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 September 30, 2023

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 Global Select Market**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

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

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.
On October 16, 2023, there were 54,627,196 shares of the registrant's Class A common stock outstanding and 27,034,574 shares of the registrant's Class B common stock outstanding.

ALTAIR ENGINEERING INC. AND SUBSIDIARIES

FORM 10-Q

FOR THE QUARTER ENDED SEPTEMBER 30, 2023

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PART I – FINANCIAL INFORMATION

Item 1. Financial Statements

ALTAIR ENGINEERING INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(In thousands)	September 30, 2023 (Unaudited)	December 31, 2022
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 431,188	$ 316,146
Accounts receivable, net	121,855	170,279
Income tax receivable	12,402	11,259
Prepaid expenses and other current assets	26,561	29,142
Total current assets	592,006	526,826
Property and equipment, net	38,167	37,517
Operating lease right of use assets	32,132	33,601
Goodwill	452,822	449,048
Other intangible assets, net	86,491	107,609
Deferred tax assets	8,046	9,727
Other long-term assets	42,327	40,410
TOTAL ASSETS	$ 1,251,991	$ 1,204,738
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$ 5,159	$ 10,434
Accrued compensation and benefits	39,468	42,456
Current portion of operating lease liabilities	9,209	10,396
Other accrued expenses and current liabilities	50,917	56,371
Deferred revenue	110,843	113,081
Current portion of convertible senior notes, net	81,319	—
Total current liabilities	296,915	232,738
Convertible senior notes, net	225,635	305,604
Operating lease liabilities, net of current portion	23,373	24,065
Deferred revenue, non-current	28,090	31,379
Other long-term liabilities	43,860	41,216
TOTAL LIABILITIES	617,873	635,002
Commitments and contingencies		
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 54,351 and 52,277 shares as of September 30, 2023, and December 31, 2022, respectively	5	5
Class B common stock, authorized 41,203 shares, issued and outstanding 27,045 and 27,745 shares as of September 30, 2023, and December 31, 2022, respectively	3	3
Additional paid-in capital	816,551	721,307
Accumulated deficit	(150,178)	(121,577)
Accumulated other comprehensive loss	(32,263)	(30,002)
TOTAL STOCKHOLDERS' EQUITY	634,118	569,736
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 1,251,991	$ 1,204,738

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 September 30, 2023	Three Months Ended September 30, 2022	Nine Months Ended September 30, 2023	Nine Months Ended September 30, 2022
Revenue				
License	$ 79,825	$ 67,245	$ 279,972	$ 256,102
Maintenance and other services	39,252	36,520	114,069	105,453
Total software	119,077	103,765	394,041	361,555
Software related services	6,517	6,706	20,281	23,143
Total software and related services	125,594	110,471	414,322	384,698
Client engineering services	7,126	7,355	22,936	22,414
Other	1,283	1,525	3,940	4,676
Total revenue	134,003	119,351	441,198	411,788
Cost of revenue				
License	3,083	2,579	11,888	11,386
Maintenance and other services	13,689	13,025	41,754	38,628
Total software	16,772	15,604	53,642	50,014
Software related services	5,251	5,240	16,175	16,739
Total software and related services	22,023	20,844	69,817	66,753
Client engineering services	5,930	5,835	19,321	18,390
Other	1,133	1,230	3,480	3,892
Total cost of revenue	29,086	27,909	92,618	89,035
Gross profit	104,917	91,442	348,580	322,753
Operating expenses:				
Research and development	51,598	53,092	160,126	150,608
Sales and marketing	44,069	41,352	132,543	120,345
General and administrative	17,218	18,258	53,791	54,054
Amortization of intangible assets	7,704	6,571	23,143	18,682
Other operating (income) expense, net	(4,408)	(2,835)	1,324	(9,383)
Total operating expenses	116,181	116,438	370,927	334,306
Operating loss	(11,264)	(24,996)	(22,347)	(11,553)
Interest expense	1,529	1,566	4,583	2,851
Other (income) expense, net	(1,890)	2,107	(9,698)	26,082
Loss before income taxes	(10,903)	(28,669)	(17,232)	(40,486)
Income tax (benefit) expense	(6,541)	4,579	11,369	15,008
Net loss	$ (4,362)	$ (33,248)	$ (28,601)	$ (55,494)
Loss per share:				
Net loss per share attributable to common stockholders, basic and diluted	$ (0.05)	$ (0.42)	$ (0.36)	$ (0.70)
Weighted average shares outstanding:				
Weighted average number of shares used in computing net loss per share, basic and diluted	80,431	79,207	80,204	79,205

See accompanying notes to consolidated financial statements.

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

(in thousands)	Three Months Ended September 30, 2023	Three Months Ended September 30, 2022	Nine Months Ended September 30, 2023	Nine Months Ended September 30, 2022
Net loss	$ (4,362)	$ (33,248)	$ (28,601)	$ (55,494)
Other comprehensive (loss) income, net of tax:				
Foreign currency translation (net of tax effect of $0 for all periods)	(8,107)	(17,817)	(2,215)	(37,929)
Retirement related benefit plans (net of tax effect of $0, $0, $(79) and $7, respectively)	5	24	(46)	306
Total other comprehensive loss	(8,102)	(17,793)	(2,261)	(37,623)
Comprehensive loss	$ (12,464)	$ (51,041)	$ (30,862)	$ (93,117)

See accompanying notes to consolidated financial statements.

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

	Common stock				Additional	Accumulated	Accumulated other	Total
	Class A		Class B		paid-in	deficit	comprehensive	stockholders'
(in thousands)	Shares	Amount	Shares	Amount	capital		loss	equity
Balance as of December 31, 2022	52,277	$ 5	27,745	$ 3	$ 721,307	$ (121,577)	$ (30,002)	$ 569,736
Net loss	—	—	—	—	—	(1,959)	—	(1,959)
Issuance of common stock for acquisitions	34	—	—	—	—	—	—	—
Repurchase and retirement of common stock	(91)	—	—	—	(4,256)	—	—	(4,256)
Issuance of common stock for employee stock purchase program	92	—	—	—	3,648	—	—	3,648
Exercise of stock options	265	—	—	—	10,324	—	—	10,324
Vesting of restricted stock	336	—	—	—	—	—	—	—
Conversion of Class B to Class A common stock	240	—	(240)	—	—	—	—	—
Stock-based compensation	—	—	—	—	22,161	—	—	22,161
Foreign currency translation, net of tax	—	—	—	—	—	—	7,232	7,232
Retirement related benefit plans, net of tax	—	—	—	—	—	—	19	19
Balance as of March 31, 2023	53,153	5	27,505	3	753,184	(123,536)	(22,751)	606,905
Net loss	—	—	—	—	—	(22,280)	—	(22,280)
Exercise of stock options	382	—	—	—	13,264	—	—	13,264
Vesting of restricted stock	86	—	—	—	—	—	—	—
Conversion of Class B to Class A common stock	330	—	(330)	—	—	—	—	—
Stock-based compensation	—	—	—	—	23,736	—	—	23,736
Foreign currency translation, net of tax	—	—	—	—	—	—	(1,340)	(1,340)
Retirement related benefit plans, net of tax	—	—	—	—	—	—	(70)	(70)
Balance as of June 30, 2023	53,951	5	27,175	3	790,184	(145,816)	(24,161)	620,215
Net loss	—	—	—	—	—	(4,362)	—	(4,362)
Issuance of common stock for acquisitions	53	—	—	—	—	—	—	—
Issuance of common stock for employee stock purchase program	91	—	—	—	3,903	—	—	3,903
Exercise of stock options	79	—	—	—	1,938	—	—	1,938
Vesting of restricted stock	47	—	—	—	—	—	—	—
Conversion of Class B to Class A common stock	130	—	(130)	—	—	—	—	—
Stock-based compensation	—	—	—	—	20,526	—	—	20,526
Foreign currency translation, net of tax	—	—	—	—	—	—	(8,107)	(8,107)
Retirement related benefit plans, net of tax	—	—	—	—	—	—	5	5
Balance as of September 30, 2023	54,351	$ 5	27,045	$ 3	$ 816,551	$ (150,178)	$ (32,263)	$ 634,118

See accompanying notes to consolidated financial statements.

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

	Common stock				Additional	Accumulated	Accumulated other comprehensive	Total stockholders'
	Class A		Class B		paid-in	deficit	loss	equity
(in thousands)	Shares	Amount	Shares	Amount	capital			
Balance as of December 31, 2021	51,524	$ 5	27,745	$ 3	$ 724,226	$ (102,087)	$ (8,950)	$ 613,197
Cumulative effect of an accounting change	—	—	—	—	(50,009)	23,939	—	(26,070)
Net income	—	—	—	—	—	11,528	—	11,528
Issuance of common stock for employee stock purchase program	77	—	—	—	4,187	—	—	4,187
Exercise of stock options	86	—	—	—	238	—	—	238
Vesting of restricted stock	324	—	—	—	—	—	—	—
Stock-based compensation	—	—	—	—	19,403	—	—	19,403
Foreign currency translation, net of tax	—	—	—	—	—	—	(4,163)	(4,163)
Retirement related benefit plans, net of tax	—	—	—	—	—	—	105	105
Balance as of March 31, 2022	52,011	5	27,745	3	698,045	(66,620)	(13,008)	618,425
Net loss	—	—	—	—	—	(33,774)	—	(33,774)
Settlement of convertible senior notes	—	—	—	—	(29,756)	—	—	(29,756)
Repurchase and retirement of common stock	(85)	—	—	—	(4,387)	—	—	(4,387)
Reclassification of mezzanine equity to permanent equity	—	—	—	—	784	—	—	784
Exercise of stock options	222	—	—	—	1,452	—	—	1,452
Vesting of restricted stock	43	—	—	—	—	—	—	—
Stock-based compensation	—	—	—	—	21,200	—	—	21,200
Foreign currency translation, net of tax	—	—	—	—	—	—	(15,949)	(15,949)
Retirement related benefit plans, net of tax	—	—	—	—	—	—	177	177
Balance as of June 30, 2022	52,191	5	27,745	3	687,338	(100,394)	(28,780)	558,172
Net loss	—	—	—	—	—	(33,248)	—	(33,248)
Issuance of common stock for employee stock purchase program	108	—	—	—	4,536	—	—	4,536
Exercise of stock options	56	—	—	—	1,152	—	—	1,152
Vesting of restricted stock	22	—	—	—	—	—	—	—
Stock-based compensation	—	—	—	—	22,710	—	—	22,710
Foreign currency translation, net of tax	—	—	—	—	—	—	(17,817)	(17,817)
Retirement related benefit plans, net of tax	—	—	—	—	—	—	24	24
Balance as of September 30, 2022	52,377	$ 5	27,745	$ 3	$ 715,736	$ (133,642)	$ (46,573)	$ 535,529

See accompanying notes to consolidated financial statements.

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

(In thousands)	Nine Months Ended September 30, 2023	2022
OPERATING ACTIVITIES:		
Net loss	$ (28,601)	$ (55,494)
Adjustments to reconcile net loss to net cash provided by operating activities:		
Depreciation and amortization	29,271	24,092
Stock-based compensation expense	66,423	62,524
Amortization of debt issuance costs	1,399	1,330
Deferred income taxes	2,178	4
Loss (gain) on mark-to-market adjustment of contingent consideration	4,494	(7,482)
Expense on repurchase of convertible senior notes	—	16,621
Other, net	(14)	336
Changes in assets and liabilities:		
Accounts receivable, net	47,226	13,859
Prepaid expenses and other current assets	959	1,906
Other long-term assets	(1,491)	3,134
Accounts payable	(5,494)	(270)
Accrued compensation and benefits	(2,726)	(3,639)
Other accrued expenses and current liabilities	(4,526)	(48,698)
Deferred revenue	(3,442)	18,311
Net cash provided by operating activities	105,656	26,534
INVESTING ACTIVITIES:		
Capital expenditures	(7,882)	(6,721)
Payments for acquisition of businesses, net of cash acquired	(3,235)	(134,130)
Other investing activities, net	(2,452)	(10,322)
Net cash used in investing activities	(13,569)	(151,173)
FINANCING ACTIVITIES:		
Proceeds from the exercise of common stock options	25,526	2,840
Payments for repurchase and retirement of common stock	(6,255)	(4,387)
Proceeds from employee stock purchase plan contributions	5,772	6,549
Proceeds from issuance of convertible senior notes, net of discounts and commissions	—	224,265
Repurchase of convertible senior notes	—	(192,422)
Payments of debt issuance costs	—	(1,523)
Other financing activities	(73)	(170)
Net cash provided by financing activities	24,970	35,152
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(2,599)	(12,142)
Net increase (decrease) in cash, cash equivalents and restricted cash	114,458	(101,629)
Cash, cash equivalents and restricted cash at beginning of year	316,958	414,012
Cash, cash equivalents and restricted cash at end of period	$ 431,416	$ 312,383
Supplemental disclosure of cash flow:		
Interest paid	$ 2,124	$ 296
Income taxes paid	$ 9,021	$ 6,818
Supplemental disclosure of non-cash investing and financing activities:		
Property and equipment in accounts payable and other current liabilities	$ 909	$ 707
Deferred payment obligations for acquisitions and investments	$ 3,567	$ 1,350

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 leader in computational science and artificial intelligence enabling organizations across broad industry segments to drive smarter decisions in an increasingly connected world. Altair delivers software and cloud solutions in the areas of simulation, high-performance computing (“HPC”), data analytics, and artificial intelligence (“AI”). Altair’s products and services leverage computational science to drive innovation and intelligent decisions for a more connected, safe, and 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, 2022, included in the most recent Annual Report on Form 10-K filed with the SEC.

