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

FORM 10-Q

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

For the quarterly period ended June 30, 2020

OR

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

For the transition period from ________ to ________

Commission File Number: 001-38263

ALTAIR ENGINEERING INC.
(Exact name of registrant as specified in its charter)

Delaware	**38-2591828**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
1820 East Big Beaver Road, Troy, Michigan	**48083**
(Address of principal executive offices)	**(Zip Code)**

(248) 614-2400
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Class A Common Stock $0.0001 par value per share	**ALTR**	**The NASDAQ Stock 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 ☒

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.
On July 17, 2020, there were 42,243,589 shares of the registrant's Class A common stock outstanding and 30,870,732 shares of the registrant's Class B common stock outstanding.

ALTAIR ENGINEERING INC. AND SUBSIDIARIES

FORM 10-Q

FOR THE QUARTER ENDED JUNE 30, 2020

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PART I – FINANCIAL INFORMATION

Item 1. Financial Statements

ALTAIR ENGINEERING INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(In thousands)	June 30, 2020 (Unaudited)	December 31, 2019
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 250,540	$ 223,117
Accounts receivable, net	79,185	104,984
Income tax receivable	5,760	7,264
Prepaid expenses and other current assets	16,469	17,092
Total current assets	351,954	352,457
Property and equipment, net	34,456	36,297
Operating lease right of use assets	32,598	28,134
Goodwill	233,486	233,683
Other intangible assets, net	58,177	67,075
Deferred tax assets	5,661	5,791
Other long-term assets	20,514	19,708
TOTAL ASSETS	$ 736,846	$ 743,145
LIABILITIES, MEZZANINE EQUITY AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Current portion of long-term debt	$ 456	$ 430
Accounts payable	4,780	8,585
Accrued compensation and benefits	30,997	30,676
Current portion of operating lease liabilities	9,369	9,141
Other accrued expenses and current liabilities	27,411	28,603
Deferred revenue	73,061	75,431
Total current liabilities	146,074	152,866
Long-term debt, net of current portion	183,409	178,238
Operating lease liabilities, net of current portion	24,352	20,174
Deferred revenue, non-current	7,287	8,136
Other long-term liabilities	19,990	26,672
TOTAL LIABILITIES	381,112	386,086
Commitments and contingencies		
MEZZANINE EQUITY	784	2,352
STOCKHOLDERS' EQUITY:		
Preferred stock ($0.0001 par value), authorized 45,000 shares, none issued and outstanding	—	—
Common stock ($0.0001 par value)		
Class A common stock, authorized 513,797 shares, issued and outstanding 42,108 and 41,271 shares as of June 30, 2020 and December 31, 2019, respectively	4	4
Class B common stock, authorized 41,203 shares, issued and outstanding 30,971 and 31,131 shares as of June 30, 2020 and December 31, 2019, respectively	3	3
Additional paid-in capital	456,307	446,633
Accumulated deficit	(86,986)	(82,405)
Accumulated other comprehensive loss	(14,378)	(9,528)
TOTAL STOCKHOLDERS' EQUITY	354,950	354,707
TOTAL LIABILITIES, MEZZANINE EQUITY AND STOCKHOLDERS' EQUITY	$ 736,846	$ 743,145

See accompanying notes to consolidated financial statements.

ALTAIR ENGINEERING INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)

(in thousands, except per share data)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019
Revenue				
License	$ 51,018	$ 56,653	$ 128,561	$ 133,274
Maintenance and other services	30,815	27,755	61,715	54,425
Total software	81,833	84,408	190,276	187,699
Software related services	5,444	7,907	12,378	17,679
Total software and related services	87,277	92,315	202,654	205,378
Client engineering services	9,640	12,412	23,518	24,462
Other	1,644	2,046	3,852	4,792
Total revenue	98,561	106,773	230,024	234,632
Cost of revenue				
License	2,851	2,954	8,374	8,775
Maintenance and other services	8,502	9,430	18,957	17,961
Total software	11,353	12,384	27,331	26,736
Software related services	4,656	6,612	10,145	13,130
Total software and related services	16,009	18,996	37,476	39,866
Client engineering services	7,789	10,033	19,107	19,833
Other	1,283	1,994	2,995	4,209
Total cost of revenue	25,081	31,023	59,578	63,908
Gross profit	73,480	75,750	170,446	170,724
Operating expenses:				
Research and development	28,970	29,829	60,437	57,345
Sales and marketing	25,806	26,221	53,905	52,672
General and administrative	20,248	19,851	42,594	40,180
Amortization of intangible assets	3,692	3,600	7,532	7,128
Other operating income, net	(944)	(549)	(1,835)	(1,166)
Total operating expenses	77,772	78,952	162,633	156,159
Operating (loss) income	(4,292)	(3,202)	7,813	14,565
Interest expense	2,843	590	5,656	860
Other expense (income), net	320	(505)	(1,070)	(115)
(Loss) income before income taxes	(7,455)	(3,287)	3,227	13,820
Income tax expense (benefit)	2,768	(167)	7,420	3,921
Net (loss) income	$ (10,223)	$ (3,120)	$ (4,193)	$ 9,899
(Loss) income per share:				
Net (loss) income per share attributable to common stockholders, basic	$ (0.14)	$ (0.04)	$ (0.06)	$ 0.14
Net (loss) income per share attributable to common stockholders, diluted	$ (0.14)	$ (0.04)	$ (0.06)	$ 0.13
Weighted average shares outstanding:				
Weighted average number of shares used in computing net (loss) income per share, basic	72,999	71,373	72,811	71,081
Weighted average number of shares used in computing net (loss) income per share, diluted	72,999	71,373	72,811	77,017

See accompanying notes to consolidated financial statements.

ALTAIR ENGINEERING INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Unaudited)

(in thousands)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019
Net (loss) income	$ (10,223)	$ (3,120)	$ (4,193)	$ 9,899
Other comprehensive (loss) income, net of tax:				
Foreign currency translation (net of tax effect of $0 for all periods)	2,560	1,605	(5,018)	1,942
Retirement related benefit plans (net of tax effect of $(13), $0, $0 and $0, respectively)	31	16	168	244
Total other comprehensive (loss) income	2,591	1,621	(4,850)	2,186
Comprehensive (loss) income	$ (7,632)	$ (1,499)	$ (9,043)	$ 12,085

See accompanying notes to consolidated financial statements.

ALTAIR ENGINEERING INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
(Unaudited)

	Common stock							
	Class A		Class B					
(in thousands)	Shares	Amount	Shares	Amount	Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive loss	Total stockholders' equity
Balance at January 1, 2020	41,271	$ 4	31,131	$ 3	$ 446,633	$ (82,405)	$ (9,528)	$ 354,707
Cumulative effect of an accounting change	—	—	—	—	—	(388)	—	(388)
Net income	—	—	—	—	—	6,030	—	6,030
Exercise of stock options	285	—	—	—	194	—	—	194
Vesting of restricted stock	143	—	—	—	—	—	—	—
Conversion from Class B to Class A common stock	80	—	(80)	—	—	—	—	—
Stock-based compensation	—	—	—	—	3,043	—	—	3,043
Foreign currency translation, net of tax	—	—	—	—	—	—	(7,578)	(7,578)
Retirement related benefit plans, net of tax	—	—	—	—	—	—	137	137
Balance at March 31, 2020	41,779	4	31,051	3	449,870	(76,763)	(16,969)	356,145
Net loss	—	—	—	—	—	(10,223)	—	(10,223)
Exercise of stock options	197	—	—	—	283	—	—	283
Vesting of restricted stock	52	—	—	—	—	—	—	—
Conversion from Class B to Class A common stock	80	—	(80)	—	—	—	—	—
Stock-based compensation	—	—	—	—	4,586	—	—	4,586
Reclassification of mezzanine equity to permanent equity	—	—	—	—	1,568	—	—	1,568
Foreign currency translation, net of tax	—	—	—	—	—	—	2,560	2,560
Retirement related benefit plans, net of tax	—	—	—	—	—	—	31	31
Balance at June 30, 2020	42,108	$ 4	30,971	$ 3	$ 456,307	$ (86,986)	$ (14,378)	$ 354,950

See accompanying notes to consolidated financial statements.

ALTAIR ENGINEERING INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
(Unaudited)

	Common stock				Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive loss	Total stockholders' equity
	Class A		Class B					
(in thousands)	Shares	Amount	Shares	Amount				
Balance at January 1, 2019	38,349	$ 4	32,171	$ 3	$ 379,832	$ (74,863)	$ (11,290)	$ 293,686
Net income	—	—	—	—	—	13,019	—	13,019
Exercise of stock options	397	—	—	—	458	—	—	458
Vesting of restricted stock	14	—	—	—	—	—	—	—
Stock-based compensation	—	—	—	—	869	—	—	869
Foreign currency translation, net of tax	—	—	—	—	—	—	337	337
Retirement related benefit plans, net of tax	—	—	—	—	—	—	228	228
Balance at March 31, 2019	38,760	4	32,171	3	381,159	(61,844)	(10,725)	308,597
Net loss	—	—	—	—	—	(3,120)	—	(3,120)
Equity component of convertible senior notes, net of issuance costs	—	—	—	—	50,009	—	—	50,009
Exercise of stock options	608	—	—	—	812	—	—	812
Vesting of restricted stock	34	—	—	—	—	—	—	—
Conversion from Class B to Class A common stock	270	—	(270)	—	—	—	—	—
Stock-based compensation	—	—	—	—	1,922	—	—	1,922
Foreign currency translation, net of tax	—	—	—	—	—	—	1,605	1,605
Retirement related benefit plans, net of tax	—	—	—	—	—	—	16	16
Balance at June 30, 2019	39,672	$ 4	31,901	$ 3	$ 433,902	$ (64,964)	$ (9,104)	$ 359,841

See accompanying notes to consolidated financial statements.

ALTAIR ENGINEERING INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

(In thousands)	**Six Months Ended June 30, 2020**	**2019**
OPERATING ACTIVITIES:		
Net (loss) income	$ (4,193)	$ 9,899
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	11,293	10,468
Provision for credit loss	589	134
Amortization of debt discount and issuance costs	5,342	459
Stock-based compensation expense	7,705	3,292
Deferred income taxes	(5,961)	(703)
Other, net	3	(17)
Changes in assets and liabilities:		
Accounts receivable	23,264	10,406
Prepaid expenses and other current assets	1,817	(4,952)
Other long-term assets	(960)	(2,300)
Accounts payable	(3,841)	(2,187)
Accrued compensation and benefits	497	(2,455)
Other accrued expenses and current liabilities	131	1,887
Operating lease right-of-use assets and liabilities, net	30	197
Deferred revenue	(2,315)	7,740
Net cash provided by operating activities	33,401	31,868
INVESTING ACTIVITIES:		
Capital expenditures	(2,530)	(6,667)
Payments for acquisition of businesses, net of cash acquired	(2,270)	(709)
Payments for acquisition of developed technology	(433)	(344)
Other investing activities, net	142	16
Net cash used in investing activities	(5,091)	(7,704)
FINANCING ACTIVITIES:		
Proceeds from the exercise of stock options	477	1,270
Proceeds from issuance of convertible senior notes, net of underwriters' discount and commissions	—	223,101
Payments on revolving commitment	—	(127,941)
Borrowings under revolving commitment	—	96,991
Payments for issuance costs of convertible senior notes	—	(1,018)
Other financing activities	(210)	(259)
Net cash provided by financing activities	267	192,144
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(1,148)	187
Net increase in cash, cash equivalents and restricted cash	27,429	216,495
Cash, cash equivalents and restricted cash at beginning of year	223,497	35,685
Cash, cash equivalents and restricted cash at end of period	$ 250,926	$ 252,180
Supplemental disclosure of cash flow:		
Interest paid	$ 306	$ 362
Income taxes paid	$ 9,491	$ 4,054
Supplemental disclosure of non-cash investing and financing activities:		
Finance leases	$ 100	$ 566
Property and equipment in accounts payable, other current liabilities and other liabilities	$ 343	$ 417
Convertible senior notes issuance costs in accounts payable	—	$ 216

See accompanying notes to consolidated financial statements.

1. Organization and description of business

Altair Engineering Inc. ("Altair" or the "Company") is incorporated in the state of Delaware. The Company is a global technology company providing software and cloud solutions in the areas of product development, high performance computing and data analytics. Altair enables organizations across broad industry segments to compete more effectively in a connected world while creating a more sustainable future. The Company is headquartered in Troy, Michigan.

Basis of presentation

The accompanying unaudited consolidated financial statements have been prepared in accordance with United States generally accepted accounting principles ("GAAP") and applicable rules and regulations of the Securities and Exchange Commission ("SEC") regarding interim financial information. Accordingly, the accompanying statements do not include all the information and notes required by GAAP for complete financial statements. The accompanying unaudited consolidated financial statements should be read in conjunction with the Company's audited consolidated financial statements (and notes thereto) for the year ended December 31, 2019, included in the most recent Annual Report on Form 10-K filed with the SEC. In the opinion of management, all adjustments considered necessary for a fair presentation of the financial statements have been included, and all adjustments are of a normal and recurring nature. The preparation of the financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, and disclosures of contingent assets and liabilities at the date of the financial statements and reported amounts of revenue and expenses during the reporting periods. Considerable judgment is often involved in making these determinations; use of different assumptions could result in significantly different results. Management believes its assumptions and estimates are reasonable and appropriate. However, actual results may differ from those estimates. In addition, the results of operations for the three and six months ended June 30, 2020, are not necessarily indicative of the results that may be expected for any future period.

Use of estimates

The preparation of the consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and reported amounts of revenue and expenses during the reporting periods. On an ongoing basis, management evaluates its significant estimates including the stand alone selling price, or SSP, for each distinct performance obligation included in customer contracts with multiple performance obligations, valuation of acquired intangible assets in business combinations, the incremental borrowing rate used in the valuation of lease liabilities, the determination of the period of benefit for capitalized costs to obtain a contract, fair value of convertible senior notes, provision for credit loss, tax valuation allowances, liabilities for uncertain tax provisions, impairment of goodwill and intangible assets, retirement obligations, useful lives of intangible assets, revenue for fixed price contracts, and stock-based compensation. Actual results could differ from those estimates.

COVID-19

In March 2020, The World Health Organization declared the outbreak of COVID-19 a pandemic, and a public health emergency of international concern. The global spread of COVID-19 created significant volatility and uncertainty. Such conditions are expected to continue to persist. To limit the spread of COVID-19, governments have taken various actions from time to time including the issuance of travel restrictions, complete or partial prohibitions of non-essential activities, restrictions or shutdowns of non-essential businesses, stay-at-home orders and social distancing guidelines. Some of these actions have varied from initial responses, pivoting between full or complete to partial or limited restrictions depending upon local or regional conditions. Accordingly, many businesses have adjusted to these actions by reducing or suspending operating or other activities. This has negatively impacted several of the markets the Company serves, including the automotive and aerospace markets.

The Company continues to robustly engage with its customers, primarily virtually. While the Company believes this active level of engagement may mitigate potential and evolving negative impacts from COVID-19, existing and potential customers may choose to reduce or delay technology spending in response to COVID-19, or attempt to renegotiate contracts and obtain concessions, which may materially and negatively impact the Company's operating results, financial condition and new business. In certain cases, the Company has provided longer than normal payment terms to certain of its customers; however, the terms are less than one year, and the Company does not expect this to materially affect its consolidated financial statements. COVID-19's impact on some of the Company's customers has primarily contributed to the decrease in revenue for software related and client engineering services. The Company's software product revenue has been affected by elongated sales cycles for some of its customers along with greater challenges in securing new and expansion business. The Company is unable to accurately predict the full impact that COVID-19 will have due to numerous uncertainties, including the full scope of the disease, the duration of the initial outbreak or the number and intensity of subsequent waves of infections, actions that may be taken by governmental authorities, the impact to the businesses of the Company's customers and partners, and the development of treatments and vaccines. Even after the COVID-19 pandemic has subsided, the Company may experience material adverse impacts to its business as a result of any economic recession or depression that has occurred or may occur in the future. The Company will continue to evaluate the nature and extent of the impact to its business, consolidated results of operations, and financial condition.

