory infraction, or similar claims by our customers, end users, channel partners, government entities or other third parties. Sales and marketing activities that impact processing of personal data, as well as measures taken to ensure license compliance against pirated or unauthorized usage of our commercial product, may also result in claims by customers and individual employees of customers. Each of these matters is subject to various uncertainties, and it is possible that an unfavorable resolution of one or more of these matters could have a significant adverse effect on our condensed consolidated financial statements as well as cause reputational damage.

Item 1A. Risk Factors

We face a number of risks that could materially and adversely affect our business, financial position, results of operations and cash flows. A discussion of our risk factors can be found in Part I, Item 1A "Risk Factors" in our 2020 Form 10-K. The risk factor set forth below includes additional information relating to the COVID-19 pandemic, and updates, and should be read together with, the risk factors disclosed in our 2020 Form 10-K. This situation continues to evolve and additional impacts may arise of which we are currently not aware.

The COVID-19 pandemic has had, and is expected to continue to have, an effect on our business, employees, and consolidated financial statements. The uncertainty surrounding the remaining duration and impact of the COVID-19 pandemic limits our ability to accurately forecast expected business results in the near term.

The health and safety of our employees and their families, our partners and our other constituents around the world is a high priority. At the onset of the COVID-19 pandemic, we took action to enable our employees to work from home. We closed our offices (including our corporate headquarters), transitioned to a remote work environment, and implemented certain travel restrictions, each of which has changed how we operate our business. We continue to monitor and manage the situation, but as of now remote access remains the primary means of work for most of our workforce. We previously announced our plans for post-pandemic work arrangements. These plans include options for our employees to work from home, in the office or on a flexible basis where they can alternate between the office and home. The adoption of the arrangements is subject to evolving local guidelines on precautions to be taken to mitigate COVID-19 risk to our employees and customers.

New mandates, orders and similar requirements or regulations continue to be issued or are expected, including for example U.S. Executive Order 14042 and the U.S. Emergency Temporary Standard directed at the U.S. Occupational Safety and Health Administration. Additional requirements related to COVID-19 safety precautions, including COVID-19 vaccine mandates of varying scope and applicability, may apply to operations in the U.S. or other jurisdictions in which our business operates. Failure to comply with the applicable requirements could create the risk of potential loss of business, including with respect to our U.S. Government contracts or agreements with customers who contract with the U.S. Government, which could have an adverse effect on our business and consolidated financial statements. Our implementation of various mandatory vaccination, testing or other requirements related to COVID-19 safety may result in reduction in productivity of our workforce, attrition of management personnel or technical talent or in a reduction in employee morale, which could have an adverse effect on our business and consolidated financial statements.

The COVID-19 outbreak continues to cause business slowdowns and shutdowns in affected areas. While in-person meetings have started to resume as well as live attendance at trade events, a majority of our customer events and those of our channel partners remain virtual only experiences. Virtual events may not be as successful as customer events prior to COVID-19 because, among other reasons, the limited number of such events, the varying attendance levels and virtual event fatigue.

An extended period of remote work arrangements may negatively impact the sales pipeline due to reduced, delayed, or altered sales and marketing interactions with customers and potential customers, expose us to increased risk of cyber incidents, delay or alter product roadmaps or research and development due to reduced or limited access to technologies, equipment, or services, and delay or disrupt recruitment efforts. Limitations on availability, ease of use or increased cost related to the use of our products in our customers' remote work environments could also result in a decline in demand for our products.

We have experienced, and continue to expect, that our larger customer accounts will perform more strongly than the small- and medium-sized businesses during the pandemic. In addition, the shifting preference from perpetual licenses to time-based licenses was, and is expected to continue to be, elevated as a result of the impacts of COVID-19. There may also be continued lower activity levels in the end markets we service or declining financial performance of our customers and channel partners, which could result in lower rates of renewal, which have historically been stable and high, and cancellations, reductions, or delays for our products and services. Due to our subscription-based business model, the effect of the pandemic may not be fully reflected in our results of operations until future periods and could impact future growth rates.

The situation surrounding COVID-19 remains fluid, and given its inherent uncertainty, we expect the pandemic will continue to have an impact on our business and consolidated financial statements in the near term. The duration and extent of the impact from the COVID-19 pandemic depends on future developments that cannot be accurately predicted at this time, such as the timing and effectiveness of vaccination efforts in the markets where we do business, transmission rates of the virus and the development of virus mutations and variants, the nature and scope of government economic recovery measures and the extent and effectiveness of containment actions. The impact of the COVID-19 pandemic may also have the effect of heightening many of the other risks and uncertainties described in the "Risk Factors" section in our 2020 Form 10-K.

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

(c) Issuer Purchases of Equity Securities

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number of Shares that May Yet Be Purchased Under Plans or Programs[1]
July 1 - July 31, 2021	—	$ —	—	2,806,295
August 1 - August 31, 2021	—	$ —	—	2,806,295
September 1 - September 30, 2021	96,800	$ 371.83	96,800	2,709,495
Total	96,800	$ 371.83	96,800	2,709,495

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

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

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

SIGNATURES

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

ANSYS, Inc.

Date:	November 3, 2021	By:	/s/ *Ajei S. Gopal*
			Ajei S. Gopal President and Chief Executive Officer (Principal Executive Officer)
Date:	November 3, 2021	By:	/s/ *Nicole Anasenes*
			Nicole Anasenes Chief Financial Officer and Senior Vice President, Finance (Principal Financial Officer and Principal Accounting Officer)

EXHIBIT 15

November 3, 2021

The Board of Directors and Stockholders of ANSYS, Inc.
2600 ANSYS Drive
Canonsburg, PA 15317

We are aware that our report dated November 3, 2021, on our review of the interim financial information of ANSYS, Inc. appearing in this Quarterly Report on Form 10-Q for the quarter ended September 30, 2021, is incorporated by reference in Registration Statement Nos. 333-152765, 333-174670, 333-177030, 333-196393, 333-206111, 333-212412, and 333-256252 on Form S-8, and Registration No. 333-253472 on Form S-3.

/s/ Deloitte & Touche LLP
Pittsburgh, Pennsylvania

EXHIBIT 31.1

CHIEF EXECUTIVE OFFICER CERTIFICATION

I, Ajei S. Gopal, certify that:

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

Date: November 3, 2021

/s/ Ajei S. Gopal

Ajei S. Gopal
President and Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 31.2

CHIEF FINANCIAL OFFICER CERTIFICATION

I, Nicole Anasenes, certify that:

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

Date: November 3, 2021

/s/ Nicole Anasenes

Nicole Anasenes
Chief Financial Officer and Senior Vice President, Finance
(Principal Financial Officer and Principal Accounting Officer)

EXHIBIT 32.1

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

In connection with the Quarterly Report of ANSYS, Inc. (the "Company") on Form 10-Q for the quarter ended September 30, 2021 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Ajei S. Gopal, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

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

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

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

/s/ *Ajei S. Gopal*

Ajei S. Gopal
President and Chief Executive Officer
(Principal Executive Officer)
November 3, 2021

EXHIBIT 32.2

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

In connection with the Quarterly Report of ANSYS, Inc. (the "Company") on Form 10-Q for the quarter ended September 30, 2021 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Nicole Anasenes, Chief Financial Officer and Senior Vice President, Finance of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

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

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

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

/s/ *Nicole Anasenes*
Nicole Anasenes
Chief Financial Officer and Senior Vice President, Finance
(Principal Financial Officer and Principal Accounting Officer)
November 3, 2021