Change in Classification of Indirect Costs

Beginning in the first quarter of 2023, the Company refined its classification of certain indirect costs to reflect the way management is now reviewing the information in decision making and to improve comparability with peers. These indirect costs include certain IT, facilities, and depreciation expenses that were previously reported primarily in General and administrative expense. These indirect costs have now been reclassified to Research and development, Sales and marketing, and General and administrative expenses based on global headcount. Management believes this refined methodology better reflects the nature of the costs and financial performance of the Company.

As a result, the Company’s consolidated statements of operations have been recast for prior periods presented to reflect the effects of the changes to Research and development, Sales and marketing, and General and administrative expense. There was no net impact to total operating expenses, income from operations, net income or net income per share for any periods presented. The consolidated balance sheets, consolidated statements of comprehensive income, consolidated statements of changes in stockholders’ equity, and the consolidated statements of cash flows were not affected by changes in the presentation of these costs.

The following table summarizes the changes made to the consolidated statement of operations for the three and nine months ended September 30, 2022 (in thousands):

	Three Months Ended September 30, 2022		Nine Months Ended September 30, 2022	
	Previously Reported	Recast	Previously Reported	Recast
Operating expenses:				
Research and development	$ 48,781	$ 53,092	$ 138,352	$ 150,608
Sales and marketing	39,244	41,352	114,042	120,345
General and administrative	24,677	18,258	72,613	54,054
Amortization of intangible assets	6,571	6,571	18,682	18,682
Other operating income, net	(2,835)	(2,835)	(9,383)	(9,383)
Total operating expenses	$ 116,438	$ 116,438	$ 334,306	$ 334,306

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, useful lives of intangible assets, and stock-based compensation. Actual results could differ from those estimates.

Significant accounting policies

There have been no material changes to our significant accounting policies as of and for the nine months ended September 30, 2023, as compared to the significant accounting policies described in our Annual Report on Form 10-K for the year ended December 31, 2022.

2. Recent accounting guidance

Accounting standards not yet adopted

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. In October 2022, the FASB Board voted to amend the sunset date of ASU 2020-04 to December 31, 2024. 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

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 September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Term licenses and other	$ 70,450	$ 58,441	$ 252,540	$ 224,971
Perpetual licenses	9,375	8,804	27,432	31,131
Maintenance	37,430	34,271	109,072	100,643
Professional software services	1,822	2,249	4,997	4,810
Software related services	6,517	6,706	20,281	23,143
Client engineering services	7,126	7,355	22,936	22,414
Other	1,283	1,525	3,940	4,676
Total revenue	$ 134,003	$ 119,351	$ 441,198	$ 411,788

The Company derived approximately 13.5% and 13.7% of its total revenue through indirect sales channels for the nine months ended September 30, 2023 and 2022, respectively.

Costs to obtain a contract

As of September 30, 2023, and December 31, 2022, respectively, capitalized costs to obtain a contract were $4.5 million and $3.9 million recorded in Prepaid and other current assets and $0.1 million and $0.4 million recorded in Other long-term assets in the Company’s consolidated balance sheets. Sales commissions were $2.4 million and $6.5 million, respectively, for the three and nine months ended September 30, 2023, and $2.1 million and $6.3 million, respectively, for the three and nine months ended September 30, 2022. Sales commissions were included in Sales and marketing expense in the Company’s consolidated statement of operations.

Contract assets

As of September 30, 2023, and December 31, 2022, respectively, contract assets were $6.3 million and $6.3 million included in Accounts receivable, and $3.1 million and $2.3 million included in Prepaid expenses and other current assets in the Company's consolidated balance sheets.

Deferred revenue

Approximately $104.7 million of revenue recognized during the nine months ended September 30, 2023, was included in deferred revenue 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 $207.9 million and $149.9 million as of September 30, 2023 and 2022, respectively. Of the amount recorded as of September 30, 2023, the Company expects to recognize approximately 69% over the next 12 months and the remainder thereafter.

4. Supplementary Information

Acquisitions

2023 Acquisitions

During the three months ended September 30, 2023, the Company completed a business acquisition that was accounted for as a business combination under the acquisition method. The operating results of this acquisition have been included in the consolidated financial statements since the date of acquisition. The Company's transaction costs related to the acquisition were not material. As of September 30, 2023, $5.4 million of the consideration for the acquisition was reported in goodwill in the consolidated balance sheet as preliminary pending fair value allocation. All goodwill is recorded in the Software segment. The Company expects to finalize the purchase accounting as soon as practicable, but not later than one year from the acquisition date. The acquisition was not material to the Company's consolidated financial statements.

Prior Years Acquisitions

The Company finalized the valuation of the acquisition of RapidMiner as of September 30, 2023. As a result, the valuation of all 2022 acquisitions have been finalized as of September 30, 2023. There were no significant changes to the preliminary fair value of assets acquired and liabilities assumed, as previously reported.

The Company recognized a $3.5 million gain and a $4.5 million loss, respectively, for the three and nine months ended September 30, 2023, and a $2.2 million gain and $7.5 million gain, respectively, for the three and nine months ended September 30, 2022, from a mark-to-market adjustment of contingent consideration associated with the World Programming acquisition. The mark-to-market adjustments were included in Other operating expense (income), net in the consolidated statements of operations.

The Company's contingent consideration balance was $16.5 million as of September 30, 2023 related to the World Programming acquisition, which the Company settled in October 2023 with 257,382 shares of its Class A common stock in accordance with the acquisition agreement.

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):

	September 30, 2023	December 31, 2022
Cash and cash equivalents	$ 431,188	$ 316,146
Restricted cash included in other long-term assets	228	812
Total cash, cash equivalents, and restricted cash	$ 431,416	$ 316,958

Restricted cash represents amounts required for the payment of potential health insurance claims and term deposits for bank guarantees.

Property and equipment, net

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

	September 30, 2023	December 31, 2022
Land	$ 8,361	$ 7,994
Building and improvements	17,444	16,995
Computer equipment and software	44,337	45,340
Furniture, equipment and other	11,790	13,335
Leasehold improvements	7,510	8,766
Right-of-use assets under finance leases	1,920	2,122
Total property and equipment	91,362	94,552
Less: accumulated depreciation and amortization	53,195	57,035
Property and equipment, net	$ 38,167	$ 37,517

Depreciation expense, including amortization of right-of-use assets under finance leases, was $2.1 million and $6.1 million for the three and nine months ended September 30, 2023, respectively, and $1.7 million and $5.4 million for the three and nine months ended September 30, 2022, respectively.

Other liabilities

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

	September 30, 2023	December 31, 2022
Obligations for acquisition of businesses and technology	$ 19,799	$ 13,136
Income taxes payable	6,059	11,524
Accrued VAT	4,371	8,402
Accrued professional fees	2,876	3,637
Employee stock purchase plan obligations	2,194	3,969
Accrued royalties	1,849	2,593
Non-income tax liabilities	1,654	2,465
Billings in excess of cost	1,647	1,874
Defined contribution plan liabilities	1,475	1,393
Accrued interest	1,242	184
Other current liabilities	7,751	7,194
Total	$ 50,917	$ 56,371

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

	September 30, 2023	December 31, 2022
Deferred tax liabilities	$ 17,712	$ 16,775
Pension and other post retirement liabilities	13,515	12,273
Other long-term liabilities	12,633	12,168
Total	$ 43,860	$ 41,216

Other (income) expense, net

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Interest income	$ (4,823)	$ (1,708)	$ (11,692)	$ (2,008)
Foreign exchange loss	2,933	3,815	1,994	11,469
Expense on repurchase of convertible senior notes	—	—	—	16,621
Other (income) expense, net	$ (1,890)	$ 2,107	$ (9,698)	$ 26,082

5. Goodwill and other intangible assets

Goodwill

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

Balance as of December 31, 2022	$ 449,048
Acquisitions	5,365
Foreign currency translation and other	(1,591)
Balance as of September 30, 2023	$ 452,822

Other intangible assets

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

	September 30, 2023			
	Weighted average amortization period	Gross carrying amount	Accumulated amortization	Net carrying amount
Definite-lived intangible assets:				
Developed technology	4-6 years	$ 137,113	$ 83,389	$ 53,724
Customer relationships	7-10 years	56,964	35,422	21,542
Other intangibles	4-10 years	1,443	489	954
Total definite-lived intangible assets		195,520	119,300	76,220
Indefinite-lived intangible assets:				
Trade names		10,271		10,271
Total other intangible assets		$ 205,791	$ 119,300	$ 86,491

	December 31, 2022			
	Weighted average amortization period	Gross carrying amount	Accumulated amortization	Net carrying amount
Definite-lived intangible assets:				
Developed technology	4-6 years	$ 135,703	$ 67,665	$ 68,038
Customer relationships	7-10 years	57,143	29,148	27,995
Other intangibles	4-10 years	1,448	298	1,150
Total definite-lived intangible assets		194,294	97,111	97,183
Indefinite-lived intangible assets:				
Trade names		10,426		10,426
Total other intangible assets		$ 204,720	$ 97,111	$ 107,609

Amortization expense related to intangible assets was $7.7 million and $23.1 million for the three and nine months ended September 30, 2023, respectively, and $6.6 million and $18.7 million for the three and nine months ended September 30, 2022, respectively.

6. Debt

Convertible senior notes

2027 Notes

In June 2022, the Company issued $230.0 million aggregate principal amount of 1.750% convertible senior notes due in 2027 (the "2027 Notes"), which includes the initial purchaser’s exercise in full of its option to purchase an additional $30.0 million principal amount of the 2027 Notes, in a private offering. The net proceeds from the issuance of the 2027 Notes was $224.3 million after deducting discounts, commissions and estimated issuance costs. The 2027 Notes bear interest at a rate of 1.750% per year, payable semi-annually in arrears on June 15 and December 15 of each year, which commenced on December 15, 2022. The 2027 Notes mature on June 15, 2027, unless, earlier repurchased or redeemed by the Company or converted pursuant to their terms. The 2027 Notes have an initial conversion rate of 13.9505 shares of the Company's Class A common stock per $1,000 principal amount of 2027 Notes, which is equivalent to an initial conversion price of approximately $71.68 per share of its Class A common stock. Refer to the Company’s consolidated financial statements for the year ended December 31, 2022, for details of the issuance of the 2027 Notes.

The Company may settle the 2027 Notes in 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 period ended September 30, 2023, the conditions allowing holders of the 2027 Notes to convert were not met. Therefore, the 2027 Notes remained classified as long-term debt on the consolidated balance sheet as of September 30, 2023.

2024 Notes

In June 2019, the Company issued $230.0 million aggregate principal amount of 0.25% convertible senior notes due in 2024 (the "2024 Notes" and together with the 2027 Notes, the “Convertible Notes”), which includes the underwriters’ exercise in full of their option to purchase an additional $30.0 million principal amount of the 2024 Notes, in a public offering. The net proceeds from the issuance of the 2024 Notes were $221.9 million after deducting the underwriting discounts and commissions and estimated issuance costs. The 2024 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. The 2024 Notes mature on June 1, 2024, unless, earlier repurchased or redeemed by the Company or converted pursuant to their terms. The 2024 Notes have an initial conversion rate of 21.5049 shares of the Company's Class A common stock per $1,000 principal amount of 2024 Notes, which is equivalent to an initial conversion price of approximately $46.50 per share of its Class A common stock. Refer to the Company’s consolidated financial statements for the year ended December 31, 2022, for details of the issuance of the 2024 Notes.

During the year ended December 31, 2022, using proceeds from the issuance of the 2027 Notes, the Company entered into separate privately negotiated transactions with certain holders of the 2024 Notes to repurchase and retire $148.2 million aggregate principal amount of the 2024 Notes for an aggregate amount of $192.4 million of cash including accrued and unpaid interest.

As of September 30, 2023, $81.8 million principal amount of the 2024 Notes remained outstanding. The Company may settle the 2024 Notes in 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 for the 2024 Notes.

For at least twenty trading days during the last thirty consecutive trading days in the quarter ended September 30, 2023, the last reported sale price of the Company’s Class A common stock was greater than or equal to 130% of the conversion price of the 2024 Notes. As a result, the 2024 Notes were convertible at the option of the holders and were classified as current liabilities on the consolidated balance sheet as of September 30, 2023.