Cash, cash equivalents and restricted cash

The Company considers all highly liquid investments with original or remaining maturities of 90 days or less at the date of purchase to be cash equivalents. Cash and cash equivalents are recorded at cost, which approximates fair value. Restricted cash is included in other long-term assets on the consolidated balance sheets. The following table provides a reconciliation of cash, cash equivalents and restricted cash reported in the consolidated balance sheets that sum to the total of the amounts reported in the consolidated statement of cash flows (in thousands):

	June 30, 2020	December 31, 2019
Cash and cash equivalents	$ 250,540	$ 223,117
Restricted cash included in other long-term assets	386	380
Total cash, cash equivalents, and restricted cash	$ 250,926	$ 223,497

Restricted cash represents amounts required for a contractual agreement with an insurer for the payment of potential health insurance claims, and term deposits for bank guarantees.

Inventory

Inventory consists of finished goods and is stated at the lower of cost and net realizable value. Cost is determined using the first-in, first-out method. Net realizable value is the estimated selling prices in the ordinary course of business, less reasonable predictable costs of completion, disposal and transportation. The valuation of inventory requires management to estimate excess inventory as well as inventory that is not of saleable quality. The determination of obsolete or excess inventory requires management to estimate market conditions and future demand for the Company's products. Inventory was $2.8 million and $2.4 million at June 30, 2020 and December 31, 2019, respectively, and is included in prepaid expenses and other current assets in the consolidated balance sheets.

Receivable for French R&D credit

The French government provides a research and development ("R&D") tax credit known as Credit Impôt Recherche, or CIR, in order to encourage Companies to invest in R&D activities. The tax credit is deductible from French income tax and any excess is carried forward three years. After three years, any unused credit may be reimbursed to the Company by the French government. As of June 30, 2020, the Company had approximately $13.7 million of receivables from the French government related to CIR, of which $2.5 million was recorded in income tax receivable and the remaining $11.2 million was recorded in other long-term assets. As of December 31, 2019, the Company had approximately $12.1 million of receivables from the French government related to CIR, of which $2.5 million was recorded in income tax receivable and the remaining $9.6 million was recorded in other long-term assets. CIR is subject to customary audit by French tax authorities.

Mezzanine equity

In 2017, the Company issued 200,000 shares of Class A common stock to a third party as partial consideration for the purchase of developed technology. These shares have a put right that can be exercised by the holder five years from date of purchase at $12.50 per share that requires the shares to be recorded at fair value at the issuance date and classified as mezzanine equity in the consolidated balance sheet. The put right option is terminated if the shareholders sell their shares. As of December 31, 2017, the Company concluded that it is no longer probable that the put option will be exercised as the put value is substantially below market value and subsequent adjustment is not required.

During the quarter ended June 30, 2020, the third party holder sold 133,336 shares on the open market and as a result, the issuance value of those shares was reclassified into permanent equity out of mezzanine equity. The remaining 66,664 shares shall remain as mezzanine equity until one of the following three events take place: (1) the shares are sold on the open market; (2) a redemption feature lapses; or (3) there is a modification of the terms of the instrument.

Leases

The Company determines if an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use (“ROU”) assets, current portion of operating lease liabilities, and operating lease liabilities, net of current portion on the Company’s consolidated balance sheets. Finance leases are included in property and equipment, current portion of long-term debt, and long-term debt, net of current portion on the consolidated balance sheets. The Company did not receive any lease concessions related to COVID-19 that had a material effect on the Company’s consolidated financial statements.

Other expense (income), net

Other expense (income), net consists of the following (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Foreign exchange loss (gain)	$ 704	$ (237)	$ (32)	$ 180
Other	(384)	(268)	(1,038)	(295)
Other expense (income), net	$ 320	$ (505)	$ (1,070)	$ (115)

2. Recent accounting guidance

Accounting standards adopted

Credit Losses – In June 2016, the FASB issued ASU 2016-13, *Financial Instruments — Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. The ASU significantly changes how entities will measure credit losses on most financial assets. The Company adopted ASU 2016-13 effective January 1, 2020 and recorded a cumulative effect adjustment to retained earnings of $0.4 million related to the adoption of ASU 2016-13; prior periods have not been adjusted. Under this new accounting standard, beginning January 1, 2020, an allowance for expected credit losses for groups of billed and unbilled receivables and contract assets that share similar risk characteristics is recorded based on an evaluation of historical loss experience, current conditions, and reasonable and supportable forecasts. Accounts are written off when it becomes apparent that such amounts will not be collected, generally when amounts are past due by greater than one year. Generally, the Company does not require collateral or charge interest on accounts receivable. Accounts receivable were reported net of an allowance for doubtful accounts of $2.4 million and $1.4 million at June 30, 2020 and December 31, 2019, respectively.

Subsequent to adoption, the Company considered the impact of COVID-19 on its historical credit loss rates and made an adjustment to increase expected credit loss rates. The impact resulting from the increased credit loss rates did not have a material effect on the Company’s consolidated financial statements.

Fair Value – In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement.* This ASU modifies the disclosure requirements for fair value measurements, by removing, modifying, or adding certain disclosures. The Company adopted ASU 2018-13 on January 1, 2020. The adoption of this guidance did not have a material effect on the Company’s consolidated financial statements.

Intangibles – In August 2018, the FASB issued ASU 2018-15, *Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That is a Service Contract.* This ASU clarifies and aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. The Company adopted ASU 2018-15 on January 1, 2020, on a prospective basis. The adoption of this guidance did not have a material effect on the Company's consolidated financial statements.

Accounting standards not yet adopted

Retirement Benefits – In August 2018, the FASB issued ASU 2018-14, *Compensation – Retirement Benefits- Defined Benefit Plans – General (Subtopic 715-20): Disclosure Framework – Changes to the Disclosure Requirements for Defined Benefit Plans.* This ASU modifies the disclosure requirements for defined benefit pension or other postretirement plans. The amendments are effective for fiscal years ending after December 15, 2020; early adoption is permitted. The Company is currently evaluating the impact of the new guidance on its consolidated financial statements and related disclosures and does not expect this guidance to have a material effect on its consolidated financial statements.

Income Taxes – In December 2019, the FASB issued ASU 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes.* This ASU simplifies the accounting for income taxes by removing certain exceptions to the general principles in Topic 740 and improves consistent application of GAAP for other areas of Topic 740 by clarifying and amending existing guidance. The amendments are effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020; early adoption is permitted. The Company is currently evaluating the impact of the new guidance on its consolidated financial statements and related disclosures and does not expect this guidance to have a material effect on its consolidated financial statements.

Reference Rate Reform – In March 2020, the FASB issued ASU 2020-04. *Reference Rate Reform (Topic 848) - Facilitation of the Effects of Reference Rate Reform on Financial Reporting.* This ASU provides optional expedients and exceptions for applying U.S. GAAP to contract modifications and hedging relationships, subject to meeting certain criteria, that reference LIBOR or another rate that is expected to be discontinued. The amendments in the guidance are effective for all entities as of March 12, 2020 through December 31, 2022. The Company is currently evaluating the impact of this new guidance on its consolidated financial statements and related disclosures and does not expect this guidance to have a material effect on its consolidated financial statements.

3. Revenue from contracts with customers

Revenue recognition

Software revenue

Revenue is derived principally from the licensing of software products and from related maintenance contracts. The Company enters into contracts that include combinations of products, maintenance and services, which are accounted for as separate performance obligations with differing revenue recognition patterns.

Revenue from term-based software licenses is classified as software revenue. Term-based licenses are sold only as a bundled arrangement that includes the rights to a term-based software license and post-contract customer support (PCS), which includes unspecified technical enhancements and customer support. Maximizing the use of observable inputs, the Company determined that a majority of the estimated standalone selling prices of the term-based license is attributable to the term-based license and a minority is attributable to the PCS. The license component is classified as license revenue and recognized as revenue upon the later of delivery of the licensed product or the beginning of the license period. PCS is classified as maintenance and other services and is recognized ratably over the term of the contract, as the Company provides the PCS benefit over time as a stand ready to perform obligation.

In addition to term-based software licenses, the Company sells perpetual licenses. Software revenue is recognized upon the later of delivery of the licensed product or the beginning of the license period. Typically, the Company's perpetual licenses are sold with PCS. The Company allocates value in bundled perpetual and PCS arrangements based on the value relationship between the software license and maintenance. Revenue from PCS is classified as maintenance and other services and is recognized ratably over the term of the contract, as the Company satisfies the PCS performance obligation over time as a stand ready to perform obligation.

Revenue from training, consulting and other services is recognized as the services are performed, and is classified as maintenance and other services in the consolidated statement of operations. For contracts in which the service consists of a single performance obligation, such as providing a training class to a customer, the Company recognizes revenue upon completion of the performance obligation. For service contracts that are longer in duration and often include multiple performance obligations (for example, point-in-time training and consulting), the Company measures the progress toward completion of the obligations and recognizes revenue accordingly. In measuring progress towards the completion of performance obligations, the Company typically utilizes output-based estimates for services with fixed fee arrangements, and estimates output based on the total tasks completed as compared to the total tasks required for each contract. Input-based estimates are utilized for services that involve general consultations with contractual billing arrangements based on time and materials, utilizing direct labor as the input measure.

The Company also executes arrangements through indirect channel partners in which the channel partners are authorized to market and distribute the Company's software products to end users of the Company's products and services in specified territories. In sales facilitated by channel partners, the channel partner bears the risk of collection from the end-user customer. The Company recognizes revenue from transactions with channel partners when the channel partner submits a purchase commitment, collectability from the channel partner is probable, and the performance obligation is met, at a point in time or over time as appropriate, provided that all other revenue recognition criteria are satisfied. Revenue from channel partner transactions is the amount remitted to the Company by the channel partners. This amount includes a fee for PCS that is compensation for providing technical enhancements and the second level of technical support to the end user, which is recognized over the period that PCS is to be provided. The Company does not offer right of return, product rotation, or price protection to any of its channel partners.

Non-income related taxes collected from customers and remitted to governmental authorities are recorded on the consolidated balance sheets as accounts receivable, net and other accrued expenses and current liabilities. These amounts are reported on a net basis in the consolidated statements of operations and do not impact reported revenues or expenses. Certain hardware revenue is included within software revenue and is recognized when all revenue recognition criteria stated above are met, which is generally when the products are delivered to end customers.

Significant judgments

Software revenue

The Company’s contracts with customers typically include promises to transfer licenses and services to a customer. Judgment is required to determine if the promises are separate performance obligations within the context of the arrangement, and if so, the allocation of the transaction price to each performance obligation. The Company’s determination of standalone selling price for performance obligations is based on the midpoint of the range of historical observable prices for goods and services sold separately. In addition, the Company estimates the standalone selling price for certain performance obligations where observable prices are not directly available or a significant portion of historical prices are not within the range. In instances where standalone selling price was not determined based on the range of historical observable prices for goods and services sold separately, the Company used an adjusted market assessment approach to estimate the standalone selling price. In such cases the Company has considered market conditions and other observable inputs, such as internal price lists, peer data, and industry data for a similar or identical product. The Company estimates standalone selling price at contract inception considering all information that is reasonably available and is based on the amount of consideration for which the Company expects to be entitled in exchange for transferring the promised good or service to the customer. The corresponding revenues are recognized as the related performance obligations are satisfied.

The Company’s contracts do not include a significant financing component requiring adjustment to the transaction price. Payment terms vary by contract type; however, arrangements typically stipulate a requirement for the customer to pay within 30 days.

The Company rarely enters into agreements to modify previously executed contracts, which constitute contract modifications. The Company assesses each of these contract modifications to determine (i) if the additional products and services are distinct from the products and services in the original arrangement; and (ii) if the amount of consideration expected for the added products and services reflects the stand-alone selling price of those products and services, as adjusted for contract-specific circumstances. A contract modification meeting both criteria is accounted for as a separate contract. A contract modification not meeting both criteria is considered a change to the original contract and is accounted for on either (i) a prospective basis as a termination of the existing contract and the creation of a new contract; or (ii) a cumulative catch-up basis. Generally, the Company’s contract modifications meet both criteria and are accounted for as a separate contract, as adjusted for contract-specific circumstances.

Software related services revenue

Consulting services from product design and development projects are considered distinct performance obligations and are provided to customers on a time-and-materials ("T&M") or fixed-price basis. Altair recognizes software services revenue for T&M contracts based upon hours worked and contractually agreed upon hourly rates using the input method. Revenue from fixed-price engagements is recognized using the output method based on the ratio of costs incurred, to the total estimated project costs.

Client engineering services and Other revenue

Client engineering services revenue are derived from professional services for staffing primarily representing engineers and data scientists located at a customer site. These professional services are considered distinct performance obligations and are provided to customers on a T&M basis. The Company recognizes this revenue for T&M contracts based upon hours worked and contractually agreed upon hourly rates using the input method. No significant judgments were made for revenue recognition within Other revenue.

Disaggregation of revenue

The Company disaggregates its software revenue by type of performance obligation and timing of revenue recognition as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Software revenue:				
Term licenses	$ 43,260	$ 45,974	$ 112,641	$ 111,031
Perpetual licenses	7,758	10,679	15,920	22,243
Maintenance	28,885	25,333	57,093	48,085
Professional services and other	1,930	2,422	4,622	6,340
Total software revenue	$ 81,833	$ 84,408	$ 190,276	$ 187,699

The Company derived approximately 10% of its total revenue through indirect sales channels for the six months ended June 30, 2020 and 2019.

Software related services revenue, client engineering services revenue, and other revenue were categorized based on the nature and timing of revenue and cash flows.

Costs to obtain a contract

The Company pays commissions for new software product and PCS sales as well as for renewals of existing software and PCS contracts. Commissions paid to obtain renewal contracts are not commensurate with the commissions paid for new product sales and therefore, a portion of the commissions paid for new contracts relate to future renewals.

The Company accounts for new product sales commissions using a portfolio approach and allocates the cost of commissions in proportion to the allocation of transaction price of license and PCS performance obligations. Commissions allocated to the license and license renewal components are expensed at the time the license revenue is recognized. Commissions allocated to PCS are capitalized and amortized on a straight-line basis over a period of four years, reflecting the Company's estimate of the expected period that it will benefit from those commissions. As of June 30, 2020, and December 31, 2019, capitalized costs to obtain a contract were $3.0 million and $2.3 million, respectively, recorded in prepaid and other current assets, and $0.8 million and $0.8 million, respectively, recorded in other long-term assets. Amortization expense was $1.0 million and $1.6 million for the three and six months ended June 30, 2020, respectively, and $1.2 million and $2.2 million for the three and six months ended June 30, 2019, respectively. Amortization expense was included in sales and marketing expense in the Company's consolidated statement of operations.

Contract assets

At June 30, 2020 and December 31, 2019, contract assets were $5.6 million and $4.5 million, respectively, recorded in accounts receivable, and $2.3 million and $2.7 million, respectively, recorded in prepaid expenses and other current assets.

Deferred revenue

Deferred revenue consists of billings made or payments received in advance of revenue recognition from software license, PCS and professional services 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 term between invoicing and when payment is due is not significant. The Company generally invoices its customers annually for the forthcoming year of software licenses, and more frequently for other products and services. Accordingly, the Company's deferred revenue balance does not include revenue for future years of multiple year non-cancellable contracts that have not yet been billed.

Approximately $53.7 million of revenue recognized during the six months ended June 30, 2020, was included in the deferred revenue balances at the beginning of the year. Revenue allocated to remaining performance obligations represents contracted revenue that has not yet been recognized, which includes deferred revenue and amounts that will be invoiced and recognized as revenue in future periods. Contracted revenue not yet recognized was $117.9 million as of June 30, 2020, of which the Company expects to recognize approximately 82% of the revenue over the next 12 months and the remainder thereafter.

4. Property and equipment, net

Property and equipment consisted of the following (in thousands):

	June 30, 2020	December 31, 2019
Land	$ 9,871	$ 9,942
Building and improvements	15,521	15,512
Computer equipment and software	38,157	37,361
Office furniture, equipment and other	8,173	8,029
Leasehold improvements	8,885	9,014
Right-of-use assets under finance leases	2,804	2,745
Total property and equipment	83,411	82,603
Less: accumulated depreciation and amortization	48,955	46,306
Property and equipment, net	$ 34,456	$ 36,297

Depreciation expense, including amortization of right-of-use assets under finance leases, was $2.0 million and $3.8 million for the three and six months ended June 30, 2020, respectively, and $1.6 million and $3.3 million for the three and six months ended June 30, 2019, respectively.