The net carrying value of the liability component of the 2027 and 2024 Notes was as follows (in thousands):

	September 30, 2023		December 31, 2022	
	2027 Notes	2024 Notes	2027 Notes	2024 Notes
Principal	$ 230,000	$ 81,754	$ 230,000	$ 81,754
Less: unamortized debt issuance costs	4,365	435	5,247	903
Net carrying amount	$ 225,635	$ 81,319	$ 224,753	$ 80,851

The interest expense recognized related to the 2027 and 2024 Notes was as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Contractual interest expense	$ 1,061	$ 1,057	$ 3,182	$ 1,395
Amortization of debt issuance costs and discount	453	481	1,352	1,299
Total	$ 1,514	$ 1,538	$ 4,534	$ 2,694

As of September 30, 2023, the “if converted value” of the 2027 Notes did not exceed the principal amount, and the “if converted value” of the 2024 Notes exceeded the principal amount by $28.2 million.

Credit agreement

Revolving credit facility

The Company has a $200.0 million credit facility with a maturity date of December 31, 2025 (“2019 Amended Credit Agreement”).

As of September 30, 2023, there were no outstanding borrowings under the 2019 Amended Credit Agreement, there was $200.0 million available for future borrowing, and the Company was in compliance with all the financial covenants. The 2019 Amended Credit Agreement is available for general corporate purposes, including working capital, capital expenditures, and permitted acquisitions.

For additional information about the 2019 Amended Credit Agreement, refer to the Company’s consolidated financial statements for the year ended December 31, 2022, included in our Annual Report on Form 10-K for the year ended December 31, 2022.

7. 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, net 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 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. As of September 30, 2023, the estimated fair value of the 2027 Notes and 2024 Notes was $244.4 million and $111.1 million, respectively, and is presented for required disclosure purposes only. For further information on the Convertible Notes, see Note 6. – Debt.

8. Stock-based compensation

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. The 2017 Plan has 16,999,318 authorized shares of the Company's Class A common stock reserved for issuance. As of September 30, 2023, the Company had 2,622,668 shares of its common stock available for future issuances under the 2017 Plan.

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

	Number of RSUs
Outstanding as of December 31, 2022	1,230,774
Granted	398,771
Vested	(468,759)
Forfeited	(21,765)
Outstanding as of September 30, 2023	1,139,021

The weighted average grant date fair value of the RSUs was $65.25 and the RSUs generally vest in four equal annual installments. Total compensation cost related to nonvested awards not yet recognized as of September 30, 2023, totaled $71.3 million, and is expected to be recognized over a weighted average period of 2.3 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 as of December 31, 2022	7,491,491	$ 50.39	8.5	$ 11.5
Granted	1,017,785	$ 65.19		
Exercised	(566,170)	$ 44.44		
Forfeited	(98,959)	$ 56.53		
Outstanding as of September 30, 2023	7,844,147	$ 52.67	8.1	$ 91.5
Exercisable as of September 30, 2023	2,775,427	$ 47.37	7.0	$ 45.0

The total intrinsic value of the 2017 Plan stock options exercised during the nine months ended September 30, 2023, was $14.3 million.

2021 Employee Stock Purchase Plan

The Company has an Employee Stock Purchase Plan ("ESPP") which allows eligible employees to purchase shares of common stock through payroll deductions and is intended to qualify under Section 423 of the Internal Revenue Code. The maximum number of shares available for issuance under the ESPP is 3,200,000 shares of the Company's Class A common stock. As of September 30, 2023, the Company had 2,831,824 shares of its common stock available for future issuances under the ESPP.

The purchase price for each share of common stock purchased under the ESPP will be 85% of the lower of (a) the fair market value per share on the first day of the applicable offering period or (b) the fair market value per share on the applicable purchase date.

The Company issued 183,136 shares of common stock under the ESPP during the nine months ended September 30, 2023. As of September 30, 2023 and December 31, 2022, respectively, $2.2 million and $4.0 million had been withheld on behalf of employees for future purchases under the ESPP due to the timing of payroll deductions and was reported in current liabilities. Stock-based compensation expense related to the ESPP was $0.6 million and $1.8 million of for the three and nine months ended September 30, 2023, respectively, and $0.7 million and $2.0 million for the three and nine months ended September 30, 2022, respectively.

Stock-based compensation expense

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Cost of revenue – software	$ 2,468	$ 2,332	$ 7,792	$ 6,265
Research and development	7,824	10,243	26,510	26,580
Sales and marketing	6,933	7,806	22,105	22,505
General and administrative	3,301	2,329	10,016	7,174
Total stock-based compensation expense	$ 20,526	$ 22,710	$ 66,423	$ 62,524

9. Net loss per share

Basic net loss per share attributable to common stockholders is computed using the weighted average number of shares of common stock outstanding for the period, excluding dilutive securities, stock options, RSUs, and ESPP shares. Diluted net loss 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 dilutive securities, stock options, RSUs and ESPP shares under the treasury stock method.

The Company applies the if-converted method for convertible instruments when calculating diluted earnings per share. Under the if-converted method, shares related to convertible senior notes, to the extent dilutive, are assumed to be converted into common stock at the beginning of the period.

The following table sets forth the computation of the numerators and denominators used in the basic and diluted net loss per share amounts (in thousands, except per share data):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Numerator:				
Net loss	$ (4,362)	$ (33,248)	$ (28,601)	$ (55,494)
Interest expense related to Convertible Notes, net of tax	—	—	—	—
Numerator for diluted loss per share	$ (4,362)	$ (33,248)	$ (28,601)	$ (55,494)
Denominator:				
Denominator for basic loss per share—weighted average shares	80,431	79,207	80,204	79,205
Effect of dilutive securities, stock options, RSUs and ESPP shares	—	—	—	—
Denominator for dilutive loss per share	80,431	79,207	80,204	79,205
Net loss per share attributable to common stockholders, basic and diluted	$ (0.05)	$ (0.42)	$ (0.36)	$ (0.70)

Anti-dilutive shares excluded from the computation of diluted net loss per share were as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Stock options and ESPP shares	3,158	3,926	2,895	2,549
Convertible shares	4,967	4,967	4,967	4,954
Total shares excluded from calculation	8,125	8,893	7,862	7,503

10. Income taxes

The Company’s income tax expense and effective tax rate for the three and nine months ended September 30, 2023 and 2022, were as follows (in thousands, except percentages):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Income tax (benefit) expense	$ (6,541)	$ 4,579	$ 11,369	$ 15,008
Effective tax rate	60 %	(16 %)	(66 %)	(37 %)

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 change in the effective tax rate for the three months ended September 30, 2023 as compared to September 30, 2022, was primarily attributable to the effects of tax elections made by the Company during the quarter. The Company's effective tax rate for the nine months ended September 30, 2023 and 2022 also includes net discrete expense of $7.2 million and $4.3 million, respectively, primarily related to changes in tax laws, withholding taxes on royalties, changes in reserves, changes in accruals for unremitted earnings and other adjustments.

11. 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 as of December 31, 2022	$ (30,484)	$ 482	$ (30,002)
Other comprehensive income before reclassification	(2,215)	33	(2,182)
Amounts reclassified from accumulated other comprehensive income	—	—	—
Tax effects	—	(79)	(79)
Other comprehensive income	(2,215)	(46)	(2,261)
Balance as of September 30, 2023	$ (32,699)	$ 436	$ (32,263)

12. Commitments and contingencies

World Programming

The Company acquired World Programming Limited and a related company (collectively, “World Programming”) in December 2021.

In 2018, SAS Institute, Inc. (“SAS”) filed litigation in the United States District Court for the Eastern District of Texas (the “Texas Court”) asserting that World Programming infringed SAS copyrights and patents. SAS voluntarily dismissed with prejudice its patent claims, and the Texas Court entered judgment in favor of World Programming on the copyright claims. SAS appealed the Texas Court judgment to the United States Court of Appeals for the Federal Circuit (the “Court of Appeals”). Oral arguments were held before the Court of Appeal on January 13, 2022. On April 6, 2023, the Court of Appeals issued its decision in favor of World Programming by affirming the Texas Court’s dismissal of SAS’s copyright claims. On September 3, 2023, the Company was notified that SAS elected not to file its petition for a writ of certiorari within the period in which SAS was eligible to file such petition. With such period having expired, the judgment of the Texas Court in favor of World Programming is now final and closed.

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.

Effects of proceedings

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.

13. 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. 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 following tables are in thousands:

Three months ended September 30, 2023	Software	CES	All other	Total
Revenue	$ 125,594	$ 7,126	$ 1,283	$ 134,003
Adjusted EBITDA	$ 15,312	$ 502	$ (360)	$ 15,454

Three months ended September 30, 2022	Software	CES	All other	Total
Revenue	$ 110,471	$ 7,355	$ 1,525	$ 119,351
Adjusted EBITDA	$ 6,368	$ 856	$ (395)	$ 6,829

Nine months ended September 30, 2023	Software	CES	All other	Total
Revenue	$ 414,322	$ 22,936	$ 3,940	$ 441,198
Adjusted EBITDA	$ 75,791	$ 1,544	$ (1,770)	$ 75,565

Nine months ended September 30, 2022	Software	CES	All other	Total
Revenue	$ 384,698	$ 22,414	$ 4,676	$ 411,788
Adjusted EBITDA	$ 69,083	$ 2,060	$ (1,284)	$ 69,859

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Reconciliation of Adjusted EBITDA to U.S. GAAP loss before income taxes:				
Adjusted EBITDA	$ 15,454	$ 6,829	$ 75,565	$ 69,859
Stock-based compensation expense	(20,526)	(22,710)	(66,423)	(62,524)
Interest expense	(1,529)	(1,566)	(4,583)	(2,851)
Depreciation and amortization	(9,783)	(8,273)	(29,271)	(24,092)
Special adjustments, interest income and other [1]	5,481	(2,949)	7,480	(20,878)
Loss before income taxes	$ (10,903)	$ (28,669)	$ (17,232)	$ (40,486)

(1) The three months ended September 30, 2023, includes $4.8 million of interest income, a $3.5 million gain from the mark-to-market adjustment of contingent consideration associated with the World Programming acquisition, and $2.8 million of currency losses on acquisition-related intercompany loans. The three months ended September 30, 2022, includes $6.8 million currency losses on acquisition-related intercompany loans, a $2.2 million gain from the mark-to-market adjustment of contingent consideration associated with the World Programming acquisition, and $1.7 million of interest income. The nine months ended September 30, 2023, includes $11.7 million of interest income, a $4.5 million loss from the mark-to-market adjustment of contingent consideration associated with the World Programming acquisition, and $0.3 million of currency gains on acquisition-related intercompany loans. The nine months ended September 30, 2022, includes $16.6 million expense on repurchase of convertible senior notes, $13.7 million of currency losses on acquisition-related intercompany loans, a $7.5 million gain from the mark-to-market adjustment of contingent consideration associated with the World Programming acquisition, and $2.0 million of interest income.

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, 2022, 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.

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 enhanced business model by customers and investors;
- our susceptibility to factors affecting the automotive, aerospace and banking, financial services, and insurance 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 cyberattacks, data security incidents, 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, 2022, which was filed with the SEC on February 24, 2023, 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 leader in computational science and artificial intelligence enabling organizations across broad industry segments to drive smarter decisions in an increasingly connected world. We deliver software and cloud solutions in the areas of simulation, high-performance computing (“HPC”), data analytics, and artificial intelligence (“AI”). Our products and services leverage computational science to drive innovation and intelligent decisions for a more connected, safe, and sustainable future.

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, 2022.

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 acquisitions result in certain benefits, including expanding our portfolio of software and products and enabling us to better serve our customers’ requests for data analytics 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 identify 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. For the remainder of our current fiscal year, we anticipate that our revenues and profit may be impacted by changes in foreign currency rates.

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, high-performance computing software applications and hardware products, modeling and visualization tools, data analytics and analysis 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 component of this segment includes consulting, training, and implementation services. The software related services component of this segment includes technical services 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 potential services and product concepts that are still in development stages.

For additional information about our reportable segments and other businesses, see Note 13 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 nine months ended September 30, 2023 and 2022

The following table sets forth the results of operations and the period-over-period percentage change in certain financial data for the three and nine months ended September 30, 2023 and 2022:

(in thousands)	Three Months Ended September 30, 2023	Three Months Ended September 30, 2022	Increase / (decrease) %	Nine Months Ended September 30, 2023	Nine Months Ended September 30, 2022	Increase / (decrease) %
Revenue:						
Software	$ 119,077	$ 103,765	15 %	$ 394,041	$ 361,555	9 %
Software related services	6,517	6,706	(3 %)	20,281	23,143	(12 %)
Total software and related services	125,594	110,471	14 %	414,322	384,698	8 %
Client engineering services	7,126	7,355	(3 %)	22,936	22,414	2 %
Other	1,283	1,525	(16 %)	3,940	4,676	(16 %)
Total revenue	134,003	119,351	12 %	441,198	411,788	7 %
Cost of revenue:						
Software	16,772	15,604	7 %	53,642	50,014	7 %
Software related services	5,251	5,240	0 %	16,175	16,739	(3 %)
Total software and related services	22,023	20,844	6 %	69,817	66,753	5 %
Client engineering services	5,930	5,835	2 %	19,321	18,390	5 %
Other	1,133	1,230	(8 %)	3,480	3,892	(11 %)
Total cost of revenue	29,086	27,909	4 %	92,618	89,035	4 %
Gross profit	104,917	91,442	15 %	348,580	322,753	8 %
Operating expenses:						
Research and development	51,598	53,092	(3 %)	160,126	150,608	6 %
Sales and marketing	44,069	41,352	7 %	132,543	120,345	10 %
General and administrative	17,218	18,258	(6 %)	53,791	54,054	(0 %)
Amortization of intangible assets	7,704	6,571	17 %	23,143	18,682	24 %
Other operating (income) expense, net	(4,408)	(2,835)	55 %	1,324	(9,383)	NM
Total operating expenses	116,181	116,438	(0 %)	370,927	334,306	11 %
Operating loss	(11,264)	(24,996)	(55 %)	(22,347)	(11,553)	93 %
Interest expense	1,529	1,566	(2 %)	4,583	2,851	61 %
Other (income) expense, net	(1,890)	2,107	NM	(9,698)	26,082	NM
Loss before income taxes	(10,903)	(28,669)	(62 %)	(17,232)	(40,486)	(57 %)
Income tax (benefit) expense	(6,541)	4,579	NM	11,369	15,008	(24 %)
Net loss	$ (4,362)	$ (33,248)	(87 %)	$ (28,601)	$ (55,494)	(48 %)
Other financial information:						
Billings[(1)]	$ 124,389	$ 122,939	1 %	$ 435,671	$ 419,698	4 %
Adjusted EBITDA[(2)]	$ 15,454	$ 6,829	126 %	$ 75,565	$ 69,859	8 %
Net cash provided by operating activities				$ 105,656	$ 26,534	NM
Free cash flow[(3)]				$ 97,774	$ 19,813	NM

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.

Change in Classification of Indirect Costs

As indicated in Note 1 to the Consolidated Financial Statements, beginning in the first quarter of 2023, we refined the classification of certain indirect costs to reflect the way we are now reviewing the information in decision making and to improve comparability with peers. These indirect costs include certain IT, facilities, and depreciation expenses that were previously reported primarily in General and administrative expense. These indirect costs have now been reclassified to Research and development, Sales and marketing, and General and administrative expenses based on global headcount. We believe this refined methodology better reflects the nature of the costs and financial performance of the Company.

As a result, the consolidated statements of operations have been recast for prior periods presented to reflect the effects of the changes to Research and development, Sales and marketing, and General and administrative expense. There was no net impact to total operating expenses, income from operations, net income or net income per share for any periods presented. The consolidated balance sheets, consolidated statements of comprehensive income, consolidated statements of changes in stockholders' equity, and the consolidated statements of cash flows were not affected by changes in the presentation of these costs.

Three months ended September 30, 2023 and 2022

Revenue

Software

	Three Months Ended September 30,		Period-to-period change	
(in thousands)	**2023**	**2022**	**$**	**%**
Software revenue	$ 119,077	$ 103,765	$ 15,312	15 %
As a percent of software segment revenue	95 %	94 %		
As a percent of consolidated revenue	89 %	87 %		

Software revenue increased 15%, or 15% in constant currency, for the three months ended September 30, 2023, as compared to the three months ended September 30, 2022. The increase was driven by growth in software license revenue primarily by strong retention and expansions within existing accounts, particularly in aerospace, defense, technology and automotive verticals.

Software related services

	Three Months Ended September 30,		Period-to-period change	
(in thousands)	**2023**	**2022**	**$**	**%**
Software related services revenue	$ 6,517	$ 6,706	$ (189)	(3 %)
As a percent of software segment revenue	5 %	6 %		
As a percent of consolidated revenue	5 %	6 %		

Software related services revenue decreased 3% for the three months ended September 30, 2023, as compared to the three months ended September 30, 2022. This decrease was the result of lower customer demand for these services.

Client engineering services

	Three Months Ended September 30,		Period-to-period change	
(in thousands)	**2023**	**2022**	**$**	**%**
Client engineering services revenue	$ 7,126	$ 7,355	$ (229)	(3 %)
As a percent of consolidated revenue	5 %	6 %		

CES revenue decreased 3% for the three months ended September 30, 2023, as compared to the three months ended September 30, 2022. This decrease was the result of lower customer demand for CES services, but has stabilized in the current year compared to the year-over-year declines in the prior year.

Other

	Three Months Ended September 30,		Period-to-period change	
(in thousands)	**2023**	**2022**	**$**	**%**
Other revenue	$ 1,283	$ 1,525	$ (242)	(16 %)
As a percent of consolidated revenue	1 %	1 %		

The 16% decrease in other revenue for the three months ended September 30, 2023, as compared to the three months ended September 30, 2022, was due to reduced sales by toggled, our LED lighting business.

Cost of revenue

Software

(in thousands)	Three Months Ended September 30, 2023	2022	Period-to-period change $	%
Cost of software revenue	$ 16,772	$ 15,604	$ 1,168	7 %
As a percent of software revenue	14 %	15 %		
As a percent of consolidated revenue	13 %	13 %		

Cost of software revenue increased $1.2 million, or 7%, for the three months ended September 30, 2023, as compared to the three months ended September 30, 2022. Employee compensation and related expense increased $0.9 million and royalty expense increased $0.7 million for the three months ended September 30, 2023. These increases were partially offset by a decrease in hardware costs of $0.4 million.

Software related services

(in thousands)	Three Months Ended September 30, 2023	2022	Period-to-period change $	%
Cost of software related services revenue	$ 5,251	$ 5,240	$ 11	0 %
As a percent of software related services revenue	81 %	78 %		
As a percent of consolidated revenue	4 %	4 %		

Cost of software related services revenue remained consistent for the three months ended September 30, 2023, as compared to the three months ended September 30, 2022.

Client engineering services

(in thousands)	Three Months Ended September 30, 2023	2022	Period-to-period change $	%
Cost of client engineering services revenue	$ 5,930	$ 5,835	$ 95	2 %
As a percent of client engineering services revenue	83 %	79 %		
As a percent of consolidated revenue	4 %	5 %		

Cost of CES revenue remained consistent for the three months ended September 30, 2023, as compared to the three months ended September 30, 2022.

Other

(in thousands)	Three Months Ended September 30, 2023	2022	Period-to-period change $	%
Cost of other revenue	$ 1,133	$ 1,230	$ (97)	(8 %)
As a percent of other revenue	88 %	81 %		
As a percent of consolidated revenue	1 %	1 %		

Cost of other revenue declined for the three months ended September 30, 2023, as compared to the three months ended September 30, 2022, due to lower volume sales.

Gross profit

(in thousands)	Three Months Ended September 30, 2023	2022	Period-to-period change $	%
Gross profit	$ 104,917	$ 91,442	$ 13,475	15 %
As a percent of consolidated revenue	78 %	77 %		

Gross profit increased by $13.5 million, or 15%, for the three months ended September 30, 2023, as compared to the three months ended September 30, 2022. This increase in gross profit was primarily attributable to the increase in software revenue.

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 in the aggregate.

Research and development

(in thousands)	Three Months Ended September 30, 2023	Three Months Ended September 30, 2022	Period-to-period change $	Period-to-period change %
Research and development	$ 51,598	$ 53,092	$ (1,494)	(3%)
As a percent of consolidated revenue	39%	44%		

Research and development expenses decreased by $1.5 million, or 3%, for the three months ended September 30, 2023, as compared to the three months ended September 30, 2022. Stock-based compensation expense decreased $2.4 million for the three months ended September 30, 2023, which was partially offset by an increase in employee compensation and related expense of $0.6 million, primarily due to annual merit increases and increased headcount as a result of acquisitions, and an increase in software maintenance and other IT related expenses of $0.3 million.

Sales and marketing

(in thousands)	Three Months Ended September 30, 2023	Three Months Ended September 30, 2022	Period-to-period change $	Period-to-period change %
Sales and marketing	$ 44,069	$ 41,352	$ 2,717	7%
As a percent of consolidated revenue	33%	35%		

Sales and marketing expenses increased by $2.7 million, or 7%, for the three months ended September 30, 2023, as compared to the three months ended September 30, 2022. Employee compensation and related expense increased $4.0 million, primarily due to annual merit increases and increased headcount, and travel costs increased $0.3 million for the three months ended September 30, 2023. These increases were partially offset by decreases in stock-based compensation, non-employee sales commissions, and cloud hosting and software maintenance expense of $0.9 million, $0.4 million and $0.2 million, respectively.

General and administrative

(in thousands)	Three Months Ended September 30, 2023	Three Months Ended September 30, 2022	Period-to-period change $	Period-to-period change %
General and administrative	$ 17,218	$ 18,258	$ (1,040)	(6%)
As a percent of consolidated revenue	13%	15%		

General and administrative expenses decreased by $1.0 million, or 6%, for the three months ended September 30, 2023, as compared to the three months ended September 30, 2022. Professional fees decreased $1.8 million and travel costs decreased $0.4 million for the three months ended September 30, 2023. These decreases were partially offset by increases in stock-based compensation and non-income tax of $1.0 million and $0.4 million, respectively.

Amortization of intangible assets

(in thousands)	Three Months Ended September 30, 2023	Three Months Ended September 30, 2022	Period-to-period change $	Period-to-period change %
Amortization of intangible assets	$ 7,704	$ 6,571	$ 1,133	17%
As a percent of consolidated revenue	6%	6%		

Amortization of intangible assets increased by $1.1 million, or 17%, for the three months ended September 30, 2023, as compared to the three months ended September 30, 2022. Amortization of intangible assets increased primarily as a result of recent acquisitions.

Other operating income, net

(in thousands)	Three Months Ended September 30, 2023	Three Months Ended September 30, 2022	Period-to-period change $	Period-to-period change %
Other operating income, net	$ (4,408)	$ (2,835)	$ 1,573	55%
As a percent of consolidated revenue	(3%)	(2%)		

Other operating income, net increased $1.6 million for the three months ended September 30, 2023 as compared to the three months ended September 30, 2022. We recognized a $3.5 million gain on the mark-to-market adjustment of contingent consideration associated with the World Programming acquisition for the three months ended September 30, 2023, compared to a $2.2 million gain in the prior year quarter.

Interest expense

	Three Months Ended September 30,		Period-to-period change	
(in thousands)	**2023**	**2022**	**$**	**%**
Interest expense	$ 1,529	$ 1,566	$ (37)	(2%)
As a percent of consolidated revenue	1%	1%		

Interest expense remained consistent for the three months ended September 30, 2023, as compared to the three months ended September 30, 2022.

Other (income) expense, net

	Three Months Ended September 30,		Period-to-period change	
(in thousands)	**2023**	**2022**	**$**	**%**
Other (income) expense, net	$ (1,890)	$ 2,107	$ 3,997	NM
As a percent of consolidated revenue	(1%)	2%		

Other (income) expense, net was $1.9 million of income for the three months ended September 30, 2023, compared to $2.1 million of expense for the three months ended September 30, 2022. Interest income increased $3.1 million and foreign currency losses decreased $0.9 million for the three months ended September 30, 2023, as compared to the three months ended September 30, 2022.

Income tax expense

	Three Months Ended September 30,		Period-to-period change	
(in thousands)	**2023**	**2022**	**$**	**%**
Income tax (benefit) expense	$ (6,541)	$ 4,579	$ (11,120)	NM

The effective tax rate was 60% and -16% for the three months ended September 30, 2023 and 2022, respectively. The tax rate is affected by our status as a U.S. resident taxpayer, the tax rates in the U.S. and other jurisdictions in which we operate, 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 change in the effective tax rate for the three months ended September 30, 2023 as compared to September 30, 2022, was primarily attributable to the effects of tax elections we made during the quarter. Our effective tax rates for the three months ended September 30, 2023 and 2022, also include net discrete benefit of $4.4 million and net discrete expense of $0.9 million, respectively, primarily related to changes in tax laws, withholding taxes on royalties, changes in reserves, changes in accruals for unremitted earnings and other adjustments.

Net loss

	Three Months Ended September 30,		Period-to-period change	
(in thousands)	**2023**	**2022**	**$**	**%**
Net loss	$ (4,362)	$ (33,248)	$ (28,886)	(87%)

Net loss decreased by 28.9 million for the three months ended September 30, 2023 and September 30, 2022, respectively. The decrease in net loss for the three months ended September 30, 2023, was largely attributable to the increase in software revenue and interest income and decrease in income tax expense, as described above.