5. Goodwill and other intangible assets

Goodwill

The changes in the carrying amount of goodwill, which is attributable to the Software reporting segment, were as follows (in thousands):

Balance at December 31, 2019	$ 233,683
Acquisitions	2,292
Effects of foreign currency translation and other	(2,489)
Balance at June 30, 2020	$ 233,486

In May 2020, the Company acquired the WRAP software business from Swedish company, WRAP International AB. This acquisition will be accounted for as a business combination under the acquisition method of accounting. At June 30, 2020, the net purchase price was reported in goodwill in the consolidated balance sheet pending fair value allocation. This acquisition is not material to the Company's consolidated financial statements.

Other intangible assets

A summary of other intangible assets is shown below (in thousands):

	June 30, 2020			
	Weighted average amortization period	Gross carrying amount	Accumulated amortization	Net carrying amount
Definite-lived intangible assets:				
Developed technology	4-6 years	$ 59,286	$ 30,125	$ 29,161
Customer relationships	7-10 years	31,958	13,528	18,430
Other intangibles	10 years	178	54	124
Total definite-lived intangible assets		91,422	43,707	47,715
Indefinite-lived intangible assets:				
Trade names		10,462		10,462
Total other intangible assets		$ 101,884	$ 43,707	$ 58,177

	December 31, 2019			
	Weighted average amortization period	Gross carrying amount	Accumulated amortization	Net carrying amount
Definite-lived intangible assets:				
Developed technology	4-6 years	$ 60,916	$ 25,838	$ 35,078
Customer relationships	7-10 years	32,582	11,575	21,007
Other intangibles	10 years	111	62	49
Total definite-lived intangible assets		93,609	37,475	56,134
Indefinite-lived intangible assets:				
Trade names		10,941		10,941
Total other intangible assets		$ 104,550	$ 37,475	$ 67,075

Amortization expense related to intangible assets was $3.7 million and $7.5 million for the three and six months ended June 30, 2020, respectively, and $3.6 million and $7.1 million for the three and six months ended June 30, 2019, respectively.

The Company continues to monitor the significant global economic uncertainty as a result of COVID-19 to assess the outlook for demand for its products and the impact on its business. Based on the Company's interim impairment assessment, there were no indicators of impairment identified during the second quarter of 2020. Notwithstanding this conclusion, if business conditions were to deteriorate in a significant manner or for an extended duration, the likelihood of impairment would increase, and the Company would again assess whether events or changes in circumstances indicate that an asset impairment that is more likely than not exists. Specifically, certain non-amortizing intangible assets from recent acquisitions valued on the basis of short-term forecasts of revenue will be re-assessed for indicators of impairment and it is possible that an impairment charge will be reflected in the future should COVID-19 business conditions worsen or extend substantially in duration.

The allocation of fair value of purchase consideration of the Company's 2019 acquisitions was finalized in the first quarter of 2020, and there were no material changes to the fair value of assets acquired and liabilities assumed, as previously reported.

6. Debt

The carrying value of debt is as follows (in thousands):

	June 30, 2020	December 31, 2019
Convertible senior notes	$ 230,000	$ 230,000
Obligations for finance leases	1,040	1,174
Total debt	231,040	231,174
Less: unamortized debt discount	42,070	46,820
Less: unamortized debt issuance costs	5,105	5,686
Less: current portion of long-term debt	456	430
Long-term debt, net of current portion	$ 183,409	$ 178,238

Convertible senior notes

In June 2019, the Company issued $230.0 million aggregate principal amount of 0.25% convertible senior notes due in 2024 (the "Convertible Notes"), which includes the underwriters' exercise in full of their option to purchase an additional $30.0 million principal amount of the Convertible Notes, in a public offering. The net proceeds from the issuance of the Convertible Notes were $221.9 million after deducting the underwriting discounts and commissions and estimated issuance costs.

The Company entered into a First Supplemental Indenture relating to the issuance by the Company of the Convertible Notes (the "Supplemental Indenture") supplementing the Indenture, dated June 10, 2019 (the "Base Indenture," and together with the Supplemental Indenture, the "Indenture"), by and between the Company and U.S. Bank National Association, as trustee (the "Trustee"). The Indenture includes customary covenants and sets forth certain events of default after which the Convertible Notes may be declared immediately due and payable and sets forth certain types of bankruptcy or insolvency events of default involving the Company after which the Convertible Notes become automatically due and payable. The Convertible Notes are senior unsecured obligations of the Company.

The Convertible Notes bear interest at a rate of 0.25% per year, payable semi-annually in arrears on June 1 and December 1 of each year, commencing December 1, 2019. The Convertible Notes will mature on June 1, 2024, unless, earlier repurchased or redeemed by the Company or converted pursuant to their terms.

The Convertible Notes have an initial conversion rate of 21.5049 shares of the Company's Class A common stock per $1,000 principal amount of Convertible Notes, which is equivalent to an initial conversion price of approximately $46.50 per share of its Class A common stock. The conversion rate will be subject to adjustment upon the occurrence of certain events specified in the Indenture but will not be adjusted for any accrued and unpaid interest. In addition, upon the occurrence of a make whole fundamental change or a redemption period (each as defined in the Indenture), the Company will, in certain circumstances, increase the conversion rate by a specified number of additional shares for a holder who elects to convert its Convertible Notes in connection with such make whole fundamental change or during the relevant redemption period.

Holders of the Convertible Notes may convert all or any portion of their Convertible Notes at any time prior to the close of business on December 1, 2023, in integral multiples of $1,000 principal amount, only under the following circumstances:

- During any calendar quarter commencing after the calendar quarter ending on September 30, 2019 (and only during such calendar quarter), if the last reported sale price of the Class A Common Stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day;
- During the five business day period after any five consecutive trading day period (the "measurement period") in which the trading price (as defined in the Indenture) per $1,000 principal amount of Convertible Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the Class A Common Stock and the conversion rate on each such trading day;
- If the Company calls any or all of the Convertible Notes for redemption (which the Company may not do prior to June 6, 2022), at any time prior to the close of business on the scheduled trading day immediately preceding the redemption date; or

- Upon the occurrence of specified corporate events.

On or after December 1, 2023 until the close of business on the business day immediately preceding the maturity date, holders may convert their Convertible Notes at any time, regardless of the foregoing circumstances. Upon conversion, the Company may satisfy its conversion obligation by paying and/or delivering, as the case may be, cash, shares of Class A Common Stock or a combination of cash and shares of the Class A Common Stock, at the Company's election, in the manner and subject to the terms and conditions provided in the Indenture.

During the quarter ended June 30, 2020, the conditions allowing holders of the Convertible Notes to convert were not met. Therefore, the Convertible Notes were classified as long-term debt on the consolidated balance sheet as of June 30, 2020.

As of June 30, 2020, the "if converted value" did not exceed the principal amount of the Convertible Notes.

The Company accounts for the Convertible Notes as separate liability and equity components. The carrying amount of the liability component of the Convertible Notes was calculated by measuring the fair value of similar debt instruments that do not have an associated convertible feature. The carrying amount of the equity component representing the conversion option was determined by deducting the fair value of the liability component from the par value of the Convertible Notes. The difference between the principal amount of the Convertible Notes and the liability component, equal to $51.8 million (the "debt discount"), is amortized to interest expense over the term of the Convertible Notes using the effective interest method. The equity component is not remeasured as long as it continues to meet the conditions for equity classification.

The Company allocated issuance costs related to the issuance of the Convertible Notes to the liability and equity components using the same proportions as the initial carrying value of the Convertible Notes. Issuance costs attributable to the liability component are being amortized to interest expense using the effective interest method over the term of the Convertible Notes. Issuance costs attributable to the equity component are included with the equity component in stockholders' equity.

The net carrying value of the liability component of the Convertible Notes was as follows (in thousands):

	June 30, 2020	December 31, 2019
Principal	$ 230,000	$ 230,000
Less: unamortized debt discount	42,070	46,820
Less: unamortized debt issuance costs	5,105	5,686
Net carrying amount	$ 182,825	$ 177,494

The net carrying value of the equity component of the Convertible Notes was $50.0 million at both June 30, 2020 and December 31, 2019.

The interest expense recognized related to the Convertible Notes was as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Contractual interest expense	$ 144	$ 25	$ 288	$ 25
Amortization of debt issuance cost and discount	2,683	447	5,330	447
Total	$ 2,827	$ 472	$ 5,618	$ 472

Credit agreement

Revolving credit facility

The Company has a $150.0 million credit facility with a maturity date of December 15, 2023 ("2019 Amended Credit Agreement"). The 2019 Amended Credit Agreement provides for an accordion feature that allows the Company to expand the size of the revolving line of credit by an additional $50.0 million, subject to certain conditions, by obtaining additional commitments from the existing lenders or by causing a person acceptable to the administrative agent to become a lender (in each case subject to the terms and conditions set forth in the 2019 Amended Credit Agreement).

As of June 30, 2020, the Company had no outstanding borrowings under the 2019 Amended Credit Agreement and there was $150.0 million available for future borrowing. The 2019 Amended Credit Agreement is available for general corporate purposes, including working capital, capital expenditures, and permitted acquisitions.

Borrowings under the 2019 Amended Credit Agreement bear interest at a rate per annum equal to an agreed upon applicable margin plus, at the Company's option, either the Alternate Base Rate (defined as the greatest of (1) the Prime Rate (as defined in the 2019 Amended Credit Agreement) in effect on such day, (2) the Federal Funds Effective Rate (as defined in the 2019 Amended Credit Agreement) in effect on such day plus 1/2 of 1.00% or (3) the Adjusted LIBO Rate (as defined in the 2019 Amended Credit Agreement) for a one month interest period on such day (or if such day is not a business day, the immediately preceding business day) plus 1.00%) or the Adjusted LIBO Rate. The applicable margin for borrowings under the 2019 Amended Credit Agreement is based on the Company's most recently tested consolidated total net leverage ratio and will vary from (a) in the case of Eurodollar loans, 1.25% to 2.00%, and (b) in the case of ABR loans and swingline loans, 0.25% to 1.00%. The Company pays a commitment fee (based on the Company's most recently tested consolidated total senior secured net leverage ratio) ranging from 0.15% to 0.30% on the unused portion of the 2019 Amended Credit Agreement.

Collateral and guarantees

The 2019 Amended Credit Agreement is secured by collateral including (i) substantially all of the Company's properties and assets, and the properties and assets of the Company's direct and indirect domestic subsidiaries but excluding any patents, copyrights, patent applications or copyright applications or any trade secrets or software products and (ii) pledges of the equity interests in all present and future direct and indirect domestic subsidiaries (subject in each case to certain exceptions as provided for under the 2019 Amended Credit Agreement). The Company's direct and indirect domestic subsidiaries are guarantors of all the obligations under the 2019 Amended Credit Agreement.

Debt covenants

The 2019 Amended Credit Agreement requires the Company to maintain the following financial covenants:

- *Maximum Net Leverage Ratio*: On the last day of each fiscal quarter, the Company on a consolidated basis will not permit the ratio of total indebtedness (net of unrestricted domestic cash in excess of $20.0 million) to EBITDA, as such terms are defined in the 2019 Amended Credit Agreement, for the rolling four quarter period ending on such date to be greater than 5.00 to 1.00 as of the last day of any such fiscal quarter.
- *Senior Secured Leverage Ratio*: On the last day of each fiscal quarter, the Company on a consolidated basis will not permit the ratio of total indebtedness secured by a lien (net of unrestricted domestic cash in excess of $20.0 million) to EBITDA, as such terms are defined in the 2019 Amended Credit Agreement, for the rolling four quarter period ending on such date to be greater than 3.00 to 1.00 as of the last day of any such fiscal quarter.
- *Consolidated Interest Coverage Ratio*: On the last day of each fiscal quarter, the Company on a consolidated basis will not permit the ratio of (x) EBITDA to (y) cash Consolidated Interest Expense, as such terms are defined in the 2019 Amended Credit Agreement, in each case for the rolling four quarter period ending on such date, to be less than 3.00 to 1.00 as of the last day of any such fiscal quarter.

At June 30, 2020, the Company was in compliance with all the above financial covenants.

7. Other liabilities

The following table provides the details of other accrued expenses and current liabilities (in thousands):

	June 30, 2020	December 31, 2019
Income taxes payable	$ 5,735	$ 6,008
Accrued VAT	5,298	5,312
Accrued professional fees	3,538	2,581
Accrued royalties	1,971	2,314
Defined contribution plan liabilities	1,453	1,593
Obligations for acquisition of businesses	1,362	1,362
Billings in excess of cost	583	879
Non-income tax liabilities	511	1,253
Other current liabilities	6,960	7,301
Total	$ 27,411	$ 28,603

The following table provides details of other long-term liabilities (in thousands):

	June 30, 2020	December 31, 2019
Pension and other post retirement liabilities	$ 10,687	$ 10,379
Deferred tax liabilities	6,397	6,275
Other liabilities	2,906	10,018
Total	$ 19,990	$ 26,672

8. Fair value measurements

The accounting guidance for fair value, among other things, defines fair value, establishes a consistent framework for measuring fair value and expands disclosure for each major asset and liability category measured at fair value on either a recurring or nonrecurring basis. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (an exit price) in an orderly transaction between market participants at the reporting date. The framework for measuring fair value consists of a three-level valuation hierarchy that prioritizes the inputs to valuation techniques used to measure fair value based upon whether such inputs are observable or unobservable. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect market assumptions made by the reporting entity. The three-level hierarchy for the inputs to valuation techniques is briefly summarized as follows:

Level 1 – Quoted prices in active markets for identical assets and liabilities at the measurement date;

Level 2 – Observable inputs, other than the quoted prices in active markets, that are observable either directly or indirectly; and

Level 3 – Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

An asset's or liability's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs.

The carrying value of cash and cash equivalents, accounts receivable and accounts payable approximate fair value due to their short maturities. Interest on the Company's line of credit is at a variable rate, and as such the debt obligation outstanding approximates fair value.

The carrying value of the Company's Convertible Notes are at face value less unamortized debt discount and issuance costs. The estimated fair values of the Convertible Notes, which the Company has classified as Level 2 financial instruments, were determined based on quoted bid prices of the Convertible Notes on the last trading day of each reporting period. At June 30, 2020, the fair value of the Convertible Notes was $242.5 million and is presented for required disclosure purposes only. For further information on the Convertible Notes, see Note 6. – Debt.

9. Net (loss) income per share

Basic (loss) income per share attributable to common stockholders is computed using the weighted average number of shares of common stock outstanding for the period, excluding stock options and restricted stock units ("RSUs"). Diluted (loss) income per share attributable to common stockholders is based upon the weighted average number of shares of common stock outstanding for the period and potentially dilutive common shares, including the effect of stock options and RSUs under the treasury stock method. The following table sets forth the computation of the numerators and denominators used in the basic and diluted (loss) income per share amounts (in thousands, except per share data):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Numerator:				
Net (loss) income	$ (10,223)	$ (3,120)	$ (4,193)	$ 9,899
Denominator:				
Denominator for basic (loss) income per share—weighted average shares	72,999	71,373	72,811	71,081
Effect of dilutive securities, stock options and RSUs	—	—	—	5,936
Denominator for dilutive (loss) income per share	72,999	71,373	72,811	77,017
Net (loss) income per share attributable to common stockholders, basic	$ (0.14)	$ (0.04)	$ (0.06)	$ 0.14
Net (loss) income per share attributable to common stockholders, diluted	$ (0.14)	$ (0.04)	$ (0.06)	$ 0.13

The computation of diluted (loss) income per share does not include shares that are anti-dilutive under the treasury stock method because their exercise prices are higher than the average fair value of the Company's stock during the period or due to a net loss in the period. For each of the three and six months ended June 30, 2020, there were 4.5 million anti-dilutive stock options excluded from the computation of (loss) income per share. For the three months ended June 30, 2019, there were 5.6 million anti-dilutive stock options excluded from the computation of (loss) income per share. For the six months ended June 30, 2019, there were no anti-dilutive shares excluded from the computation of income per share.

The Company expects to settle the principal amount of the Convertible Notes in cash, and therefore, the Company uses the treasury stock method for calculating any potential dilutive effect of the Conversion Option on diluted net income per share, if applicable. The Conversion Option will have a dilutive impact on net income per share of common stock when the average market price of the Company's Class A common stock for a given period exceeds the conversion price of the Convertible Notes of $46.50 per share. During the three and six months ended June 30, 2020, the Company's weighted average common stock price was below the conversion price of the Convertible Notes.

10. Stock-based compensation

2001 stock-based compensation plans

Nonqualified stock option plan

In 2001, the Company established the Nonqualified Stock Option Plan ("NSO Plan") under which 3,246,119 stock options with an exercise price of $0.000025 remain outstanding at June 30, 2020. The NSO Plan was terminated in 2003. Stock options under the NSO plan were immediately vested and have a contractual term of 35 years from the date of grant. The outstanding awards will continue to be governed by their existing terms under the NSO Plan. The NSO Plan is accounted for as an equity plan.

The following table summarizes the stock option activity under the NSO Plan for the period:

	Number of options	Weighted average exercise price per share	Weighted average remaining contractual term (years)	Aggregate intrinsic value (in millions)
Outstanding at January 1, 2020	3,557,436	$ 0.000025	17.0	$ 127.8
Exercised	(311,317)	$ 0.000025		
Forfeited	—	—		
Outstanding and exercisable at June 30, 2020	3,246,119	$ 0.000025	16.5	$ 129.0

The total intrinsic value of the NSO Plan stock options exercised during the six months ended June 30, 2020, was $10.4 million.

Incentive and nonqualified stock-based plan

Also in 2001, the Company established the Incentive and Nonqualified Stock-based Plan (“ISO Plan”) which was terminated in 2011 and was authorized to issue nonqualified stock options (“NQSO”) and incentive stock options (“ISO”) covering 11,153,872 shares of Class A common stock. The NQSO grants could be issued at less than the fair market value at date of grant under the terms of the ISO Plan, while ISO grants were issued at a price equal to or greater than the fair market value at date of grant. Options generally vested over a two to three-year period. All options have a contractual term of ten years from the date of grant.

The following table summarizes the stock option activity under the 2001 stock-based compensation plans for the period:

	Number of options	Weighted average exercise price per share	Weighted average remaining contractual term (years)	Aggregate intrinsic value (in millions)
Outstanding at January 1, 2020	103,000	$ 0.64	1.0	$ 3.6
Exercised	(65,500)	$ 0.64		
Forfeited	—	—		
Outstanding and exercisable at June 30, 2020	37,500	$ 0.64	0.5	$ 1.5

The total intrinsic value of the ISO Plan stock options exercised during the six months ended June 30, 2020, was $1.9 million.

2012 stock-based compensation plans

During 2012, the Company established the 2012 Incentive and Nonqualified Stock Option Plan (“2012 Plan”) which permits the issuance of 5,200,000 shares of Class A common stock for the grant of nonqualified stock options and incentive stock options for management, other employees, and board members of the Company. The options are issued at a price equal to or greater than fair market value at date of grant. All options have a contractual term of 10 years from date of grant.

The 2012 Plan is accounted for as an equity plan. For those options expected to vest, compensation expense is recognized on a straight-line basis over a four-year period, the total requisite service period of the awards. Total compensation cost related to nonvested awards not yet recognized as of June 30, 2020, totaled $0.3 million, and is expected to be recognized over a weighted average period of 0.9 years.

The following table summarizes the stock option activity under the 2012 Plan for the period:

	Number of options	Weighted average exercise price per share	Weighted average remaining contractual term (years)	Aggregate intrinsic value (in millions)
Outstanding at January 1, 2020	1,183,817	$ 4.23	6.1	
Granted	—	—		
Exercised	(116,968)	$ 3.79		
Forfeited	(7,100)	$ 4.56		
Outstanding at June 30, 2020	1,059,749	$ 4.28	5.6	
Exercisable at June 30, 2020	925,859	$ 4.15	5.5	$ 33.0

The total intrinsic value of the 2012 Plan stock options exercised during the six months ended June 30, 2020, was $3.9 million.

2017 stock-based compensation plan

In 2017, the Company's board of directors adopted the 2017 Equity Incentive Plan ("2017 Plan"), which was approved by the Company's stockholders. The 2017 Plan provides for the grant of incentive stock options to the Company's employees and any parent and subsidiary corporations' employees, and for the grant of nonstatutory stock options, stock appreciation rights, restricted stock, restricted stock units, performance units, performance shares, other cash-based awards and other stock-based awards to the Company's employees, directors and consultants and the Company's parent, subsidiary, and affiliate corporations' employees and consultants. As of January 1, 2020, the 2017 Plan had 10,277,034 authorized shares of the Company's Class A common stock reserved for issuance.

The following table summarizes the restricted stock units, or RSUs, awarded under the 2017 Plan for the period:

	Number of RSUs
Outstanding at January 1, 2020	781,301
Granted	565,723
Vested	(193,684)
Forfeited	(16,313)
Outstanding at June 30, 2020	1,137,027

The weighted average grant date fair value of the RSUs was $33.73 and the RSUs generally vest in four equal annual installments. Total compensation cost related to nonvested awards not yet recognized as of June 30, 2020, totaled $62.9 million, and is expected to be recognized over a weighted average period of approximately three years.

The following table summarizes the stock option activity under the 2017 Plan for the period:

	Number of options	Weighted average exercise price per share	Weighted average remaining contractual term (years)	Aggregate intrinsic value (in millions)
Outstanding at January 1, 2020	20,000	$ 38.11	9.2	
Granted	2,121,454	$ 39.48		
Exercised	—	$ —		
Forfeited	(3,472)	$ 38.38		
Outstanding at June 30, 2020	2,137,982	$ 39.48	9.9	
Exercisable at June 30, 2020	5,158	$ 37.84	8.5	$ 0.01

In addition to the stock options granted above, the Company expects to grant an additional 2.0 million stock options on December 2, 2020, with an exercise price reflecting the fair value on that date. Recipients of the December 2, 2020, deferred stock option award must be employed on that date in order to receive the grant. The Company has concluded that the grant date for this deferred award is December 2, 2020, and this grant will not be reflected in the table above until the fourth quarter of 2020.

The Company measures the fair value of its equity awards on the date of grant using the Black-Scholes option pricing model. This valuation model requires the Company to make certain estimates and assumptions, including assumptions related to the expected price volatility of the Company's stock, the period under which the options will be outstanding, the rate of return on risk-free investments, and the expected dividend yield for the Company's stock.

The fair values of the Company's stock options granted during the six months ended June 30, 2020, were estimated using the following assumptions:

	2020 grants
Weighted average grant date fair value per share	$ 38.11 - 39.82
Expected volatility	35 - 42%
Expected term (in years)	6.25
Risk-free interest rate	0.46 - 1.80%
Expected dividend yield	0%

These assumptions and estimates are as follows:

- *Fair Value of Common Stock*. The Company used the publicly quoted price as reported on the Nasdaq Global Select Market as the fair value of its common stock.

- *Expected Term*. The Company used the simplified method to determine the expected term.
- *Risk-Free Interest Rate*. The Company based the risk-free interest rate on U.S. Treasury zero-coupon yield curves with a remaining term equal to the expected term of the option.
- *Expected Volatility*. As the Company does not have an extensive trading history for its common stock, the expected volatility was derived using the historical volatility of the returns of comparable publicly traded companies combined with the brief trading history of the Company's common stock.

Stock-based compensation expense

The stock-based compensation expense was recorded as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	**2019**	**2020**	**2019**
Cost of revenue – software	$ 552	$ 279	$ 918	$ 343
Research and development	1,830	579	3,258	937
Sales and marketing	1,273	475	2,000	937
General and administrative	879	747	1,529	1,075
Total stock-based compensation expense	$ 4,534	$ 2,080	$ 7,705	$ 3,292

11. Income taxes

At the end of each interim period, the Company makes its best estimate of the annual expected effective income tax rate and applies that rate to its ordinary year-to-date income (loss) before income taxes. The income tax provision or benefit related to unusual or infrequent items, if applicable, that will be separately reported or reported net of their related tax effects are individually computed and recognized in the interim period in which those items occur. In addition, the effect of changes in enacted tax laws or rates, tax status, judgment on the realizability of a beginning-of-the-year deferred tax asset in future years or income tax contingencies is recognized in the interim period in which the change occurs.

The computation of the annual expected effective income tax rate at each interim period requires certain estimates and assumptions including, but not limited to, the expected income (loss) before income taxes for the year, projections of the proportion of income (and/or loss) earned and taxed in respective tax jurisdictions, including applicable foreign taxes withheld at the source, permanent and temporary differences, and the likelihood of the realizability of deferred tax assets generated in the current year. Jurisdictions with a projected loss for the year or a year-to-date loss for which no tax benefit can be recognized due to a valuation allowance are excluded from the estimated annual effective tax rate. The impact of such an exclusion could result in a higher or lower effective tax rate during a particular quarter, based upon the composition and timing of actual earnings compared to annual projections. The estimates used to compute the provision or benefit for income taxes may change as new events occur, additional information is obtained or the Company's tax environment changes. To the extent that the expected annual effective income tax rate changes, the effect of the change on prior interim periods is included in the income tax provision in the period in which the change in estimate occurs.

The Company's income tax expense and effective tax rate for the three and six months ended June 30, 2020 and 2019, were as follows (in thousands, except percentages):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	**2019**	**2020**	**2019**
Income tax expense	$ 2,768	$ (167)	$ 7,420	$ 3,921
Effective tax rate	(37%)	5%	230%	28%

The tax rate is affected by the Company being a U.S. resident taxpayer, the tax rates in the U.S. and other jurisdictions in which the Company operates, the relative amount of income earned by jurisdiction and the relative amount of losses or income for which no benefit or expense is recognized due to a valuation allowance. The Company's effective tax rate for the six months ended June 30, 2020 and 2019, also includes net discrete expense of $3.7 million and net discrete benefit of $1.2 million, respectively, primarily related to changes in reserves, changes in accruals for unremitted earnings and other adjustments.

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act") was enacted in response to COVID-19. The CARES Act, among other things, permits NOL carryovers and carrybacks to offset 100% of taxable income for taxable years beginning before 2021. In addition, the CARES Act allows NOLs incurred in 2018, 2019, and 2020 to be carried back to each of the five preceding taxable years to generate a refund of previously paid income taxes. The CARES Act also provides a temporary relaxation of the limitation (reflected in section 163(j) of the Internal Revenue Code) on business interest expense deductions to 50% of adjusted taxable income for tax years beginning in 2019 and 2020, and an election to use 2019 adjusted taxable income for tax years beginning in 2020. The Company is currently evaluating the impact of the CARES Act, but at present does not expect that the NOL carryback provision of the CARES Act would result in a material tax benefit. The Company also does not expect the relaxation of section 163(j) provisions to have a material tax benefit since the Company is expected to be in a net interest income position. In addition, the Company has evaluated the COVID-19 related legislation globally and does not expect the legislation to have a material tax impact on the Company. Further, on July 23, 2020, the Department of Treasury published final regulations under the global intangible low-taxed income and Subpart F provisions of the Internal Revenue Code regarding the treatment of income that is subject to a high rate of foreign tax ("high-tax exclusion"). These regulations, among other things, permit U.S. shareholders of foreign corporations to make an election for a controlled foreign corporation to exclude from subpart F income any item of income received by the controlled foreign corporation if that income is subject to an effective tax rate greater than 90% of the maximum U.S. corporate income tax rate of 21%. The Company is in the process of evaluating the impact of these regulations and has not determined if an election should be made to avail the high-tax exclusion for tax years beginning January 1, 2018 or later.

12. Accumulated other comprehensive loss

The components of accumulated other comprehensive loss were as follows (in thousands):

	Foreign currency translation	Retirement related benefit plans	Total
Balance at January 1, 2020	$ (6,928)	$ (2,600)	$ (9,528)
Other comprehensive (loss) income before reclassification	(5,018)	81	(4,937)
Amounts reclassified from accumulated other comprehensive loss	—	87	87
Tax effects	—	—	—
Other comprehensive (loss) income	(5,018)	168	(4,850)
Balance at June 30, 2020	$ (11,946)	$ (2,432)	$ (14,378)

13. Commitments and contingencies

Swedish Tax Litigation

The Swedish Tax Authorities, or STA, assessed tax (net of utilization of tax attributes), penalties and interest in the amount of $6.2 million related to the acquisition of Panopticon AB by Datawatch Corporation, in 2013 for the years 2013, 2014 and 2015. The STA, upon auditing the acquisition transaction, reached a conclusion that post acquisition, certain assets were removed from Sweden, triggering the tax obligation. The STA is also of the opinion that some services related to product development provided to the new parent company in the U.S. were performed by Panopticon AB at a price below market price triggering tax obligations. Datawatch contested the findings by the STA throughout the audit process including contesting the STA position in the first level of administrative courts. On May 29, 2019, the Administrative Court issued its ruling in favor of Datawatch AB. On July 4, 2019, the STA filed an appeal of the Administrative Court ruling with the Administrative Court of Appeal in Stockholm, effectively continuing to assert that the assessments are in fact appropriate. After relevant submissions by the Company and the STA, the Court of Appeals held a hearing on February 20, 2020. On March 27, 2020, the Court of Appeals issued its finding in favor of the STA. Pursuant to requirements in Sweden, the Company paid the assessed tax, penalties and interest on April 24, 2020. The Company, in accordance with its right to appeal the ruling to the Administrative Supreme Court of Sweden, filed an appeal of the Court of Appeals ruling citing specific grounds for reconsideration. Whether the Administrative Supreme Court will agree to hear the appeal is unknown at present. Further, even if the Administrative Supreme Court agrees to hear the appeal, there is no assurance that it will rule in favor of the Company.

Other legal proceedings

From time to time, the Company may be subject to legal proceedings and claims in the ordinary course of business. The Company has received, and may in the future continue to receive, claims from third parties asserting, among other things, infringement of their intellectual property rights. Future litigation may be necessary to defend the Company, its partners and its customers by determining the scope, enforceability and validity of third party proprietary rights, or to establish and enforce the Company’s proprietary rights. The results of any current or future litigation cannot be predicted with certainty and regardless of the outcome, litigation can have an adverse impact on the Company because of defense and settlement costs, diversion of management resources and other factors.

14. Segment information

The Company defines its operating segments as components of its business where separate financial information is available and used by the chief operating decision maker (“CODM”) in deciding how to allocate resources to its segments and in assessing performance. The Company’s CODM is its Chief Executive Officer.

The Company has identified two reportable segments for financial reporting purposes: Software and Client Engineering Services, or “CES”. The primary measure of segment operating performance is Adjusted EBITDA, which is defined as net income (loss) adjusted for income tax expense (benefit), interest expense, interest income and other, depreciation and amortization, stock-based compensation expense, restructuring charges, asset impairment charges and other special items as determined by management. Adjusted EBITDA includes an allocation of corporate headquarters costs.

The Software reportable segment derives revenue from the sale and lease of licenses for software products focused on the development and application of simulation technology to synthesize and optimize designs, processes and decisions for improved business performance. The Software segment also derives revenue from software support, upgrades, training and consulting services focused on product design and development expertise and analysis support from the component level up to complete product engineering at any stage of the lifecycle. To a much lesser extent, the Software segment also includes revenue from the sale of hardware products, primarily as a result of prior business acquisitions.

The Client Engineering Services reportable segment provides support to its customers with long-term ongoing product design and development expertise in its market segments of Solvers & Optimization, Modeling & Visualization, Industrial and Concept Design, and high performance computing. The Company hires simulation specialists, industrial designers, design engineers, materials experts, development and test specialists, manufacturing engineers and information technology specialists for placement at customer sites for specific customer-directed assignments.