Nine months ended September 30, 2023 and 2022

Revenue

Software

	Nine Months Ended September 30,		Period-to-period change	
(in thousands)	**2023**	**2022**	**$**	**%**
Software revenue	$ 394,041	$ 361,555	$ 32,486	9%
As a percent of software segment revenue	95%	94%		
As a percent of consolidated revenue	89%	88%		

Software revenue increased 9%, or 11% in constant currency, for the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022. The increase was driven by growth in software license revenue primarily by strong retention and expansions within existing accounts, particularly in aerospace, defense, technology and automotive verticals.

Software related services

	Nine Months Ended September 30,		Period-to-period change	
(in thousands)	**2023**	**2022**	**$**	**%**
Software related services revenue	$ 20,281	$ 23,143	$ (2,862)	(12%)
As a percent of software segment revenue	5%	6%		
As a percent of consolidated revenue	5%	6%		

Software related services revenue decreased 12% for the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022. This decrease was the result of lower customer demand for these services.

Client engineering services

	Nine Months Ended September 30,		Period-to-period change	
(in thousands)	**2023**	**2022**	**$**	**%**
Client engineering services revenue	$ 22,936	$ 22,414	$ 522	2%
As a percent of consolidated revenue	5%	5%		

CES revenue increased 2% for the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022. Customer demand for CES has stabilized in the current year compared to the year-over-year declines in the prior year.

Other

	Nine Months Ended September 30,		Period-to-period change	
(in thousands)	**2023**	**2022**	**$**	**%**
Other revenue	$ 3,940	$ 4,676	$ (736)	(16%)
As a percent of consolidated revenue	1%	1%		

The 16% decrease in other revenue for the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022, was due to reduced sales by toggled, our LED lighting business.

Cost of revenue

Software

	Nine Months Ended September 30,		Period-to-period change	
(in thousands)	**2023**	**2022**	**$**	**%**
Cost of software revenue	$ 53,642	$ 50,014	$ 3,628	7%
As a percent of software revenue	14%	14%		
As a percent of consolidated revenue	12%	12%		

Cost of software revenue increased $3.6 million, or 7%, for the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022. Stock-based compensation expense increased $1.5 million, employee compensation and related expense increased $1.2 million, royalty expense increased $0.6 million, travel costs increased $0.5 million, and third-party sales commissions increased $0.4 million for the nine months ended September 30, 2023. These increases were partially offset by a decrease in hardware costs of $0.6 million.

Software related services

	Nine Months Ended September 30,		Period-to-period change	
(in thousands)	**2023**	**2022**	**$**	**%**
Cost of software related services revenue	$ 16,175	$ 16,739	$ (564)	(3%)
As a percent of software related services revenue	80%	72%		
As a percent of consolidated revenue	4%	4%		

Cost of software related services revenue decreased $0.6 million, or 3%, for nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022. The decrease was due to a decrease in employee-related expense, partially offset by an increase in project-related costs.

Client engineering services

(in thousands)	Nine Months Ended September 30, 2023	2022	Period-to-period change $	%
Cost of client engineering services revenue	$ 19,321	$ 18,390	$ 931	5 %
As a percent of client engineering services revenue	84 %	82 %		
As a percent of consolidated revenue	4 %	4 %		

Cost of CES revenue increased $0.9 million, or 5%, for the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022, consistent with the increase in CES revenue.

Other

(in thousands)	Nine Months Ended September 30, 2023	2022	Period-to-period change $	%
Cost of other revenue	$ 3,480	$ 3,892	$ (412)	(11 %)
As a percent of other revenue	88 %	83 %		
As a percent of consolidated revenue	1 %	1 %		

Cost of other revenue decreased 11% for the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022, due to lower volume sales.

Gross profit

(in thousands)	Nine Months Ended September 30, 2023	2022	Period-to-period change $	%
Gross profit	$ 348,580	$ 322,753	$ 25,827	8 %
As a percent of consolidated revenue	79 %	78 %		

Gross profit increased by $25.8 million, or 8%, for the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022. This increase in gross profit was primarily attributable to the increase in software revenue.

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 in the aggregate.

Research and development

(in thousands)	Nine Months Ended September 30, 2023	2022	Period-to-period change $	%
Research and development	$ 160,126	$ 150,608	$ 9,518	6 %
As a percent of consolidated revenue	36 %	37 %		

Research and development expenses increased by $9.5 million, or 6%, for the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022. Employee compensation and related expense increased $7.3 million, primarily due to annual merit increases and increased headcount as a result of acquisitions, software maintenance and other IT related expense increased $1.7 million, depreciation expense increased $0.5 million, and travel costs increased $0.4 million for the nine months ended September 30, 2023. These increases were partially offset by a decrease in consulting fees of $0.3 million.

Sales and marketing

(in thousands)	Nine Months Ended September 30, 2023	2022	Period-to-period change $	%
Sales and marketing	$ 132,543	$ 120,345	$ 12,198	10 %
As a percent of consolidated revenue	30 %	29 %		

Sales and marketing expenses increased by $12.2 million, or 10%, for the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022. Employee compensation and related expense increased $10.7 million, primarily due to annual merit increases and increased headcount, travel costs increased $1.2 million, facilities costs and depreciation expense increased $0.5 million and advertising and trade show related expenses increased $0.3 million for the nine months ended September 30, 2023. These increases were partially offset by a decrease in non-employee sales commissions and stock-based compensation expense of $0.5 million and $0.4 million, respectively.

General and administrative

(in thousands)	Nine Months Ended September 30, 2023	2022	Period-to-period change $	%
General and administrative	$ 53,791	$ 54,054	$ (263)	(0%)
As a percent of consolidated revenue	12%	13%		

General and administrative expenses decreased by $0.3 million, or less than 1%, for the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022. Professional fees decreased $3.2 million, employee compensation and related expense decreased $0.8 million, and travel costs decreased $0.6 million for the nine months ended September 30, 2023. These decreases were partially offset by increases in stock-based compensation expense, non-income tax expense, charitable contributions, and software maintenance and other IT related expenses of $2.8 million, $0.7 million, $0.5 million, and $0.3 million, respectively.

Amortization of intangible assets

(in thousands)	Nine Months Ended September 30, 2023	2022	Period-to-period change $	%
Amortization of intangible assets	$ 23,143	$ 18,682	$ 4,461	24%
As a percent of consolidated revenue	5%	5%		

Amortization of intangible assets increased by $4.5 million, or 24%, for the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022. Amortization of intangible assets increased as a result of recent acquisitions.

Other operating expense (income), net

(in thousands)	Nine Months Ended September 30, 2023	2022	Period-to-period change $	%
Other operating expense (income), net	$ 1,324	$ (9,383)	$ 10,707	NM
As a percent of consolidated revenue	0%	(2%)		

Other operating expense (income), net increased $10.7 million for the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022. We recognized a $4.5 million loss on the mark-to-market adjustment of contingent consideration associated with the World Programming acquisition for the nine months ended September 30, 2023, compared to a $7.5 million gain for the nine months ended September 30, 2022. This loss was partially offset by a $1.2 million increase in grant income for the nine months ended September 30, 2023.

Interest expense

(in thousands)	Nine Months Ended September 30, 2023	2022	Period-to-period change $	%
Interest expense	$ 4,583	$ 2,851	$ 1,732	61%
As a percent of consolidated revenue	1%	1%		

Interest expense increased $1.7 million for the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022. Interest expense increased as a result of the interest costs on the 2027 Notes which were issued in June 2022.

Other (income) expense, net

(in thousands)	Nine Months Ended September 30, 2023	2022	Period-to-period change $	%
Other (income) expense, net	$ (9,698)	$ 26,082	$ 35,780	NM
As a percent of consolidated revenue	(2%)	6%		

Other (income) expense, net was $9.7 million of income for the nine months ended September 30, 2023, compared to $26.1 million of expense for the nine months ended September 30, 2022. Other (income) expense, net for the nine months ended September 30, 2023, includes $11.7 million of interest income and $2.0 million in net foreign currency losses. Other (income) expense, net for the nine months ended September 30, 2022, includes $16.6 million expense on the repurchase of a portion of our 2024 Notes, $11.4 million in net foreign currency losses and $2.0 million of interest income.

Income tax expense

(in thousands)	Nine Months Ended September 30, 2023	2022	Period-to-period change $	%
Income tax expense	$ 11,369	$ 15,008	$ (3,639)	(24%)

The effective tax rate was -66% and -37% for the nine months ended September 30, 2023 and 2022, respectively. The tax rate is affected by our status as a U.S. resident taxpayer, the tax rates in the U.S. and other jurisdictions in which we operate, 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. Our effective tax rates for the nine months ended September 30, 2023 and 2022, also include net discrete expense of $7.2 million and $4.3 million, respectively, primarily related to changes in tax laws, withholding taxes on royalties, changes in reserves, changes in accruals for unremitted earnings and other adjustments.

Net loss

(in thousands)	Nine Months Ended September 30, 2023	2022	Period-to-period change $	%
Net loss	$ (28,601)	$ (55,494)	$ (26,893)	(48%)

Net loss was $28.6 million and $55.5 million for the nine months ended September 30, 2023 and 2022, respectively. The net loss for the nine months ended September 30, 2023, was largely attributable to the increase in operating expenses and a loss on the mark-to-market adjustment of contingent consideration, partially offset by the increase in software revenue and interest income, and decreases in foreign exchange losses and income tax expense as described above. The net loss for the nine months ended September 30, 2022 included expense recognized on the repurchase of a portion of our 2024 Notes, foreign currency losses and a gain on the mark-to-market adjustment of contingent consideration.

Non-GAAP financial measures

We monitor the following key non-GAAP (United States generally accepted accounting principles) financial and operating metrics to help us evaluate our business, measure our performance, identify trends affecting our business, formulate business plans and make strategic decisions. 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 September 30, 2023	2022	Nine Months Ended September 30, 2023	2022
Other financial data:				
Billings	$ 124,389	$ 122,939	$ 435,671	$ 419,698
Adjusted EBITDA	$ 15,454	$ 6,829	$ 75,565	$ 69,859
Free Cash Flow			$ 97,774	$ 19,813

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 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 to rely on any single financial measure.

Reconciliation of non-GAAP financial measures

The following tables provides reconciliations of revenue to Billings, net loss to Adjusted EBITDA, and net cash provided by operating activities to Free Cash Flow:

Billings

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	**2023**	**2022**	**2023**	**2022**
Revenue	$ 134,003	$ 119,351	$ 441,198	$ 411,788
Ending deferred revenue	138,933	116,540	138,933	116,540
Beginning deferred revenue	(148,547)	(112,926)	(144,460)	(106,032)
Deferred revenue acquired	—	(26)	—	(2,598)
Billings	$ 124,389	$ 122,939	$ 435,671	$ 419,698

Adjusted EBITDA

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	**2023**	**2022**	**2023**	**2022**
Net loss	$ (4,362)	$ (33,248)	$ (28,601)	$ (55,494)
Income tax (benefit) expense	(6,541)	4,579	11,369	15,008
Stock-based compensation expense	20,526	22,710	66,423	62,524
Interest expense	1,529	1,566	4,583	2,851
Depreciation and amortization	9,783	8,273	29,271	24,092
Special adjustments, interest income and other [(1)]	(5,481)	2,949	(7,480)	20,878
Adjusted EBITDA	$ 15,454	$ 6,829	$ 75,565	$ 69,859

(1) The three months ended September 30, 2023, includes $4.8 million of interest income, a $3.5 million gain from the mark-to-market adjustment of contingent consideration associated with the World Programming acquisition, and $2.8 million of currency losses on acquisition-related intercompany loans. The three months ended September 30, 2022, includes $6.8 million currency losses on acquisition-related intercompany loans, a $2.2 million gain from the mark-to-market adjustment of contingent consideration associated with the World Programming acquisition, and $1.7 million of interest income. The nine months ended September 30, 2023, includes $11.7 million of interest income, a $4.5 million loss from the mark-to-market adjustment of contingent consideration associated with the World Programming acquisition, and $0.3 million of currency gains on acquisition-related intercompany loans. The nine months ended September 30, 2022, includes $16.6 million expense on repurchase of convertible senior notes, $13.7 million of currency losses on acquisition-related intercompany loans, a $7.5 million gain from the mark-to-market adjustment of contingent consideration associated with the World Programming acquisition, and $2.0 million of interest income.

Free Cash Flow

	Nine Months Ended September 30,	
(in thousands)	**2023**	**2022**
Net cash provided by operating activities [(1)]	$ 105,656	$ 26,534
Capital expenditures	(7,882)	(6,721)
Free cash flow [(1)]	$ 97,774	$ 19,813

(1) The nine months ended September 30, 2022, includes $65.9 million payment for a damages judgment assumed as part of an acquisition in December 2021.

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. Recurring revenue streams allow us to create more consistent, predictable cash flows and drive greater long-term customer value. We believe the recurring software license rate is a key factor to our success and we monitor this measure to ensure our go-to-market strategy is driving long-term success of our business.

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 nine months ended September 30, 2023 and 2022, our recurring software license rate was 94% and 93%, respectively. The recurring software license rate may vary from period to period.