The “All other” represents innovative services and products, including toggled®, the Company’s LED lighting business. toggled® is focused on developing and selling next-generation solid state lighting technology along with communication and control protocols based on intellectual property for the direct replacement of fluorescent light tubes with LED lamps, and for control of LED lighting. Other businesses combined within Other include the Company’s WEYV business, which ceased operations in the third quarter of 2019, and potential services and product concepts that are still in their development stages.

Inter-segment sales are not significant for any period presented. The CODM does not review asset information by segment when assessing performance, therefore, no asset information is provided for reportable segments. The accounting policies of the segments are the same as those described in Note 1 – Organization and summary of significant accounting policies.

The following tables are in thousands:

Three months ended June 30, 2020	**Software**	**CES**	**All other**	**Total**
Revenue	$ 87,277	$ 9,640	$ 1,644	$ 98,561
Adjusted EBITDA	$ 5,102	$ 977	$ (330)	$ 5,749

Three months June 30, 2019	**Software**	**CES**	**All other**	**Total**
Revenue	$ 92,315	$ 12,412	$ 2,046	$ 106,773
Adjusted EBITDA	$ 5,207	$ 1,467	$ (1,509)	$ 5,165

Six months ended June 30, 2020	**Software**	**CES**	**All other**	**Total**
Revenue	$ 202,654	$ 23,518	$ 3,852	$ 230,024
Adjusted EBITDA	$ 25,566	$ 2,479	$ (624)	$ 27,421

Six months ended June 30, 2019	**Software**	**CES**	**All other**	**Total**
Revenue	$ 205,378	$ 24,462	$ 4,792	$ 234,632
Adjusted EBITDA	$ 29,249	$ 2,573	$ (2,673)	$ 29,149

	Three Months Ended June 30,		**Six Months Ended June 30,**	
	2020	**2019**	**2020**	**2019**
Reconciliation of Adjusted EBITDA to U.S. GAAP income before income taxes:				
Adjusted EBITDA	$ 5,749	$ 5,165	$ 27,421	$ 29,149
Stock-based compensation expense	(4,534)	(2,080)	(7,705)	(3,292)
Interest expense	(2,843)	(590)	(5,656)	(860)
Interest income and other (1)	(194)	(508)	460	(709)
Depreciation and amortization	(5,633)	(5,274)	(11,293)	(10,468)
(Loss) income before income taxes	$ (7,455)	$ (3,287)	$ 3,227	$ 13,820

(1) Includes $0.6 million of severance expense for the three and six months ended June 30, 2020. Includes $0.8 million and $1.0 million of impairment charges for royalty contracts for the three and six months ended June 30, 2019, respectively.

15. Subsequent events

In July 2020, the Company acquired all of the outstanding capital stock of S&Wise Co., Ltd., a Korean corporation ("S&Wise"). S&Wise is a leading provider of polyurethane foaming simulation. The S&Wise solver and technology complements the Company's existing manufacturing simulation offerings including casting, forming, mold-filling, extrusion, and additive manufacturing.

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and related notes included elsewhere in this quarterly report and with our audited consolidated financial statements (and notes thereto) for the year ended December 31, 2019, included in our Annual Report on Form 10-K filed with the SEC. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those discussed below. All statements in this quarterly report regarding the future impact of COVID-19 are forward-looking in nature and thus subject to the safe harbor provisions described below.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This quarterly report on Form 10-Q contains forward-looking statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 under Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements include statements with respect to our beliefs, plans, objectives, goals, expectations, anticipations, assumptions, estimates, intentions and future performance, and involve known and unknown risks, uncertainties and other factors, which may be beyond our control, and which may cause our actual results, performance or achievements to be materially different from future results, performance or achievements expressed or implied by such forward-looking statements. All statements other than statements of historical fact are statements that could be forward-looking statements. You can identify these forward-looking statements through our use of words such as "may," "can," "anticipate," "assume," "should," "indicate," "would," "believe," "contemplate," "expect," "seek," "estimate," "continue," "plan," "point to," "project," "predict," "could," "intend," "target," "potential" and other similar words and expressions of the future.

There are a number of important factors that could cause the actual results to differ materially from those expressed in any forward-looking statement made by us. These factors include, but are not limited to:

- our ability and the time it takes to acquire new customers;
- reduced spending on product design and development activities by our customers;
- our ability to successfully renew our outstanding software licenses;
- our ability to maintain or protect our intellectual property;
- our ability to retain key executive members;
- our ability to internally develop new software products, inventions and intellectual property;
- our ability to successfully integrate and realize the benefits of our past or future strategic acquisitions or investments;
- demand for our software by customers other than simulation engineering specialists and in additional industry verticals;
- acceptance of our business model by investors;
- our susceptibility to factors affecting the automotive, aerospace and financial services industries where we derive a substantial portion of our revenues;
- the accuracy of our estimates regarding expenses and capital requirements;
- our susceptibility to foreign currency risks that arise because of our substantial international operations;
- the significant quarterly fluctuations of our results; and
- the uncertain effect of COVID-19 or other future pandemics or events on our business, operating results and financial condition, including disruption to our customers, our employees, the global economy and financial markets.

The foregoing does not represent an exhaustive list of matters that may be covered by the forward-looking statements contained herein or risk factors that we are faced with that may cause our actual results to differ from those anticipated in our forward-looking statements. For additional risks which could adversely impact our business and financial performance please see "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2019, which was filed with the SEC, on March 2, 2020, and in Item 1A, Part II of this Quarterly Report on Form 10-Q and other information appearing elsewhere in our Annual Report on Form 10-K, this report on Form 10-Q and our other filings with the SEC.

All forward-looking statements are expressly qualified in their entirety by this cautionary notice. You are cautioned not to place undue reliance on any forward-looking statements, which speak only as of the date of this report or the date of the document incorporated by reference into this report. We have no obligation, and expressly disclaim any obligation, to update, revise or correct any of the forward-looking statements, whether as a result of new information, future events or otherwise. We have expressed our expectations, beliefs and projections in good faith, and we believe they have a reasonable basis. However, we cannot assure you that our expectations, beliefs or projections will result or be achieved or accomplished.

Overview

We are a global technology company providing software and cloud solutions in the areas of product development, high performance computing, and data analytics. We enable organizations across broad industry segments to compete more effectively in a connected world while creating a more sustainable future.

Our simulation-driven approach to innovation is powered by our broad portfolio of high-fidelity and high-performance physics solvers. Our integrated suite of software optimizes design performance across multiple disciplines encompassing structures, motion, fluids, thermal management, electromagnetics, system modeling, and embedded systems, while also providing data analytics and true-to-life visualization and rendering. Our high performance computing solutions maximize the efficient utilization of complex compute resources and streamline the workflow management of compute-intensive tasks for applications including data analytics, modeling and simulation, and visualization. Our data analytics products include data preparation, data science and visualization solutions that fuel engineering, scientific, and business decisions.

Altair's software products represent a comprehensive, open architecture solution for simulation, data analytics and cloud computing to empower decision making for improved product development, manufacturing, energy management and exploration, financial services, health care, and retail operations. We believe our products offer a comprehensive set of technologies to design and optimize high performance, efficient, innovative and sustainable products and processes in an increasingly connected world. Our products are categorized by:

- Design, Modeling & Visualization;
- Physics Simulation;
- Data Analytics;
- High Performance Computing; and
- Internet of Things, or IoT.

Altair also provides Client Engineering Services, or CES, to support our customers with long-term ongoing expertise. This has the benefit of embedding us within customers, deepening our understanding of their processes, and allowing us to more quickly perceive trends in the overall market. Our presence at our customers' sites (currently substantially limited to remote presence in response to COVID-19) helps us to better tailor our software products' research and development, or R&D, and sales initiatives.

Impact of COVID-19

In March 2020, The World Health Organization declared the outbreak of COVID-19 a pandemic, and a public health emergency of international concern. The global spread of COVID-19 has created significant volatility and uncertainty. Such conditions are expected to continue to persist. To limit the spread of COVID-19, governments have taken various actions from time to time including the issuance of travel restrictions, complete or partial prohibitions of non-essential activities, restrictions or shutdowns of non-essential businesses, stay-at-home orders and social distancing guidelines. Some of these actions have varied from initial responses, pivoting between full or complete to partial or limited restrictions depending upon local or regional conditions. Accordingly, many businesses have adjusted to these actions by reducing or suspending operating or other activities. This has negatively impacted several of the markets we serve, including the automotive and aerospace markets.

The ensuing discussion is provided to summarize the impacts of COVID-19 upon the Company, inclusive of some of the principal measures undertaken by the Company to date to respond to the pandemic. It is difficult to predict with any level of precision the broad effects of COVID-19 on specific industries or individual companies. Locally or regionally imposed restrictions in concert with the duration of pandemic conditions may create disparate impacts across the globe, including the primary countries or regions in which the Company and its customers operate.

The uncertain impact from the rapidly changing market and economic conditions due to COVID-19 has disrupted the business of many of our customers and partners. These disruptions have had an adverse effect on our business and consolidated results of operations and could impact our financial condition in the future. For example, a negative impact on our customers may cause them to request extended payment terms, delayed invoicing, higher discounts, lower renewal amounts or cancelations, and a reduction in demand for software related and client engineering services. These actions could have a negative impact on our financial results and liquidity. While adjustments in costs have been undertaken to mitigate the potential loss of revenue, including through the reduction in use of outside contractors and furloughing those employees associated with client engineering services for whom their associated customer contracts were interrupted or terminated, we believe that it is important on a long term basis to retain much of the deeply technical and specialized engineering resources typically engaged in providing software related services.

We have adopted several measures in response to COVID-19 adhering to local and regional restrictions, including instructing employees to work from home, adjusting our expenses and cash flow to correlate with potential declines in billings and cash collections from customers, shifting certain of our customer events to online-only webcasts and restricting non-critical business travel by our employees. Historically, a portion of field sales, professional services and other activities were conducted in person. Currently, because of travel restrictions related to COVID-19, substantially all of our sales, professional services and other activities are being conducted virtually. We have developed contingency plans to reduce costs further if the current situation changes. We continue to actively monitor business conditions and government mandates related to COVID-19 and may take further actions that alter our business operations as may be required by federal, state or local authorities or that we determine are in the best interests of our associates, customers, suppliers and shareholders.

Throughout this period, our response is focused on maintaining the health and safety of our employees, customers, and partners. We are committed to, and we believe we are capable of continuing to provide the same excellent level of service and technical support for our customers during these uncertain times. Our team is comfortable and highly experienced with remote collaboration, as it is a normal part of our global culture. During this crisis, customers working remotely can move their existing licenses from their on-premise servers to servers utilizing hosted Altair Units, or request temporary term-based software licenses for increased productivity and security. We are also providing access to an increased number of online training, marketing and sales resources.

We have almost entirely converted our business to being capable of operating nearly 100% “virtual” as required under COVID-19 restrictions, leveraging our global technology infrastructure. While we are capable of sustained operations primarily in a virtual environment, we expect that we will gradually resume normal operations, when permitted, based on local conditions and restrictions, with the primary focus of preserving employee welfare, while continuing to support customers. We have undertaken many measures to manage ongoing operating expenses given the uncertainties with the COVID-19 environment. Specifically, we have introduced temporary wage reductions, or other measures, in accordance with local labor laws and regulations, to reduce near term compensation costs. We have, where possible, negotiated reductions in costs for consultants, professional and advisory fees, and other costs. Given global travel restrictions, we have substantially reduced expenses for travel related costs while many sales and marketing activities have reverted to being virtualized, further reducing certain expenditures on a net basis.

COVID-19 restrictions have begun to ease in certain jurisdictions, and we have been able to re-open offices in certain countries. On the other hand, certain jurisdictions that eased restrictions have subsequently heightened their restrictions. We have taken proactive steps to protect the health and safety of our employees, customers, and partners, preparing our offices for a safe return in compliance with local and regional regulations and requirements enacting rigorous safety measures, including employee training and self-monitoring for symptoms of COVID-19. Adhering to local and regional requirements, these measures include a combination of the taking of all employee temperatures upon reporting to work, encouraging employees to continue to work from home, implementing social distancing protocols, maintaining suspension of travel, instituting facility protocols and cleaning guidelines, establishing hand sanitizer stations, disinfecting workspaces, and requiring the wearing of masks with respect to those employees who must be physically present in their workplace. In the event an employee contracts the virus and tests positive for COVID-19, we have mandated quarantining and have instructed employees not to return to work until such time that they have been cleared to do so. We expect to continue to practice these measures until we determine that COVID-19 is adequately contained for purposes of our business, and we may take further actions as government authorities require or recommend or as we determine to be in the best interests of our employees, customers, and partners.

We derive a significant portion of our revenue from international operations, which are primarily conducted in foreign currencies. The value of the U.S. dollar has fluctuated in comparison to certain foreign currencies, including in Europe, driven by COVID-19 events and news. Since we have substantial international operations that arise from our normal business operations, our financial results in 2020 are expected to be impacted by COVID-19 driven variations in foreign currency exchange rates, apart from the traditional elements that underly foreign currency exchange rate changes.

We have performed an assessment of certain tangible and intangible assets to determine whether events or changes in circumstances caused by the COVID-19 pandemic resulted in indicators of impairment as of June 30, 2020. Based on present expectations, we determined that it is not more likely than not that indicators of impairment existed as of June 30, 2020. Notwithstanding this conclusion, if business conditions were to deteriorate in a significant manner or for an extended duration within our customer base, the likelihood of impairment would increase, and we would again assess whether events or changes in circumstances indicate that an asset impairment that is more likely than not exists. Specifically, certain non-amortizing intangible assets from recent acquisitions valued on the basis of short-term forecasts of revenue will be re-assessed for indicators of impairment and it is possible that an impairment charge will be reflected in the future should COVID-19 business conditions worsen or extend substantially in duration.

As reflected in our period to period analysis below, we believe the emergence of COVID-19 has negatively affected our results of operations. COVID-19's impact on some of our customers has primarily contributed to the decrease in revenue for software related and client engineering services. Our software product revenue has been affected by elongated sales cycles, greater challenges in securing renewals, as well as new and expansion business. While we continue to robustly engage with our customers, primarily virtually, to mitigate the uncertain extent of the negative impact of COVID-19 on our customers, our ability to attract, serve, retain or expand customers will continue to be uncertain. Existing and potential customers may choose to reduce or delay technology spending in response to COVID-19, or attempt to renegotiate contracts and obtain concessions, which may materially and negatively impact our operating results, financial condition and prospects. In certain cases, we provided longer than normal payment terms to certain of our customers; however, the terms are less than one year, and we do not expect this to materially affect our consolidated financial statements. We are unable to accurately predict the full impact that COVID-19 will have due to numerous uncertainties, including the full scope of the disease, the duration of the initial outbreak, the number and intensity of subsequent waves of infections, actions that may be taken by governmental authorities, the impact to the businesses of our customers and partners, the development of treatments and vaccines, and other factors identified in Part II, Item 1A "Risk Factors" in this Form 10-Q. Even after the COVID-19 pandemic has subsided, we may experience material adverse impacts to our business as a result of any economic recession or depression that has occurred or may occur in the future. We will continue to evaluate the nature and extent of the impact to our business, consolidated results of operations, and financial condition.

Factors Affecting our Performance

We believe that our future success will depend on many factors, including those described below. While these areas present significant opportunity, they also present risks that we must manage to achieve successful results. If we are unable to address these challenges, our business, operating results and prospects could be harmed. Please see "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2019, as filed with the SEC on March 2, 2020, and in Part II, Item 1A of this Quarterly Report on Form 10-Q.

Seasonality and quarterly results

Our billings have historically been highest in the first and fourth quarters of any calendar year and may vary in future quarters. The timing of recording billings and the corresponding effect on our cash flows may vary due to the seasonality of the purchasing and payment patterns of our customers. In addition, the timing of the recognition of revenue, the amount and timing of operating expenses, including employee compensation, sales and marketing activities, and capital expenditures, may vary from quarter-to-quarter which may cause our reported results to fluctuate significantly. In addition, we may choose to grow our business for the long-term rather than to optimize for profitability or cash flows for a particular shorter-term period. This seasonality or the occurrence of any of the factors above may cause our results of operations to vary and our financial statements may not fully reflect the underlying performance of our business.

Integration of recent acquisitions

We believe that our recent and prior acquisitions result in certain benefits, including expanding our portfolio of software and products and enabling us to better serve our customer's requests for data intelligence and simulation technology. However, to realize some of these anticipated benefits, the acquired businesses must be successfully integrated. The success of these acquisitions will depend in part on our ability to realize these anticipated benefits. We may fail to realize the anticipated benefits of these acquisitions for a variety of reasons.

Foreign currency fluctuations

Because of our substantial international operations, we are exposed to foreign currency risks that arise from our normal business operations, including in connection with our transactions that are denominated in foreign currencies, including the Euro, British Pound Sterling, Indian Rupee, Japanese Yen, and Chinese Yuan. To present the changes in our underlying business without regard to the impact of currency fluctuations, we evaluate certain of our operating results both on an as reported basis, as well as on a constant currency basis.

Constant currency amounts exclude the effect of foreign currency fluctuations on our reported results. Our comparative financial results were impacted by fluctuations in the value of the United States dollar relative to other currencies during the three and six months ended June 30, 2020, as compared to the three and six months ended June 30, 2019. To present this information, the results for 2020 for entities whose functional currency is a currency other than the United States dollar were converted to United States dollars at rates that were in effect for 2019. These adjusted amounts are then compared to our current period reported amounts to provide operationally driven variances in our results.

The effects of currency fluctuations on our Revenue, Net income, Adjusted EBITDA and Billings, are reflected in the table below. Amounts in brackets indicate a net adverse impact from currency fluctuations.

(in thousands)	**Three Months Ended June 30, 2020**	**Six Months Ended June 30, 2020**
Revenue	$ (1,471)	$ (3,071)
Net income	$ 11	$ (345)
Adjusted EBITDA	$ (7)	$ (316)
Billings	$ (1,152)	$ (4,046)

Expanded use of our software applications

Our ability to grow our revenue is affected, in part, by the pace at which our customers continue to expand their use of our design, simulation, optimization and analysis applications, our suite of data intelligence products and the degree to which prospective customers realize the benefit of using our software applications. To grow our presence within our customers and attract new customers, we devote substantial sales and marketing resources to drive increased adoption across our existing customers and encourage new customers to commence using our software. As a result of this "land and expand" business model, we expect to generate additional revenue from our current and future customer base. To the extent our sales and marketing efforts do not translate into customer retention or expansion, or if we do not allocate those expenses efficiently, our financial performance may be adversely affected. Therefore, our financial performance will depend in part on the degree to which our "land and expand" strategies are successful.

Altair Units

In July 2020, we introduced Altair Units, our new, unified licensing system that gives access to every Altair product and the power to solve on any scale. The new model delivers enhanced inclusivity at various price points and will allow customers to maximize their software value.

Investments for growth

We have made and plan to continue to make investments for long-term growth, including investments in our ongoing research and development activities seeking to create new software and to enhance our existing applications to address emerging technology trends and additional customer needs. Generally, the development of new or improved applications in our software can result in the expansion of our user base within an organization and a potential increase in revenue over time, although the expenditures associated with such developments may adversely affect our performance in the near term. We intend to continue to invest resources in sales and marketing, by further expanding our sales teams and increasing our marketing activities. Our ability to continue to grow revenue from our current and potential customer base is dependent, in part, upon the success of our current and future research and development and sales and marketing activities.

Business Segments

We have identified two reportable segments: Software and Client Engineering Services:

- *Software* —Our Software segment includes software and software related services. The software component of this segment includes our portfolio of software products including our solvers and optimization technology products, modeling and visualization tools, data analytics and analysis products, high performance computing, software applications and hardware products, IoT platform and analytics tools as well as support and the complementary software products we offer through our Altair Partner Alliance, or APA. The APA includes technologies ranging from computational fluid dynamics and fatigue to manufacturing process simulation and cost estimation. The software related services component of this segment includes consulting, implementation services, and training focused on product design and development expertise and analysis from the component level up to complete product engineering at any stage of the lifecycle.
- *Client Engineering Services* —Our client engineering services, or CES, segment provides client engineering services to support our customers with long-term, ongoing expertise. We operate our CES business by hiring engineers and data scientists for placement at a customer site for specific customer-directed assignments. We employ and pay them only for the duration of the placement.

Our other businesses which do not meet the criteria to be separate reportable segments are combined and reported as “Other” which represents innovative services and products, including toggled, our LED lighting business. toggled is focused on developing and selling next-generation solid state lighting technology along with communication and control protocols based on our intellectual property for the direct replacement of fluorescent light tubes with LED lamps. Other businesses combined within Other include our WEYV business, which ceased operations in the third quarter of 2019, and potential services and product concepts that are still in development stages.

For additional information about our reportable segments and other businesses, see Note 14 in the Notes to consolidated financial statements in Item 1, Part I of this Quarterly Report on Form 10-Q.

Results of operations

Comparison of the three and six months ended June 30, 2020 and 2019

The following table sets forth the results of operations and the period-over-period percentage change in certain financial data for the three and six months ended June 30, 2020 and 2019:

(in thousands)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Increase / (decrease) %	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019	Increase / (decrease) %
Revenue:						
Software	$ 81,833	$ 84,408	(3%)	$ 190,276	$ 187,699	1%
Software related services	5,444	7,907	(31%)	12,378	17,679	(30%)
Total software and related services	87,277	92,315	(5%)	202,654	205,378	(1%)
Client engineering services	9,640	12,412	(22%)	23,518	24,462	(4%)
Other	1,644	2,046	(20%)	3,852	4,792	(20%)
Total revenue	98,561	106,773	(8%)	230,024	234,632	(2%)
Cost of revenue:						
Software	11,353	12,384	(8%)	27,331	26,736	2%
Software related services	4,656	6,612	(30%)	10,145	13,130	(23%)
Total software and related services	16,009	18,996	(16%)	37,476	39,866	(6%)
Client engineering services	7,789	10,033	(22%)	19,107	19,833	(4%)
Other	1,283	1,994	(36%)	2,995	4,209	(29%)
Total cost of revenue	25,081	31,023	(19%)	59,578	63,908	(7%)
Gross profit	73,480	75,750	(3%)	170,446	170,724	—%
Operating expenses:						
Research and development	28,970	29,829	(3%)	60,437	57,345	5%
Sales and marketing	25,806	26,221	(2%)	53,905	52,672	2%
General and administrative	20,248	19,851	2%	42,594	40,180	6%
Amortization of intangible assets	3,692	3,600	3%	7,532	7,128	6%
Other operating income, net	(944)	(549)	72%	(1,835)	(1,166)	57%
Total operating expenses	77,772	78,952	(1%)	162,633	156,159	4%
Operating (loss) income	(4,292)	(3,202)	34%	7,813	14,565	(46%)
Interest expense	2,843	590	382%	5,656	860	558%
Other expense (income), net	320	(505)	NM	(1,070)	(115)	NM
(Loss) income before income taxes	(7,455)	(3,287)	127%	3,227	13,820	(77%)
Income tax expense (benefit)	2,768	(167)	NM	7,420	3,921	89%
Net (loss) income	$ (10,223)	$ (3,120)	228%	$ (4,193)	$ 9,899	(142%)
Other financial information:						
Billings(1)	$ 98,870	$ 108,038	(8%)	$ 226,805	$ 241,919	(6%)
Adjusted EBITDA(2)	$ 5,749	$ 5,165	11%	$ 27,421	$ 29,149	(6%)
Net cash provided by operating activities	$ 5,365	$ 6,553	(18%)	$ 33,401	$ 31,868	5%
Free cash flow(3)	$ 4,479	$ 4,469	—%	$ 30,871	$ 25,201	22%

NM Not meaningful.

(1) Billings consists of our total revenue plus the change in our deferred revenue, excluding deferred revenue from acquisitions. For more information about Billings and our other non-GAAP financial measures and reconciliations of our non-GAAP financial measures to the most directly comparable financial measures calculated and presented in accordance with GAAP, see "Non-GAAP financial measures" contained herein.

(2) We define Adjusted EBITDA as net income (loss) adjusted for income tax expense (benefit), interest expense, interest income and other, depreciation and amortization, stock-based compensation expense, restructuring charges, asset impairment charges and other special items as determined by management. For more information about Adjusted EBITDA and our other non-GAAP financial measures and reconciliations of our non-GAAP financial measures to the most directly comparable financial measure calculated and presented in accordance with GAAP, see "Non-GAAP financial measures" contained herein.

(3) We define Free Cash Flow as net cash provided by operating activities less capital expenditures. For a reconciliation of Free Cash Flow, see "Non-GAAP financial measures" contained herein.

The following table sets forth our revenue growth on a constant currency basis for the three and six months ended June 30, 2020, compared to the three and six months ended June 30, 2019:

(dollars in thousands)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Change %	Constant currency change(1) %	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019	Change %	Constant currency change(1) %
Revenue:								
Software	$ 81,833	$ 84,408	(3%)	(2%)	$ 190,276	$ 187,699	1%	3%
Software related services	5,444	7,907	(31%)	(30%)	12,378	17,679	(30%)	(29)%
Total software and related services	87,277	92,315	(5%)	(4)%	202,654	205,378	(1%)	—%
Client engineering services	9,640	12,412	(22%)	(22)%	23,518	24,462	(4%)	(3)%
Other	1,644	2,046	(20%)	(20%)	3,852	4,792	(20%)	(20%)
Total revenue	$ 98,561	$ 106,773	(8%)	(6%)	$ 230,024	$ 234,632	(2%)	(1%)

(1) The results for entities whose functional currency is a currency other than the United States dollar were converted to United States dollars at rates that were in effect for the corresponding period of the prior year.

Three months ended June 30, 2020 and 2019

Revenue

Total revenue decreased by $8.2 million, or 8%, for the three months ended June 30, 2020, as compared to the three months ended June 30, 2019. The decrease was primarily attributable to the slowdown in economic activity by our customers due to COVID-19.

Software

(in thousands)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
Software revenue	$ 81,833	$ 84,408	$ (2,575)	(3%)
As a percent of software segment revenue	94%	91%		
As a percent of consolidated revenue	83%	79%		

The 3% decrease in our software revenue for the three months ended June 30, 2020, as compared to the three months ended June 30, 2019, was primarily the result of a decrease in software license and services revenue recognized in the current quarter due to the above-mentioned slowdown in economic activity by our customers.

Software related services

(in thousands)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
Software related services revenue	$ 5,444	$ 7,907	$ (2,463)	(31%)
As a percent of software segment revenue	6%	9%		
As a percent of consolidated revenue	6%	7%		

Software related services revenue decreased 31% for the three months ended June 30, 2020, as compared to the three months ended June 30, 2019. This decrease was primarily the result of customers reducing their demand for these services due to COVID-19.

Client engineering services

(in thousands)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
Client engineering services revenue	$ 9,640	$ 12,412	$ (2,772)	(22%)
As a percent of consolidated revenue	10%	12%		

CES revenue decreased 22% for the three months ended June 30, 2020, as compared to the three months ended June 30, 2019. In response to COVID-19, some of our CES customers furloughed staff positions, while some other customers have reduced CES staff working hours or reduced billing rates. We have acted in concert with those customers to furlough or curtail the hours and compensation of those impacted employees until such time as our customers return to normal staffing, billing rates or required working hours.

Other

	Three Months Ended June 30,		Period-to-period change	
(in thousands)	**2020**	**2019**	**$**	**%**
Other revenue	$ 1,644	$ 2,046	$ (402)	(20%)
As a percent of consolidated revenue	2%	2%		

The 20% decrease in other revenue for the three months ended June 30, 2020, as compared to the three months ended June 30, 2019, was primarily due to lower revenue from decreased unit sales from toggled, our LED lighting business, driven by COVID-19.

Cost of revenue

Software

	Three Months Ended June 30,		Period-to-period change	
(in thousands)	**2020**	**2019**	**$**	**%**
Cost of software revenue	$ 11,353	$ 12,384	$ (1,031)	(8%)
As a percent of software revenue	14%	15%		
As a percent of consolidated revenue	12%	12%		

Cost of software revenue decreased by $1.0 million, or 8%, for the three months ended June 30, 2020, as compared to the three months ended June 30, 2019. This decrease in the current year period was due to decreased travel expense of $0.6 million and decreased employee compensation and related costs of $0.4 million, partially offset by increased stock-based compensation expense of $0.3 million and increased healthcare costs of $0.2 million.

Software related services

	Three Months Ended June 30,		Period-to-period change	
(in thousands)	**2020**	**2019**	**$**	**%**
Cost of software related services revenue	$ 4,656	$ 6,612	$ (1,956)	(30%)
As a percent of software related services revenue	86%	84%		
As a percent of consolidated revenue	5%	6%		

Cost of software related services revenue decreased 30% for the three months ended June 30, 2020, as compared to the three months ended June 30, 2019. The decrease in the current year period was primarily due to a decrease in employee compensation and related costs due to a decline in consulting services and a decrease in travel expenses as a result of COVID-19 restrictions.

Client engineering services

	Three Months Ended June 30,		Period-to-period change	
(in thousands)	**2020**	**2019**	**$**	**%**
Cost of client engineering services revenue	$ 7,789	$ 10,033	$ (2,244)	(22%)
As a percent of client engineering services revenue	81%	81%		
As a percent of consolidated revenue	8%	9%		

Cost of CES revenue decreased 22% for the three months ended June 30, 2020, consistent with the decrease in revenue, as compared to the three months ended June 30, 2019, We have acted in concert with our customers reduced demand to furlough or curtail the hours and compensation of employees until such time as our customers return to normal staffing or required working hours.

Other

(in thousands)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
Cost of other revenue	$ 1,283	$ 1,994	$ (711)	(36%)
As a percent of other revenue	78%	97%		
As a percent of consolidated revenue	1%	2%		

Cost of other revenue decreased 36%, for the three months ended June 30, 2020, as a result of lower sales volumes and lower product unit costs for our LED lighting business, as compared to the three months ended June 30, 2019.

Gross profit

(in thousands)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
Gross profit	$ 73,480	$ 75,750	$ (2,270)	(3%)
As a percent of consolidated revenue	75%	71%		

Gross profit decreased by $2.3 million, or 3%, for the three months ended June 30, 2020, as compared to the three months ended June 30, 2019. This decrease in gross profit was primarily attributable to lower revenue as a result of the slowdown in economic activity due to COVID-19.

Operating expenses

Operating expenses, as discussed below, support all the products and services that we provide to our customers and, as a result, they are reported and discussed here in the aggregate.

Research and development

(in thousands)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
Research and development	$ 28,970	$ 29,829	$ (859)	(3%)
As a percent of consolidated revenue	29%	28%		

Research and development expenses decreased by $0.9 million, or 3%, for the three months ended June 30, 2020, as compared to the three months ended June 30, 2019. This decrease was primarily attributable to lower employee compensation and related expense of $2.0 million from temporary compensation reductions made in the second quarter of 2020, offset by headcount increases from acquisitions in the fourth quarter of 2019, as well as a decrease in travel expenses of $0.7 million as a result of COVID-19 restrictions. These decreases were partially offset by a $1.3 million increase in stock-based compensation expense and a $0.5 million increase in healthcare costs.

Sales and marketing

(in thousands)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
Sales and marketing	$ 25,806	$ 26,221	$ (415)	(2%)
As a percent of consolidated revenue	26%	25%		

Sales and marketing expenses decreased by $0.4 million, or 2%, for the three months ended June 30, 2020, as compared to the three months ended June 30, 2019. Travel and trade show related expense decreased by $3.0 million from suspension or cancellation of certain in-person sales and marketing activities as a result of COVID-19. These decreases were partially offset by a $1.4 million increase in employee compensation and related expense, primarily due to increased headcount, an $0.8 million increase in stock-based compensation expense and a $0.3 million increase in healthcare costs.