Liquidity and capital resources

As of September 30, 2023, our principal sources of liquidity were $431.2 million in cash and cash equivalents and $200.0 million availability on our credit facility. We have outstanding debt in the form of our 2027 and 2024 convertible notes (“Convertible Notes”) with a $311.8 million principal amount as of September 30, 2023.

For at least twenty trading days during the last thirty consecutive trading days in the quarter ended September 30, 2023, the last reported sale price of the Company’s Class A common stock was greater than or equal to 130% of the conversion price of the 2024 Notes. As a result, the 2024 Notes were convertible at the option of the holders and were classified as current liabilities on the consolidated balance sheet as of September 30, 2023.

During the period ended September 30, 2023, the conditions allowing holders of the 2027 Notes to convert were not met. Therefore, the 2027 Notes were classified as long-term debt on the consolidated balance sheet as of September 30, 2023.

We have the ability to settle the Convertible Notes in cash, shares of our common stock, or a combination of cash and shares of our common stock at our own election.

On May 31, 2023, our Board approved an increased authorization under our existing stock repurchase program from $50.0 million to $75.0 million of our common stock. During the nine months ended September 30, 2023, under our stock repurchase program, we repurchased and retired 91,273 shares of our Class A Common Stock at an average price of $46.63 per share for a total cost of approximately $4.3 million. As of September 30, 2023, approximately $49.1 million remained available for repurchase under the program.

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 or strategic transactions.

Our existing cash and cash equivalents may fluctuate during fiscal 2023 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. It is possible that certain customers may unilaterally decide to extend payments on accounts receivable, however our customer base is comprised primarily of larger organizations with typically 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 our business operations for the foreseeable future and withstand economic uncertainty, 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.

Revolving credit facility

We have a $200.0 million credit facility with a maturity date of December 31, 2025 (“2019 Amended Credit Agreement”). As of September 30, 2023, there were no outstanding borrowings under the 2019 Amended Credit Agreement and there was $200.0 million available for future borrowing. The 2019 Amended Credit Agreement is available for general corporate purposes, including working capital, capital expenditures and permitted acquisitions. As of September 30, 2023, we were in compliance with the financial covenants.

For additional information about the 2019 Amended Credit Agreement, refer to our consolidated financial statements for the year ended December 31, 2022, included in our Annual Report on Form 10-K filed with the SEC on February 24, 2023.

Cash flows

As of September 30, 2023, we had cash and cash equivalents of $431.2 million available for working capital purposes, acquisitions, and capital expenditures; $324.5 million of this amount was held in the United States and $100.5 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 following table summarizes our cash flows for the periods indicated:

	Nine Months Ended September 30,	
(in thousands)	**2023**	**2022**
Net cash provided by operating activities	$ 105,656	$ 26,534
Net cash used in investing activities	(13,569)	(151,173)
Net cash provided by financing activities	24,970	35,152
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(2,599)	(12,142)
Net increase (decrease) in cash, cash equivalents and restricted cash	$ 114,458	$ (101,629)

Net cash provided by operating activities

Net cash provided by operating activities for the nine months ended September 30, 2023, was $105.7 million, which reflects an increase of $79.1 million compared to the nine months ended September 30, 2022. This increase was the result of a $65.9 million payment in the prior year on an existing legal judgment against World Programming, and an improvement in our operating results for the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022.

Net cash used in investing activities

Net cash used in investing activities for the nine months ended September 30, 2023, was $13.6 million, which reflects a decrease of $137.6 million compared to the nine months ended September 30, 2022. For the nine months ended September 30, 2022, we paid $96.5 million for the acquisition of RapidMiner, and an additional $42.2 million related to other business acquisitions and investments.

Net cash provided by financing activities

Net cash provided by financing activities for the nine months ended September 30, 2023, was $25.0 million, which reflects a decrease of $10.2 million compared to the nine months ended September 30, 2022. For the nine months ended September 30, 2023, we received proceeds of $25.5 million from the exercise of common stock options and made payments of $6.3 million for the repurchase of our Class A common stock. For the nine months ended September 30, 2022, we received aggregate proceeds of $224.3 million from the issuance of our 2027 Notes, net of certain discounts and commissions, partially offset by $192.4 million proceeds used for the repurchase of a portion of our 2024 Notes, and made payments of $4.4 million for the repurchase of our Class A common stock.

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 $2.6 million and $12.1 million, respectively, for the nine months ended September 30, 2023 and September 30, 2022.

Commitments

There were no material changes in our commitments as disclosed in our Annual Report on Form 10-K for the year ended December 31, 2022.

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 revolving credit facility.

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.

As of September 30, 2023, we do not have any foreign currency hedging contracts. Based on our current international operations, we do not plan on engaging in hedging activities in the near future.

Market Risk and Market Interest Risk

In June 2022, we issued $230.0 million aggregate principal amount of 1.750% convertible senior notes due in 2027. In June 2019, we issued $230.0 million aggregate principal amount of 0.250% convertible senior notes due 2024 of which $81.8 million aggregate principal amount remains outstanding as of September 30, 2023. The 2027 Notes and 2024 Notes have fixed annual interest rates at 1.750% and 0.250%, respectively, 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. We carry the Convertible Notes at face value less unamortized issuance costs on our balance sheet, and we present the fair value for required disclosure purposes only.

As of September 30, 2023, we had cash, cash equivalents and restricted cash of $431.4 million, consisting primarily of bank deposits and money market funds. As of September 30, 2023, 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

We maintain 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 September 30, 2023.

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 September 30, 2023, 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

World Programming

We acquired World Programming Limited and a related company (collectively, “World Programming”) in December 2021.

In 2018, SAS Institute, Inc. (“SAS”) filed litigation in the United States District Court for the Eastern District of Texas (the “Texas Court”) asserting that World Programming infringed SAS copyrights and patents. SAS voluntarily dismissed with prejudice its patent claims, and the Texas Court entered judgment in favor of World Programming on the copyright claims. SAS appealed the Texas Court judgment to the United States Court of Appeals for the Federal Circuit (the “Court of Appeals”). Oral arguments were held before the Court of Appeal on January 13, 2022. On April 6, 2023, the Court of Appeals issued its decision in favor of World Programming by affirming the Texas Court’s dismissal of SAS’s copyright claims. On September 3, 2023, the Company was notified that SAS elected not to file its petition for a writ of certiorari within the period in which SAS was eligible to file such petition. With such period having expired, the judgment of the Texas Court in favor of World Programming is now final and closed.

Other legal proceedings

From time to time, we may be subject to other legal proceedings and claims in the ordinary course of business. We have 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 ourselves, our partners and our customers by determining the scope, enforceability and validity of third-party proprietary rights, or to establish and enforce our 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 us because of defense and settlement costs, diversion of management resources and other factors.

Item 1A. Risk Factors

There have been no material changes to the risk factors disclosed in the Company’s Annual Report on 10-K for the year ended December 31, 2022.

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

On July 18, 2023, in connection with our asset purchase agreement with XLDyn, LLC, ("XLDyn") we agreed to issue to the stockholders of XLDyn, an aggregate of 2,992 shares of the Company's Class A Common Stock, par value $0.0001 per share, with 997 shares issuable on each of October 18, 2023 and January 18, 2024, and 998 shares issuable on April 18, 2024, subject to potential reduction in certain circumstances. All shares are subject to customary securities law restrictions on transferability. All shares were issued without registration under the Securities Act of 1933, as amended (the "Securities Act"), pursuant to Section 4(a)(2) of the Securities Act. XLDyn existing stockholders provided customary representations for a private placement of securities and agreed to customary restrictions on transferability.

Item 3. Defaults Upon Senior Securities

Not applicable.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

Insider Trading Arrangements and Policies

During the quarter ended September 30, 2023, none of the Company's directors or officers adopted or terminated a "Rule 10b5-1 trading arrangement" or "non-Rule 10b5-1 trading arrangement," as those terms are defined in Regulation S-K, Item 408, that was intended to satisfy the affirmative defense conditions of Rule 10b5-1(c).

Item 6. Exhibits

No.	Description
10.1*	Executive Severance Agreement, dated as of July 25, 2023, by and between Ravi Kunju and the Company
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: November 2, 2023	By: /s/ James R. Scapa
	James R. Scapa
	Chief Executive Officer (Principal Executive Officer)
Date: November 2, 2023	By: /s/ Matthew Brown
	Matthew Brown
	Chief Financial Officer (Principal Financial Officer)

EXECUTIVE SEVERANCE AGREEMENT

THIS EXECUTIVE SEVERANCE AGREEMENT (as amended, restated, or otherwise modified from time to time, this "Agreement"), dated as of **July 25, 2023** (the "Effective Date"), is entered into by and between **Altair Engineering Inc.**, a Delaware corporation (the "Company"), and **Ravi Kunju** (the "Executive").

W I T N E S S E T H:

WHEREAS, the Executive currently serves as a key employee of the Company and the Executive's services and knowledge are valuable to the Company;

WHEREAS, the Compensation Committee (the "Committee") of the Board of Directors of the Company (the "Board") has determined that it is in the best interests of the Company and its shareholders to provide enhanced severance protections to the Executive, subject to the terms and conditions of this Agreement;

WHEREAS, the Committee has recommended to the Board that it authorize the Company to enter into this Agreement; and

WHEREAS, the Board has authorized the Company to enter into this Agreement.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby mutually acknowledged, the parties hereto agree as follows:

1. TERMINATION WITHOUT CAUSE OR FOR GOOD REASON. If, during the period commencing on the Effective Date and ending on (but including) the one-year anniversary of a Change in Control, (i) the Executive's employment is terminated by the Company without Cause (as defined below), or (ii) the Executive resigns employment for Good Reason (as defined below) (each, a "Qualifying Termination"), then subject to Section 3 and Section 4 below:

(a)The Company will pay to the Executive within thirty (30) days of the date of the Qualifying Termination (or on such earlier date as is required by applicable law), (i) any accrued but unpaid base salary amounts, (ii) any accrued but unused vacation pay, and (iii) any unreimbursed business expenses incurred prior to the date of the Qualifying Termination. In addition, the Company will pay to the Executive any earned but unpaid annual performance award for the prior fiscal year at the time such annual performance awards are payable to employees of the Company generally, but in no event later than March 15 of the calendar year immediately following the calendar year in which the Qualifying Termination occurs.

(b)The Company will continue to pay to the Executive, in equal installments in accordance with the Company's normal payroll practices, an amount equal to the Executive's "Annual Rate of Base Salary" (as defined below), for the duration of the Severance Period (as defined below) (the "Salary Continuation Payments"). "Annual Rate of Base Salary" shall mean the Executive's annual base salary rate in effect immediately prior to the Qualifying Termination or, in the event of a resignation for Good Reason as a result of a material diminution in the

Executive's annual base salary rate, the Executive's annual base salary rate in effect immediately prior to the reduction that gave rise to the grounds for Good Reason.

The Salary Continuation Payments shall commence with the first payroll date following the effectiveness of the Release required by Section 4 hereof, with the first payment to include the amount of all Salary Continuation Payments that would have been paid from the date of the Qualifying Termination had they commenced as of such date; provided, however, in the event the period to consider and, if applicable, revoke the Release plus the first regular payroll date thereafter spans two calendar years, the first such payment shall be made on the later of the first regular payroll date of such second calendar year or the first payroll date following the effectiveness of the Release, but in no event later than March 15 of the calendar year immediately following the calendar year in which the Qualifying Termination occurs.

(c)If, at the time of the Qualifying Termination, the Executive participates in the Company's medical and/or dental plans and the Executive timely elects to continue and maintain group health plan coverage pursuant to the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), then the Company shall reimburse the Executive for the healthcare continuation payments under COBRA actually made by the Executive for the coverage period beginning on the day following the Termination Date and ending on the earliest of: (i) the last day of the Severance Period (which for avoidance of doubt shall be no greater than twelve (12) months); (ii) the date the Executive becomes eligible to obtain alternate healthcare coverage from a new employer; and (iii) the date the Executive becomes ineligible for COBRA (the "COBRA Assistance"). The Executive agrees to immediately inform the Company if Executive becomes eligible to obtain alternate healthcare coverage from a new employer. The Executive also agrees to remit to the Company on a monthly basis and within thirty (30) days of the date of payment, paid invoices for each such monthly COBRA premium for which the Executive seeks reimbursement pursuant to this Section 2(c) and such reimbursement (to the extent required pursuant to this Section 2(c)) shall be made to the Executive within thirty (30) days following the Executive's delivery to the Company of each such invoice. Notwithstanding anything to the contrary set forth in this Section 2(c), if and to the extent that the Company may not provide such COBRA Assistance without incurring tax penalties or violating any requirement of the law, the Company shall use its commercially reasonable best efforts to provide substantially similar assistance in an alternative manner provided that the cost of doing so does not (x) exceed the cost that the Company would have incurred had the COBRA Assistance been provided in the manner described above or (y) cause a violation of Section 409A.