General and administrative

(in thousands)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
General and administrative	$ 20,248	$ 19,851	$ 397	2%
As a percent of consolidated revenue	21%	19%		

General and administrative expenses increased by $0.4 million, or 2%, for the three months ended June 30, 2020, as compared to the three months ended June 30, 2019. This increase was primarily attributable to a $0.5 million increase in consulting expense, a $0.3 million increase in healthcare costs, a $0.2 million increase in software maintenance. These increases were partially offset by a $0.8 million decrease in employee compensation and related expense from temporary compensation reductions made in the second quarter of 2020,

Amortization of intangible assets

	Three Months Ended June 30,		Period-to-period change	
(in thousands)	**2020**	**2019**	**$**	**%**
Amortization of intangible assets	$ 3,692	$ 3,600	$ 92	3%
As a percent of consolidated revenue	4%	3%		

Amortization of intangible assets for the three months ended June 30, 2020 was consistent with the three months ended June 30, 2019.

Other operating income, net

	Three Months Ended June 30,		Period-to-period change	
(in thousands)	**2020**	**2019**	**$**	**%**
Other operating income, net	$ (944)	$ (549)	$ 395	72%
As a percent of consolidated revenue	(1%)	(1%)		

Other operating income, net increased $0.4 million for the three months ended June 30, 2020, as compared to the three months ended June 30, 2019. The three months ended June 30, 2019, included $0.8 million of impairment charges for royalty contracts, which we did not have in the current year. This decrease in expenses was offset in part by an increase in the provision for bad debt and a reduction in grant income in the current quarter.

Interest expense

	Three Months Ended June 30,		Period-to-period change	
(in thousands)	**2020**	**2019**	**$**	**%**
Interest expense	$ 2,843	$ 590	$ 2,253	382%
As a percent of consolidated revenue	3%	1%		

Interest expense increased $2.3 million for the three months ended June 30, 2020, as compared to the three months ended June 30, 2019. The increase in interest expense was primarily the result of amortization of the debt discount and issuance costs on the Convertible Notes in the current year.

Other expense (income), net

	Three Months Ended June 30,		Period-to-period change	
(in thousands)	**2020**	**2019**	**$**	**%**
Other expense (income), net	$ 320	$ (505)	$ 825	NM
As a percent of consolidated revenue	—%	—%		

Other expense (income), net increased by $0.8 million for the three months ended June 30, 2020, as compared to the three months ended June 30, 2019. This increase was primarily as result of foreign currency fluctuations in the United States dollar relative to other functional currencies during the three months ended June 30, 2020, compared to the three months ended June 30, 2019.

Income tax expense

	Three Months Ended June 30,		Period-to-period change	
(in thousands)	**2020**	**2019**	**$**	**%**
Income tax expense (benefit)	$ 2,768	$ (167)	$ 2,935	NM

The effective tax rate was -37% and 5% for the three months ended June 30, 2020 and 2019, respectively. The tax rate is affected by the Company being a U.S. resident taxpayer, the tax rates in the U.S. and other jurisdictions in which the Company operates, the relative amount of income earned by jurisdiction and the relative amount of losses or income for which no benefit or expense is recognized due to a valuation allowance. The Company's effective tax rate for the three months ended June 30, 2020 and 2019, also includes net discrete expense of $1.7 million and net discrete benefit of $0.1 million, respectively, primarily related to changes in reserves, changes in accruals for unremitted earnings and other adjustments.

Net loss

(in thousands)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
Net loss	$ (10,223)	$ (3,120)	$ 7,103	228%

Net loss increased by $7.1 million for the three months ended June 30, 2020, as compared to the three months ended June 30, 2019. This increase in net loss was primarily attributable to the slowdown in economic activity due to COVID-19.

Six months ended June 30, 2020 and 2019

Revenue

Total revenue decreased by $4.6 million, or 2%, for the six months ended June 30, 2020, as compared to the six months ended June 30, 2019. The decrease was primarily attributable to reduced demand for our software related services in response to COVID-19.

Software

(in thousands)	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
Software revenue	$ 190,276	$ 187,699	$ 2,577	1%
As a percent of software segment revenue	94%	91%		
As a percent of consolidated revenue	83%	80%		

The 1% increase in our software revenue for the six months ended June 30, 2020, as compared to the six months ended June 30, 2019, was primarily the result of an increase in software maintenance revenue recognized, partially offset by a decrease in software license and professional services in the current year.

Software related services

(in thousands)	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
Software related services revenue	$ 12,378	$ 17,679	$ (5,301)	(30%)
As a percent of software segment revenue	6%	9%		
As a percent of consolidated revenue	5%	8%		

Software related services revenue decreased 30% for the six months ended June 30, 2020, as compared to the six months ended June 30, 2019. This decrease was primarily the result of customers reducing their demand for these services at this point in the business cycle, coupled with the impact of COVID-19 on their business operations.

Client engineering services

(in thousands)	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
Client engineering services revenue	$ 23,518	$ 24,462	$ (944)	(4%)
As a percent of consolidated revenue	10%	10%		

Our CES business is primarily affected by customer demand and our ability to fill customers' open positions. As noted above in response to COVID-19, in April some of our CES customers furloughed staff positions, while some other customers reduced CES staff working hours or reduced billing rates. We have acted in concert with those customers to furlough or curtail the hours and compensation of those impacted employees until such time as our customers return to normal staffing, billing rates, or required working hours. The 4% decrease in CES revenue for the six months ended June 30, 2020, as compared to the six months ended June 30, 2019, reflects those steps, offset in part by our ability to fulfill demand for our client engineering services in the first quarter of 2020.

Other

(in thousands)	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
Other revenue	$ 3,852	$ 4,792	$ (940)	(20%)
As a percent of consolidated revenue	2%	2%		

The 20% decrease in other revenue for the six months ended June 30, 2020, as compared to the six months ended June 30, 2019, was primarily due to lower revenue from decreased unit sales at lower selling prices from toggled, our LED lighting business, and decreased royalty income of $0.3 million. The decrease in unit sales was driven by COVID-19.

Cost of revenue

Software

(in thousands)	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
Cost of software revenue	$ 27,331	$ 26,736	$ 595	2%
As a percent of software revenue	14%	14%		
As a percent of consolidated revenue	12%	11%		

Cost of software revenue increased by $0.6 million, or 2%, for the six months ended June 30, 2020, as compared to the six months ended June 30, 2019. This increase in the current year was due to increased employee compensation and related costs of $1.4 million, primarily due to increased headcount, increased stock-based compensation expense of $0.6 million and increased healthcare costs of $0.5 million. These increases in expenses were partially offset by decreases in travel expense and hardware costs of $0.8 million and $0.7 million, respectively, as compared to the six months ended June 30, 2019.

Software related services

(in thousands)	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
Cost of software related services revenue	$ 10,145	$ 13,130	$ (2,985)	(23%)
As a percent of software related services revenue	82%	74%		
As a percent of consolidated revenue	4%	6%		

Cost of software related services revenue decreased 23% for the six months ended June 30, 2020, as compared to the six months ended June 30, 2019. The decrease in the current year period was primarily due to a decrease in employee compensation and related costs due to a decline in consulting services.

Client engineering services

(in thousands)	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
Cost of client engineering services revenue	$ 19,107	$ 19,833	$ (726)	(4%)
As a percent of client engineering services revenue	81%	81%		
As a percent of consolidated revenue	8%	8%		

Cost of CES revenue decreased 4% for the six months ended June 30, 2020, consistent with the decrease in revenue, as compared to the six months ended June 30, 2019. In response to reduced customer demand for these services, we furloughed or curtailed the hours and compensation of employees until such time as our customers return to normal staffing or required working hours.

Other

(in thousands)	Six Months Ended June 30, 2020	2019	Period-to-period change $	%
Cost of other revenue	$ 2,995	$ 4,209	$ (1,214)	(29%)
As a percent of other revenue	78%	88%		
As a percent of consolidated revenue	1%	2%		

Cost of other revenue decreased 29%, for the six months ended June 30, 2020, as a result of the decrease in revenue, as compared to the six months ended June 30, 2019. This decrease is due to cost reductions for products sold and lower sales volumes for our LED lighting business.

Gross profit

(in thousands)	Six Months Ended June 30, 2020	2019	Period-to-period change $	%
Gross profit	$ 170,446	$ 170,724	$ (278)	—%
As a percent of consolidated revenue	74%	73%		

Gross profit for the six months ended June 30, 2020, was consistent with the six months ended June 30, 2019. While our gross profit is consistent compared to the prior period, lower revenue as a result of the slowdown in economic activity due to COVID-19 impacted the quarter ended June 30, 2020, as mentioned above.

Operating expenses

Operating expenses, as discussed below, support all the products and services that we provide to our customers and, as a result, they are reported and discussed here in the aggregate.

Research and development

(in thousands)	Six Months Ended June 30, 2020	2019	Period-to-period change $	%
Research and development	$ 60,437	$ 57,345	$ 3,092	5%
As a percent of consolidated revenue	26%	24%		

Research and development expenses increased by $3.1 million, or 5%, for the six months ended June 30, 2020, as compared to the six months ended June 30, 2019. This increase was primarily attributable to a $2.3 million increase in stock-based compensation expense, a $0.8 million increase in employee compensation and related expense as a result of increased headcount from acquisitions in the fourth quarter of 2019, and a $0.7 million increase in healthcare costs, partially offset by a $0.8 million decrease in travel expense.

Sales and marketing

(in thousands)	Six Months Ended June 30, 2020	2019	Period-to-period change $	%
Sales and marketing	$ 53,905	$ 52,672	$ 1,233	2%
As a percent of consolidated revenue	23%	22%		

Sales and marketing expenses increased by $1.2 million, or 2%, for the six months ended June 30, 2020, as compared to the six months ended June 30, 2019. Employee compensation and related expense increased $3.6 million, primarily due to increased headcount, stock-based compensation expense increased by $1.1 million, and healthcare costs increased by $0.7 million. These increases were partially offset by a decrease in travel and trade show related expense of $3.9 million from suspension or cancellation of certain in-person sales and marketing activities as a result of COVID-19.

General and administrative

(in thousands)	Six Months Ended June 30, 2020	2019	Period-to-period change $	%
General and administrative	$ 42,594	$ 40,180	$ 2,414	6%
As a percent of consolidated revenue	19%	17%		

General and administrative expenses increased by $2.4 million, or 6%, for the six months ended June 30, 2020, as compared to the six months ended June 30, 2019. This increase was primarily attributable to a $0.7 million increase in consulting expense, a $0.5 million increase in stock-based compensation expense, a $0.5 million increase in software maintenance expense, a $0.4 million increase in depreciation expense, a $0.3 million increase in healthcare costs and a $0.3 million increase in employee compensation and related expenses, partially offset by a reduction in professional fees of $1.0 million.

Amortization of intangible assets

(in thousands)	Six Months Ended June 30, 2020	2019	Period-to-period change $	%
Amortization of intangible assets	$ 7,532	$ 7,128	$ 404	6%
As a percent of consolidated revenue	3%	3%		

Amortization of intangible assets increased by $0.4 million for the six months ended June 30, 2020, as compared to the six months ended June 30, 2019. This was attributable to an increase in the amortization of developed technology in the current year period as a result of acquisitions in the fourth quarter of 2019.

Other operating income, net

(in thousands)	Six Months Ended June 30, 2020	2019	Period-to-period change $	%
Other operating income, net	$ (1,835)	$ (1,166)	$ 669	57%
As a percent of consolidated revenue	(1%)	—%		

Other operating income, net increased by $0.7 million for the six months ended June 30, 2020, as compared to the six months ended June 30, 2019, as a result of a reduction of impairment charges for royalty contracts compared to the prior period, partially offset by an increase in bad debt expense in the current year.

Interest expense

(in thousands)	Six Months Ended June 30, 2020	2019	Period-to-period change $	%
Interest expense	$ 5,656	$ 860	$ 4,796	558%
As a percent of consolidated revenue	2%	—%		

Interest expense increased $4.8 million for the six months ended June 30, 2020, as compared to the six months ended June 30, 2019. The increase in interest expense was primarily the result of amortization of the debt discount and issuance costs on the Convertible Notes in the current year.

Other income, net

(in thousands)	Six Months Ended June 30, 2020	2019	Period-to-period change $	%
Other income, net	$ (1,070)	$ (115)	$ 955	830%
As a percent of consolidated revenue	—%	—%		

Other income, net increased by $1.0 million for the six months ended June 30, 2020, as compared to the six months ended June 30, 2019. This increase was primarily the result of an increase in interest income during the six months ended June 30, 2020, compared to the six months ended June 30, 2019.

Income tax expense

(in thousands)	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
Income tax expense	$ 7,420	$ 3,921	$ 3,499	89%

The effective tax rate was 230% and 28% for the six months ended June 30, 2020 and 2019, respectively. The tax rate is affected by the Company being a U.S. resident taxpayer, the tax rates in the U.S. and other jurisdictions in which the Company operates, the relative amount of income earned by jurisdiction and the relative amount of losses or income for which no benefit or expense is recognized due to a valuation allowance. The Company's effective tax rate for the six months ended June 30, 2020 and 2019, also includes net discrete expense of $3.7 million and net discrete benefit of $1.2 million, respectively, primarily related to changes in reserves, changes in accruals for unremitted earnings and other adjustments.

Net (loss) income

(in thousands)	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019	Period-to-period change $	Period-to-period change %
Net (loss) income	$ (4,193)	$ 9,899	$ (14,092)	NM

Net income decreased by $14.1 million for the six months ended June 30, 2020, resulting in a net loss of $4.2 million, as compared to net income of $9.9 million for the six months ended June 30, 2019. This decrease in net income was primarily attributable to the increase in operating expenses and interest expense as described above.

Non-GAAP financial measures

In analyzing and planning for our business, we supplement our use of GAAP financial measures with non-GAAP financial measures, including Billings as a liquidity measure, Adjusted EBITDA as a performance measure and Free Cash Flow as a liquidity measure.

(in thousands)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019
Other financial data:				
Billings	$ 98,870	$ 108,038	$ 226,805	$ 241,919
Adjusted EBITDA	$ 5,749	$ 5,165	$ 27,421	$ 29,149
Free Cash Flow	$ 4,479	$ 4,469	$ 30,871	$ 25,201

Billings. Billings consists of our total revenue plus the change in our deferred revenue, excluding deferred revenue from acquisitions during the period. Given that we generally bill our customers at the time of sale, but typically recognize a portion of the related revenue ratably over time, management believes that Billings is a meaningful way to measure and monitor our ability to provide our business with the working capital generated by upfront payments from our customers.

Adjusted EBITDA. We define Adjusted EBITDA as net income (loss) adjusted for income tax expense (benefit), interest expense, interest income and other, depreciation and amortization, stock-based compensation expense, restructuring charges, asset impairment charges and other special items as determined by management. Our management team believes that Adjusted EBITDA is a meaningful measure of performance as it is commonly utilized by management and the investment community to analyze operating performance in our industry.

Free Cash Flow. Free Cash Flow is a non-GAAP measure that we calculate as cash flow provided by operating activities less capital expenditures. Management believes that Free Cash Flow is useful in analyzing our ability to service and repay debt, when applicable, and return value directly to stockholders.

These non-GAAP financial measures reflect an additional way of viewing aspects of our business that, when viewed with our GAAP results and the accompanying reconciliations to the corresponding GAAP financial measures included in the tables below, may provide a more complete understanding of factors and trends affecting our business. These non-GAAP financial measures should not be relied upon to the exclusion of GAAP financial measures and are by definition an incomplete understanding of the Company and must be considered in conjunction with GAAP measures.

We believe that the non-GAAP measures disclosed herein are only useful as an additional tool to help management and investors make informed decisions about our financial and operating performance and liquidity. By definition, non-GAAP measures do not give a full understanding of the Company. To be truly valuable, they must be used in conjunction with the comparable GAAP measures. In addition, non-GAAP financial measures are not standardized. It may not be possible to compare these financial measures with other companies' non-GAAP financial measures having the same or similar names. We strongly encourage investors to review our consolidated financial statements and the notes thereto in their entirety and not rely on any single financial measure.