(d)The Company will pay to the Executive a lump sum cash payment, payable within thirty (30) days following the effectiveness of the Release (as defined in Section 4 below), in an amount equal to (i) the target amount of the Executive's annual bonus for the year in which the Qualifying Termination occurs (the "Termination Year") or, (ii) if the Qualifying Termination occurs following a Change in Control, the greater of (A) the amount of the annual bonus the Executive would have received for the Termination Year, had the Executive's employment not terminated (assuming maximum achievement of any individual and corporate performance goals), or (B) the target amount of the Executive's annual bonus for the calendar year prior to the year in which the Change in Control occurred, in each case, (1) multiplied by a fraction, the numerator of which is the number of business and non-business days in the Termination Year that the Executive was employed by the Company and the denominator of which is 365, and (2) less any advance received by the Executive with respect to the Executive's annual bonus for the Termination Year. For purposes of clause (i) of the immediately preceding sentence, if no target bonus amount has been determined for the Termination Year as of the date of the Qualifying Termination, the target amount of the Executive's annual bonus for the calendar year immediately preceding such Termination Year shall be substituted for the target amount of the Executive's annual bonus for the year in which the Qualifying Termination occurs.

(e)If such Qualifying Termination occurs (i) following the entrance by the Company into definitive documentation governing a Change in Control (including, without limitation, a purchase and sale agreement or merger agreement) but prior to (x) consummation of such Change in Control or (y) termination or abandonment of such Change in Control or (ii) on or within one (1) year following the occurrence of a Change in Control all outstanding Options and Restricted Stock Units held by the Executive under (and as each defined in) the Plan, or any successor equity incentive plan maintained by the Company, shall be fully and immediately vested, to the extent not previously vested, provided, however, no such vesting shall occur to the extent it would result in an "additional tax" under Section 409A.

(f)To the extent not theretofore paid or provided, the Company shall timely pay or provide to the Executive any other vested amounts or benefits, if any, required to be paid or provided under any employee benefit plan, program or policy of the Company through the date of the Qualifying Termination or as a result of the termination of the Executive's employment, such vested benefits to be paid or provided in accordance with the terms of the applicable plan, program or policy in effect from time to time.

Notwithstanding anything contained in this Agreement to the contrary, (i) in the event of a Change in Control referenced in clause (iii) of the definition of Change in Control in the Plan (i.e., an asset purchase transaction), the Executive's employment with the Company shall not be deemed to have been terminated if (x) the Executive becomes employed by the purchaser (or any affiliate thereof) immediately on or following the closing of such transaction on terms substantially similar to the terms of employment immediately prior to the Change in Control and
(y) the Company's obligations hereunder are assumed by such purchaser (or such affiliate), or such purchaser (or such affiliate) substitutes an alternative arrangement providing the Executive severance benefits substantially similar to those provided hereunder, and (ii) if, on the date the Executive's employment terminates, facts and circumstances exist that would have justified a termination for Cause, and such facts and circumstances are discovered after such termination, from and after the date of such discovery the Executive shall automatically cease to be eligible for any amount pursuant to Sections 1(b), 1(c), 1(d), or 1(e) hereof.

2. CERTAIN DEFINED TERMS. For purposes of this Agreement, the following definitions shall apply:

(a)"Cause" shall mean the Executive's: (i) continuing failure or refusal to perform the services and duties of the Executive's position; (ii) gross negligence, dishonesty, breach of fiduciary duty or breach of any other duty owed to the Company; (iii) the commission by the Executive of any act of fraud, embezzlement or substantial disregard of the rules or policies of the Company; (iv) acts which, in the judgement of the Board of Directors of the Company, would tend to generate significant adverse publicity towards the Company; (v) the commission or plea of nolo contendere, by the Executive of a felony; or (vi) a breach by the Executive of the terms of the Non-Disclosure and Intellectual Proprietary Rights Agreement executed by the Executive (the “Non-Disclosure and Intellectual Proprietary Rights Agreement”).

(b) “Change in Control” shall have the meaning given such term in the Plan.

(c)“Good Reason” shall mean the occurrence of any of the following events without the Executive’s written consent: (i) a material diminution in the nature or scope of the Executive’s responsibilities, duties or authority; provided, however, following a Change in Control, Executive shall not have Good Reason under this clause (c)(i) if there is not a material diminution in Executive’s responsibilities, duties or authority with respect to the operations or business theretofore performed by the Company and its subsidiaries, even if (x) there is a material diminution in Executive’s responsibilities, duties or authority with respect to other parts of the operations or business of the acquiring entity and/or (y) there is a change in the person to whom Executive directly reports; (ii) a material diminution in the Executive’s annual base salary rate, unless applied in substantially equal or pro-rata fashion across the other similar “C” level executives of the Company; or (iii) a change in the geographic location where the Executive is required to perform services or at which the Executive is principally employed to a geographic location more than 50 miles from the Executive’s principal place of employment as of the date hereof.

The Executive is required to provide the Company’s CEO and General Counsel with written notice of the Good Reason condition within ninety (90) days of the initial existence of the condition, and the Company shall have thirty (30) days from receipt of such written notice to remedy the condition (the “Cure Period”). If the condition is not remedied within the Cure Period, the Executive must terminate employment with the Company within sixty (60) days of the end of the Cure Period for such termination to be for “Good Reason,” and if the Executive does not terminate employment within sixty (60) days after the end of the Cure Period, Good Reason with respect to that condition shall be deemed irrevocably waived.

(d)“Plan” shall mean the Company’s 2017 Equity Incentive Plan, as may be amended, restated, or otherwise modified from time to time.

(e)“Severance Period” shall mean a period equal to (i) in the case of a Qualifying Termination other than a Qualifying Termination described in clause (ii) of this sentence, one (1) month for each full year of continuous employment with the Company or its subsidiaries since the Executive’s most recent date of hire, but in no event greater than twelve (12) months, and (ii) twelve (12) months, in the case of a Qualifying Termination that occurs (A) following the entrance by the Company into definitive documentation governing a Change in Control (including, without limitation, a purchase and sale agreement or merger agreement) but prior to
(x) consummation of such Change in Control, or (y) termination or abandonment of such Change in Control, or (B) on or within one (1) year following the occurrence of a Change in Control.

3. GOLDEN PARACHUTE LIMITATION. Notwithstanding anything herein to the contrary, to the extent any amount to be paid or benefit to be provided to the Executive pursuant to this Agreement or otherwise (collectively, the “Payments”) would be treated as an “excess

parachute payment," as that phrase is defined in Section 280G of the Internal Revenue Code of 1986, as amended (the "Code"), then the Payments shall be either: (a) paid or allowed in full; or
(b) reduced (but not below zero) to the Reduced Amount, whichever of the foregoing amounts, taking into account the applicable federal, state and local income, employment and excise taxes (including, without limitation, the excise tax imposed upon the Executive under Section 4999 of the Code) results in the Executive's receipt on an after tax basis of the greater amount of Payments. For purposes of this section, the "Reduced Amount" shall be an amount expressed in present value which maximizes the aggregate present value of all Payments without causing any Payment to be nondeductible by the Company because of Section 280G of the Code or subjecting the Executive to an excise tax under Section 4999 of the Code. The Company may elect which and how much of the Payments shall be eliminated or reduced and shall notify the Executive promptly of such election. Any determination required under this Section 3 will be made in writing by the Company's legal counsel or independent public accountants immediately prior to a Change of Control or such other person or entity which the Company may select in its sole discretion (the "Firm"), whose determination will be conclusive and binding upon the Executive and the Company. For purposes of making the calculations required by this Section 3, the Firm may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code. The Company and the Executive will furnish to the Firm such information and documents as the Firm may reasonably request in order to make a determination under this Section. The Company will bear all costs charged by the Firm in connection with any calculations contemplated by this Section 3.

4. RELEASE REQUIRED. Any amounts payable or benefits provided pursuant to this Agreement (other than amounts payable pursuant to Section 1(a) or Section 1(f) of this Agreement) shall only be payable if (a) the Executive executes and delivers to the Company (and does not revoke) a general release of claims in form and substance satisfactory to the Company in its sole discretion (the "Release"), and (b) such Release becomes irrevocable within sixty (60) days following the date of the Qualifying Termination.

5. FULL SETTLEMENT; NO MITIGATION. The Company's obligation to make any payments provided for in this Agreement and otherwise to perform its obligations hereunder shall be in lieu of and in full settlement of all other severance or similar payments to the Executive under any other severance or employment agreement between the Executive and the Company, any severance plan of the Company and any statutory entitlement (including notice of termination, termination pay and/or severance pay). The Company's obligations hereunder shall not be affected by any set-off, counterclaim, recoupment, defense or other claim, right or action which the Company may have against the Executive or others. In no event shall the Executive be obligated to seek other employment or take other action by way of mitigation of the amounts payable to the Executive under any of the provisions of this Agreement and such amounts shall not be reduced whether or not the Executive obtains other employment, except as otherwise provided in Section 1(c).

6. COVENANTS. The Executive acknowledges that the Executive's continued employment with the Company will provide the Executive with access on a continual basis to confidential and proprietary information concerning the Company and its subsidiaries and affiliates which is not readily available to the public and that the Company would not enter into

this Agreement but for the covenants (the "Restrictive Covenants") contained in this Section 6. The Executive acknowledges and agrees that this Section 6 is intended to be an expansion of any and all obligations, covenants and agreements by the Executive with respect to the subject matter hereof and, to the extent of any conflict with this Section 6, the provisions which are more expansive, including, without limitation, with respect to scope and duration, shall apply. The Company and the Executive acknowledge and agree that nothing in this Agreement is intended to, and this Agreement shall not, in any way prohibit, limit or otherwise interfere with the Executive's protected rights under federal, state or local law to, without notice to the Company:
(i) communicate or file a charge with a government regulator; (ii) participate in an investigation or proceeding conducted by a government regulator; or (iii) receive an award paid by a government regulator for providing information. The Executive further understands and acknowledges that if the Executive files a lawsuit for retaliation against the Company related to the Executive reporting a suspected violation of law, the Executive may disclose the Company's trade secrets to the Executive's attorney and use such trade secret information in the related court proceeding, so long as the Executive: (i) files any document containing the Company's trade secrets under seal; and (ii) does not disclose the Company's trade secrets, except pursuant to court order.

(a)Non-Competition. In consideration of the enhanced severance protections and other consideration provided to the Executive pursuant to this Agreement, during the Restricted Period (as defined below), the Executive shall not, directly or indirectly, either for the Executive or any other person, own, manage, control, materially participate in, invest in, loan money to, permit the Executive's name to be used by, act as consultant or advisor to, be employed by, render services for (alone or in association with any person, firm, corporation or other business organization) or otherwise assist in any manner any business which is a competitor of or is in the same or substantially similar line of business as a portion of the Company's business or of the business of any subsidiary of the Company, or any other business which the Company or any subsidiary of the Company had taken material steps toward conducting in which the Executive had any involvement (collectively, a "Competitor"). Notwithstanding the forgoing, nothing herein shall prohibit the Executive from being a passive owner of not more than two percent (2%) of the equity securities of a Competitor that is publicly traded, so long as the Executive has no active participation in the business of such Competitor. For purposes hereof, the term "Restricted Period" means the period commencing on the Effective Date and ending, unless tolled in accordance with this Section 6, on the one (1) year anniversary of the termination of the Executive's employment with the Company for any reason (or no reason).

(b)Non-Solicitation. During the Restricted Period, the Executive shall not, directly or indirectly, (i) induce or attempt to induce or aid others in inducing anyone working at or providing services to the Company or any subsidiary of the Company (or anyone who worked at or provided services to the Company at any time during the twelve (12) month period preceding such inducement or aid) to cease working at the Company or any such subsidiary, or in any way interfere with the relationship between the Company or any subsidiary of the Company and any such person except in the proper exercise of the Executive's authority, or hire or engage any such individual, or (ii) in any way, interfere with the relationship between the Company or any subsidiary of the Company, on the one hand, and any customer, supplier, licensee or other business relation of the Company or any subsidiary of the Company (or any customer, supplier, licensee or other business relation of the Company or any subsidiary of the Company within the preceding twelve (12) month period), on the other hand.

(c)Cooperation. The Executive agrees that following the Executive's execution of this Agreement, at the Company's request, the Executive shall provide reasonable assistance and advise the Company in any investigation which may be performed by the Company or any governmental agency and any litigation in which the Company may become involved. Such assistance shall include the Executive making himself or herself reasonably available for interviews by the Company or its counsel, depositions and/or court appearances at the Company's request. The Company shall attempt to schedule such assistance at mutually convenient times and places, taking into account any employment constraints or other reasonable business or personal constraints that the Executive may have. The Company shall reimburse the Executive for reasonable expenses, such as telephone, travel, lodging and meal expenses, and reasonable attorney's fees, incurred by the Executive at the Company's request, consistent with the Company's generally applicable policies for employee expenses.

(d)Scope. If, at the time of enforcement of this Section 6, a court of competent jurisdiction shall hold that the duration, scope, area or other restrictions stated herein are unreasonable under circumstances then existing, the parties agree that the stated duration, scope, area or other restrictions shall be reduced to the maximum duration, scope, area or other restrictions permitted under such circumstances.

(e)Tolling of Restricted Period. The Restricted Period shall be extended for an amount of time equal to the time period during which a court of competent jurisdiction determines that the Executive was in violation of any provision of Section 6(a) or 6(b) and shall continue (but shall not be extended (other than pursuant to this Section 6(e)) through any action, suit or proceedings arising out of or relating to Section 6(a) or (b)).

(f)Survival; No Defense. This Section 6 shall survive any termination or expiration of this Agreement or the Executive's employment with the Company. The existence or assertion of any claim of or by the Executive, whether predicated on this Agreement or otherwise, shall not constitute a defense to the enforcement by the Company of the covenants contained in this Section 6.

(g)Reasonableness; Injunction. The Executive acknowledges and agrees that (i) the Executive has had an opportunity to seek advice of counsel in connection with this Agreement,
(ii) the Restrictive Covenants are reasonable in scope and in all other respects, (iii) any violation of the Restrictive Covenants will result in irreparable injury to the Company, (iv) money damages would be an inadequate remedy at law for the Company in the event of a breach or threatened breach of any of the Restrictive Covenants by the Executive, and (v) specific performance in the form of injunctive relief would be an adequate remedy for the Company. If the Executive breaches or threatens to breach a Restrictive Covenant, the Company shall be entitled, in addition to all other remedies, to seek an injunction restraining any such breach, without any bond or other security being required and without the necessity of showing actual damages. Without limitation of the foregoing, in the event the Executive breaches a Restrictive Covenant or any provision of the Non-Disclosure and Intellectual Proprietary Rights Agreement, in any material respect, the Company shall have the right to cease providing any amounts

payable pursuant to this Agreement (other than amounts payable pursuant to Section 1(a) or Section 1(f) of this Agreement) and promptly upon demand from the Company, the Executive shall return any such amount previously received, in each case, without payment of consideration therefor; the return (or forfeiture, as applicable) of such amounts shall not be deemed an election of remedies precluding the further exercise of remedies.

(h)Notwithstanding anything herein to the contrary, Sections 6(a) and Section 6(b) shall not apply if the Executive's principal place of employment or other service is located in the State of California.

7. WITHHOLDING TAXES. The Company may withhold from all payments due to the Executive hereunder all taxes which, by applicable federal, state, local or other law or regulation (including foreign law or regulation), the Company is required to withhold therefrom.

8. SCOPE OF AGREEMENT. Nothing in this Agreement shall be deemed to alter the "at- will" nature of the Executive's employment or entitle the Executive to continued employment with the Company.

9. CLAIMS PROCEDURE

(a)If the Executive believes that he or she is entitled to payment of an amount under this Agreement, the Executive must file a written claim for such benefit with the Committee at the Company's then principal place of business. The claim will be processed in accordance with the procedures of this Section 9.

(b)Upon receipt of a claim for a benefit, the Committee shall advise the Executive that a decision will be forthcoming within ninety (90) days and shall, in fact, deliver such decision within such period. The Committee may, however, extend this period for an additional ninety (90) days if special circumstances require an extension of time and written notice of the extension is given to the Executive within ninety (90) days after receipt of the claim. If the claim is denied in whole or in part, the Committee shall adopt a written decision, using language calculated to be understood by the Executive, setting forth: (i) the specific reason or reasons for such denial; (ii) the specific reference to pertinent provisions of this Agreement on which such denial is based; (iii) a description for any additional material or information necessary for the Executive to perfect his or her claim and an explanation of why such material or such information is necessary; and (iv) appropriate information (including any applicable time limits) as to the steps to be taken if the Executive wishes to appeal the denial of the claim.

(c)Within sixty (60) days after the receipt by the Executive of the written decision described above, the Executive may request in writing that the Committee review the decision. Such request must be addressed to the Committee at the Company's then principal place of business. The Executive or his or her duly authorized representative may review pertinent documents that relate to the claim. If the Executive does not request a review of the Committee's determination within such sixty (60) day period, he or she shall be barred and estopped from challenging the Committee's decision.

(d)Within sixty (60) days after the Committee's receipt of a request for review, it will review the decision and make its determination on review. The Committee may, however, extend the review period for an additional sixty (60) days if special circumstances require an extension of time and written notice of the extension is given to the Executive within sixty (60) days after receipt of the written request for review. After considering all materials presented by the Executive, the Committee will provide its written determination on review. If the Committee's determination on review is to deny the claim in any respect, the written determination shall set forth: (i) the specific reason or reasons for such denial; (ii) the specific reference to pertinent provisions of this Agreement on which such denial is based; and (iii) a statement that the Executive shall be provided upon request and free of charge reasonable access to and copies of all documents, records and other information relating to the claim.

(e)The Committee shall have the power and sole discretion to construe, interpret and apply the provisions of this Agreement, and to determine any questions of fact which may arise under this Agreement.

10. GENERAL PROVISIONS.

(a)Expenses. The Company and the Executive shall bear their own costs, fees and expenses in connection with the negotiation, preparation and execution of this Agreement.

(b)Entire Agreement. This Agreement sets forth the entire agreement of the parties hereto in respect of the subject matter contained herein and supersedes all prior and contemporaneous agreements, negotiations and discussions between the parties hereto and/or their respective counsel and representatives with respect to the subject matter covered hereby. Each party acknowledges that no representations, inducements, promises or agreements, whether oral or in writing, have been made by any party, or on behalf of any party, which are not embodied herein. No subsequent agreement, promise or statement not contained in this Agreement shall be valid and binding, unless agreed to in writing and signed by the parties sought to be bound thereby.

(c)Notices. Any notice or other communication required or permitted hereunder shall be in writing and shall be delivered personally, faxed, or sent by nationally recognized overnight courier service (with next business day delivery requested). Any such notice or communication shall be deemed given and effective, in the case of personal delivery, upon receipt by the other party, in the case of faxed notice, upon transmission of the fax, in the case of a courier service, upon the next business day, after dispatch of the notice or communication. Any such notice or communication shall be addressed as follows:

If to the Company to:

Altair Engineering Inc. 1820 East
Big Beaver Road Troy, Michigan
48083
Attn: Chief Executive Officer and General Counsel

With a copy to:

Lowenstein Sandler LLP 1251 Avenue
of the Americas New York, New York
10020
Attn: Peter H. Ehrenberg, Esq.

If to the Executive, to the Executive at the offices of the Company with a copy to the Executive at the Executive's home address, set forth in the records of the Company.

Any person named above may designate another address or fax number by giving notice in accordance with this Section to the other persons named above.

(d)Governing Law; Jurisdiction. Any and all actions or controversies arising out of this Agreement shall be construed and enforced in accordance with the internal laws of the State of Delaware, without regard to any choice of law or conflicting provision or rule (whether of the State of Delaware or any other jurisdiction) that would cause the laws of any jurisdiction other than the State of Delaware to be applied. Any and all actions arising out of this Agreement shall be brought and heard in the federal courts for the Eastern District of Michigan, and the parties hereto hereby irrevocably submit to the exclusive jurisdiction of such court. **THE COMPANY AND THE EXECUTIVE HEREBY WAIVE THEIR RESPECTIVE RIGHT TO TRIAL BY JURY IN ANY ACTION CONCERNING THIS AGREEMENT OR ANY AND ALL MATTERS ARISING DIRECTLY OR INDIRECTLY HEREFROM AND REPRESENT THAT THEY HAVE CONSULTED WITH COUNSEL OF THEIR CHOICE OR HAVE CHOSEN VOLUNTARILY NOT TO DO SO SPECIFICALLY WITH RESPECT TO THIS WAIVER.**

(e)Compliance with Code Section 409A. All payments under this Agreement are intended to comply with or be exempt from the requirements of Section 409A of the Code and regulations promulgated thereunder ("Section 409A"). To the extent permitted under applicable regulations and/or other guidance of general applicability issued pursuant to Section 409A, the Company reserves the right to modify this Agreement to conform with any or all relevant provisions regarding compensation and/or benefits so that such compensation and benefits are exempt from the provisions of 409A and/or otherwise comply with such provisions so as to avoid the tax consequences set forth in Section 409A and to assure that no payment or benefit shall be subject to an "additional tax" under Section 409A. To the extent that any provision in this Agreement is ambiguous as to its compliance with Section 409A, or to the extent any provision in this Agreement must be modified to comply with Section 409A, such provision shall be read in such a manner so that no payment due to the Executive shall be subject to an "additional tax" within the meaning of Section 409A(a)(1)(B) of the Code. If necessary to comply with the restriction in Section 409A(a)(2)(B) of the Code concerning payments to "specified employees," any payment on account of the Executive's separation from service that would otherwise be due hereunder within six (6) months after such separation shall be delayed until the first business day of the seventh month following the date of the Executive's termination and the first such payment shall include the cumulative amount of any payments (without interest) that would have been paid prior to such date if not for such restriction. Each payment in a series of payments hereunder shall be deemed to be a separate payment for purposes of Section 409A. In no event may the Executive, directly or indirectly, designate the calendar year of payment. All reimbursements provided under this Agreement shall be made or provided in accordance with the requirements of Section 409A, including, where applicable, the requirement that (i) any reimbursement is for expenses incurred during the Executive's lifetime (or during a shorter period of time specified in this Agreement), (ii) the amount of expenses eligible for reimbursement during a calendar year may not affect the expenses eligible for reimbursement in any other calendar year, (iii) the reimbursement of an eligible expense will be made on or before the last day of the calendar year following the year in which the expense is incurred, and (iv) the right to reimbursement is not subject to liquidation or exchange for another benefit. Notwithstanding anything contained herein to the contrary, the Executive shall not be considered to have terminated employment with the Company for purposes of this Agreement unless the Executive would be considered to have incurred a "termination of employment" from the Company within the meaning of Treasury Regulation §1.409A-1(h)(1)(ii). In no event whatsoever shall the Company be liable for any additional tax, interest or penalty that may be imposed on the Executive by Section 409A or damages for failing to comply with Section 409A.

(f)Unfunded and Unsecured Status. To the extent that the Executive becomes entitled to receive any payments from the Company hereunder, such right shall be unfunded and unsecured and payable out of the general assets of the Company as and when such amounts are payable hereunder.

(g)Waiver. Either party may waive compliance by the other party with any provision of this Agreement. The failure of a party to insist on strict adherence to any term of this Agreement on any occasion shall not be considered a waiver or deprive that party of the right thereafter to insist upon strict adherence to that term or any other term of this Agreement. No waiver of any provision shall be construed as a waiver of any other provision. Any waiver must be in writing.

(h)Separability. If any one or more of the terms, provisions, covenants and restrictions of this Agreement shall be determined by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions of this Agreement shall remain in full force and effect and shall in no way be affected, impaired or invalidated and the parties will attempt to agree upon a valid and enforceable provision which shall be a reasonable substitute for such invalid and unenforceable provision in light of the tenor of this Agreement, and, upon so agreeing, shall incorporate such substitute provision in this Agreement. In addition, if any one or more of the provisions contained in this Agreement shall for any reason be determined by a court of competent jurisdiction to be excessively broad as to duration, geographical scope, activity or subject, it shall be construed, by limiting or reducing it, so as to be enforceable to the extent compatible with then applicable law.

(i)Counterparts. This Agreement may be executed in any number of counterparts and each such duplicate counterpart shall constitute an original, any one of which may be introduced in evidence or used for any other purpose without the production of its duplicate counterpart. Moreover, notwithstanding that any of the parties did not execute the same counterpart, each counterpart shall be deemed for all purposes to be an original, and all such counterparts shall constitute one and the same instrument, binding on all of the parties hereto.

(j)Advice of Counsel. Both parties hereto acknowledge that they have had the advice of counsel before entering into this Agreement, have fully read this Agreement and understand the meaning and import of all the terms hereof.

(k)Assignment. The Executive may not assign or otherwise transfer any of the Executive's rights or delegate any of the Executive's duties under this Agreement, and any such purported assignment or other transfer shall be null and void ab initio. This Agreement shall inure to the benefit of the Company and its successors and assigns.

(l)Conflict. In the event any conflict between this Agreement or any provision herein and any other Company policy, restriction, contract or agreement that binds the Executive, the terms, conditions and restrictions set forth herein shall prevail.

[Remainder of page intentionally left blank.]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

ALTAIR ENGINEERING INC.

By: _ Name: Raoul Maitra
Title: Chief Legal Officer

EXECUTIVE

Ravi C Kunju

Ravi Kunju

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

November 2, 2023

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, Matthew Brown, 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/ Matthew Brown

Matthew Brown
Chief Financial Officer
(Principal Financial Officer)

November 2, 2023

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 September 30, 2023, 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 R. Scapa
James R. Scapa
Chief Executive Officer
(Principal Executive Officer)

/s/ Matthew Brown
Matthew Brown
Chief Financial Officer
(Principal Financial Officer)

November 2, 2023