The following table provides a reconciliation of Billings to revenue, the most comparable GAAP financial measure, for each of the periods presented:

	Three Months Ended June 30,		Six Months Ended June 30,	
(in thousands)	2020	2019	2020	2019
Revenue	$ 98,561	$ 106,773	$ 230,024	$ 234,632
Ending deferred revenue	80,348	73,806	80,348	73,806
Beginning deferred revenue	(80,039)	(72,541)	(83,567)	(66,519)
Billings	$ 98,870	$ 108,038	$ 226,805	$ 241,919

The following table provides a reconciliation of Adjusted EBITDA to net (loss) income, the most comparable GAAP financial measure, for each of the periods presented:

	Three Months Ended June 30,		Six Months Ended June 30,	
(in thousands)	2020	2019	2020	2019
Net (loss) income	$ (10,223)	$ (3,120)	$ (4,193)	$ 9,899
Income tax expense (benefit)	2,768	(167)	7,420	3,921
Stock-based compensation expense	4,534	2,080	7,705	3,292
Interest expense	2,843	590	5,656	860
Interest income and other (1)	194	508	(460)	709
Depreciation and amortization	5,633	5,274	11,293	10,468
Adjusted EBITDA	5,749	5,165	27,421	29,149

(1) Includes $0.6 million of severance expense for the three and six months ended June 30, 2020. Includes 0.8 million and $1.0 million of impairment charges for royalty contracts for the three and six months ended June 30, 2019, respectively.

The following table provides a reconciliation of Free Cash Flow to net cash provided by operating activities, the most comparable GAAP financial measure, for each of the periods presented:

	Six Months Ended June 30,	
(in thousands)	2020	2019
Net cash provided by operating activities	$ 33,401	$ 31,868
Capital expenditures	(2,530)	(6,667)
Free cash flow	$ 30,871	$ 25,201

Recurring Software License Rate. A key factor to our success is our recurring software license rate which we measure through Billings, primarily derived from annual renewals of our existing subscription customer agreements. We calculate our recurring software license rate for a particular period by dividing (i) the sum of software term-based license Billings, software license maintenance Billings, and 20% of software perpetual license Billings which we believe approximates maintenance as an element of the arrangement by (ii) the total software license Billings including all term-based subscriptions, maintenance, and perpetual license billings from all customers for that period. For the six months ended June 30, 2020 and 2019, our recurring software license rate was 93% and 91%, respectively. The recurring software license rate may vary from period to period.

Liquidity and capital resources

Our principal sources of liquidity have been the net payments received from global customers using our software and services and proceeds from our initial public offering, follow-on offering and our convertible debt offering, as well as periodic draws on our credit facilities, when needed.

We have commenced the initial planning to update zoning to allow for future expansion of our corporate headquarters facilities on the adjacent property we own to enable development consistent with our long-term needs. We have not yet determined the nature and scope of the overall timeline and investment beyond the immediate rezoning efforts necessary for our potential use in the future. Over the next 12 months, we expect to continue to advance this project, although we are considering the emerging business impacts of COVID-19 on the nature and timing of this project.

We continue to evaluate possible acquisitions and other strategic transactions designed to expand our business. As a result, our expected uses of cash could change, our cash position could be reduced, or we may incur additional debt obligations to the extent we complete additional acquisitions.

Our existing cash and cash equivalents may fluctuate during fiscal 2020, due to changes in our planned cash expenditures, including changes in incremental costs such as direct costs and integration costs related to acquisitions. Cash from operations could also be affected by various risks and uncertainties, including, but not limited to, the effects of COVID-19. It is possible that certain customers may unilaterally decide to extend payments on accounts receivable, however the Company's customer base is comprised primarily of larger organizations with previously strong liquidity and capital resources.

We believe that our existing cash balances, together with funds generated from operations and amounts available under our credit facility, will be sufficient to finance our operations and meet our foreseeable cash requirements for the next twelve months. We also believe that our financial resources, along with managing discretionary expenses, will allow us to manage the anticipated impact of COVID-19 on our business operations for the foreseeable future, which could include reductions in revenue and delays in payments from customers and partners. We will continue to evaluate our financial position as developments evolve relating to COVID-19.

Revolving credit facility

We have a $150.0 million credit facility with a maturity date of December 15, 2023 ("2019 Amended Credit Agreement"). The 2019 Amended Credit Agreement allows us to request that the aggregate commitments under the 2019 Amended Credit Agreement be increased by up to $50.0 million for a total of $200.0 million, subject to certain conditions.

As of June 30, 2020, we had no outstanding borrowings under the 2019 Amended Credit Agreement and there was $150.0 million available for future borrowing. The 2019 Amended Credit Agreement is available for general corporate purposes, including working capital, capital expenditures and permitted acquisitions. At June 30, 2020, we were in compliance with the financial covenants.

For additional information about the 2019 Amended Credit Agreement, see Note 6 in the Notes to consolidated financial statements in Item 1, Part I of this Quarterly Report on Form 10-Q.

Cash flows

As of June 30, 2020, we had aggregate cash and cash equivalents of $250.5 million available for working capital purposes, acquisitions, and capital expenditures; $194.0 million of this aggregate amount was held in the United States and $46.9 million was held in the APAC and EMEA regions with the remainder held in Canada, Mexico and South America.

Other than statutory limitations, there are no significant restrictions on the ability of our subsidiaries to pay dividends or make other distributions to Altair. Based on our current liquidity needs and repatriation strategies, we expect that we can manage our global liquidity needs without material adverse tax implications. The 2017 changes in U.S. tax law could materially affect our tax obligations. For further discussion, please see our 2019 Annual Report on Form 10-K, "Item 1A. Risk Factors – New legislations or tax-reform policies that would change U.S. or foreign taxation of international business activities, including uncertainties in the interpretation and application of the 2017 Tax Cuts and Jobs Act, could materially affect our tax obligations and effective tax rate."

The following table summarizes our cash flows for the periods indicated:

(in thousands)	Six Months Ended June 30, 2020	2019
Net cash provided by operating activities	$ 33,401	$ 31,868
Net cash used in investing activities	(5,091)	(7,704)
Net cash provided by financing activities	267	192,144
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(1,148)	187
Net increase in cash, cash equivalents and restricted cash	$ 27,429	$ 216,495

Net cash provided by operating activities

Net cash provided by operating activities for the six months ended June 30, 2020 was $33.4 million, which reflects an increase of $1.5 million compared to the six months ended June 30, 2019. This increase was the result of changes to our working capital position, offset in part by a decrease in our net income for the six months ended June 30, 2020, as compared to the six months ended June 30, 2019.

Net cash used in investing activities

Net cash used in investing activities for the six months ended June 30, 2020 was $5.1 million, which reflects a decrease of $2.6 million compared to the six months ended June 30, 2019. This decrease was primarily the result of a reduction in cash payments for capital expenditures in the six months ended June 30, 2019.

Net cash provided by financing activities

Net cash provided by financing activities for the six months ended June 30, 2020 was $0.3 million, compared to cash provided by financing activities of $192.2 million for the six months ended June 30, 2019. For the six months ended June 30, 2019, we received aggregate proceeds of $223.1 million from our Convertible Notes offering, net of underwriters' discounts and commissions, and we had net cash payments on our revolving commitment of $31.0 million. We did not have any borrowings for the six months ended June 30, 2020.

Effect of exchange rate changes on cash, cash equivalents and restricted cash

There were adverse effects of exchange rate changes on cash, cash equivalents and restricted cash of $1.2 million for the six months ended June 30, 2020, compared to favorable effects of exchange rate changes on cash, cash equivalents and restricted cash of $0.2 million for the six months ended June 30, 2019.

Off-balance sheet arrangements

Through June 30, 2020, we did not have any relationships with unconsolidated organizations or financial partnerships, such as structured finance or special purpose entities that would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

Recently issued accounting pronouncements

See Note 2 in the Notes to consolidated financial statements in Item 1, Part I of this Quarterly Report on Form 10-Q for a full description of the recent accounting pronouncements and our expectation of their impact, if any, on our results of operations and financial condition.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to certain global market risks, including foreign currency exchange risk and interest rate risk associated with our debt.

Foreign Currency Risk

As a result of our substantial international operations, we are exposed to foreign currency risks that arise from our normal business operations, including in connection with our transactions that are denominated in foreign currencies. In addition, we translate sales and financial results denominated in foreign currencies into United States dollars for purposes of our consolidated financial statements. As a result, appreciation of the United States dollar against these foreign currencies generally will have a negative impact on our reported revenue and operating income while depreciation of the United States dollar against these foreign currencies will generally have a positive effect on reported revenue and operating income.

To date, we have not entered into any foreign currency hedging contracts, since exchange rate fluctuations have not had a material impact on our operating results and cash flows. Based on our current international structure, we do not plan on engaging in hedging activities in the near future.

Market Risk and Market Interest Risk

In June 2019, we issued $230.0 million aggregate principal amount of 0.250% convertible senior notes due 2024. Our Convertible Notes have fixed annual interest rates at 0.250% and, therefore, we do not have economic interest rate exposure on our Convertible Notes. However, the value of the Convertible Notes is exposed to interest rate risk. Generally, the fair market value of our fixed interest rate Convertible Notes will increase as interest rates fall and decrease as interest rates rise. In addition, the fair values of the Convertible Notes are affected by our stock price. The fair value of the Convertible Notes will generally increase as our Class A common stock price increases in value and will generally decrease as our Class A common stock price declines in value. Additionally, we carry the Convertible Notes at face value less unamortized discount and issuance costs on our balance sheet, and we present the fair value for required disclosure purposes only.

As of June 30, 2020, we had cash, cash equivalents and restricted cash of $250.9 million, consisting primarily of bank deposits and money market funds. At June 30, 2020, we had no outstanding borrowings under our 2019 Amended Credit Agreement. Such interest-bearing instruments carry a degree of interest rate risk; however, historical fluctuations of interest expense have not been significant.

Interest rate risk relates to the gain/increase or loss/decrease we could incur on our debt balances and interest expense associated with changes in interest rates. Changes in interest rates would impact the amount of interest income we realize on our invested cash balances. It is our policy not to enter into derivative instruments for speculative purposes, and therefore, we hold no derivative instruments for trading purposes.

Item 4. Controls and Procedures

The Company maintains disclosure controls and procedures (as defined in Rule 13a-15(e) or 15d-15(e) of the Exchange Act) that are designed to ensure that information required to be disclosed in periodic reports filed with the SEC under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and that such information is accumulated and communicated to the Company’s management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. Under the supervision and with the participation of our management, including the Chief Executive Officer and Chief Financial Officer, we have evaluated the effectiveness of our disclosure controls and procedures as defined in Rule 13(a)-15(e) under the Exchange Act as of the end of the period covered by this report. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures were effective as of June 30, 2020.

Changes in Internal Control Over Financial Reporting

There was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the quarter ended June 30, 2020, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings

Swedish Tax Litigation

The Swedish Tax Authorities, or STA, have assessed tax (net of utilization of tax attributes), penalties and interest in the amount of $6.2 million related to the acquisition of Panopticon AB by Datawatch Corporation, in 2013 for the years 2013, 2014 and 2015. The STA, upon auditing the acquisition transaction, reached a conclusion that post acquisition, certain assets were removed from Sweden, triggering the tax obligation. The STA is also of the opinion that some services related to product development provided to the new parent company in the U.S. were performed by Panopticon AB at a price below market price triggering tax obligations. Datawatch contested the findings by the STA throughout the audit process including contesting the STA position in the first level of administrative courts. On May 29, 2019, the Administrative Court issued its ruling in favor of Datawatch AB. On July 4, 2019, the STA filed an appeal of the Administrative Court ruling with the Administrative Court of Appeal in Stockholm, effectively continuing to assert that the assessments are in fact appropriate. After relevant submissions by the Company and the STA, the Court of Appeals held a hearing on February 20, 2020.

On March 27, 2020, the Court of Appeals issued its finding in favor of the STA. Pursuant to requirements in Sweden, the Company paid the assessed tax, penalties and interest on April 24, 2020. The Company, in accordance with its right to appeal the ruling to the Administrative Supreme Court of Sweden, filed an appeal of the Court of Appeals ruling citing specific grounds for reconsideration. Whether the Administrative Supreme Court will agree to hear the appeal is unknown at present. Further, even if the Administrative Supreme Court agrees to hear the appeal, there is no assurance that it will rule in favor of the Company.

As previously described in the Company's Annual Report on Form 10-K for the year ended December 31, 2019, the Company is subject to legal proceedings for which there were no other material changes during the six months ended June 30, 2020.

Item 1A. Risk Factors

The risk factor set forth below supplements the risk factors previously disclosed in Part I, Item 1A. "Risk Factors" in the Company's Annual Report on Form 10-K for the year ended December 31, 2019.

The COVID-19 pandemic, or other potential future pandemics or events, may cause severe business interruptions either globally or regionally, that could have a negative impact on our financial results.

In March 2020, the World Health Organization declared the outbreak of a novel coronavirus (COVID-19) pandemic. The outbreak of the COVID-19 pandemic has significantly affected our customers, the global economy and financial markets. The full extent to which COVID-19 will impact global or regional economies will depend on future developments that are highly uncertain and cannot be accurately predicted. New information is likely to emerge concerning COVID-19 and the actions to contain it or treat it with uncertain economic impact on local, regional, national and international markets. The Company's future results of operations, financial condition and cash flows could be materially adversely affected by COVID-19, particularly if the pandemic persists for a significant amount of time causing a substantial longer-term contraction in business for the Company's customer base, prior to eventual recovery.

Many governments have enacted a rapid massive global response leveraging monetary and fiscal policy to mitigate long term economic harm, while providing short term economic support. While the implementation of policy responses varies country by country, and regionally, the totality of the global response is based upon expectations that the response will serve to minimize the chance for a deep prolonged negative economic impact from COVID-19. Certain jurisdictions have begun to "re-open" their economies, within a relatively short time period of having engaged in substantial closure of most economic activity. Other jurisdictions have begun to consider moves to gradually "re-open" or have actually "re-opened". In certain instances, governments deemed it necessary to reverse re-opening planning. The long term outcome of mitigation efforts is presently uncertain.

Additional risks from COVID-19 include the inability of our employees and those businesses upon which we rely for operations to carry out their responsibilities at levels of performance necessary to maintain our performance undisturbed as a result of measures taken by governmental authorities to limit the spread of COVID-19. It is possible that some of our furloughed CES personnel do not return to work when their positions return. COVID-19 may also affect our operating and financial results in a manner that is not presently known to us, or that we currently to do not consider presenting significant risks to our operations.

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

Not applicable.

Item 3. Defaults Upon Senior Securities

Not applicable.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

Not applicable.

Item 6. Exhibits

No.	Description
10.1*	Form of 2020 Stock Option Award Agreement (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on June 8, 2020).
31.1*	Certification of the Chief Executive Officer of Altair Engineering Inc. pursuant to Rule 13a-14(a)/Rule 15d-14(a) under the Securities Exchange Act of 1934, as amended
31.2*	Certification of the Chief Financial Officer of Altair Engineering Inc. pursuant to Rule 13a-14(a)/Rule 15d-14(a) under the Securities Exchange Act of 1934, as amended
32.1**	Certification of the Chief Executive Officer and Chief Financial Officer of Altair Engineering Inc. 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 Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibits 101).

* Filed herewith.

** The certifications furnished in Exhibit 32.1 hereto are deemed to accompany this Quarterly Report on Form 10-Q and will not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, except to the extent that the registrant specifically incorporates it by reference.

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.

	ALTAIR ENGINEERING INC.
Date: August 6, 2020	By: /s/ James Scapa James R. Scapa Chief Executive Officer (Principal Executive Officer)
Date: August 6, 2020	By: /s/ Howard N. Morof Howard N. Morof Chief Financial Officer (Principal Financial and Accounting Officer)

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, James R. Scapa, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Altair Engineering Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of registrant’s board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

/s/ James Scapa
James R. Scapa
Chief Executive Officer
(Principal Executive Officer)

August 6, 2020

Exhibit 31.2

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Howard N. Morof, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Altair Engineering Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ Howard N. Morof
Howard N. Morof
Chief Financial Officer
(Principal Financial and Accounting Officer)

August 6, 2020

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 Altair Engineering Inc. (the “Company”), on Form 10-Q for the period ended June 30, 2020, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), the undersigned officers of the Company certify to their knowledge and in their respective capacities, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d), as applicable, 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.

/s/ James Scapa
James R. Scapa
Chief Executive Officer
(Principal Executive Officer)

/s/ Howard N. Morof
Howard N. Morof
Chief Financial Officer
(Principal Financial and Accounting Officer)

August 6, 2020