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 March 31, 2023

☐ **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: 001-37806

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

Delaware	**26-2574840**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

101 Spear Street, Fifth Floor
San Francisco, California 94105
(Address of principal executive offices) (Zip Code)

(415) 390-2337
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Class A Common Stock, par value $0.001 per share	TWLO	New York Stock Exchange

As of May 2, 2023, 174,313,953 shares of the registrant's Class A common stock and 9,617,605 shares of registrant's Class B common stock were outstanding.

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 x No o

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 x No o

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. o

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

TWILIO INC.
Quarterly Report on Form 10-Q
For the Three Months Ended March 31, 2023
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Item 1. ***Financial Statements***

TWILIO INC.
Condensed Consolidated Balance Sheets
(Unaudited)

	As of March 31, 2023	As of December 31, 2022
	(In thousands)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 634,824	$ 651,752
Short-term marketable securities	3,310,483	3,503,317
Accounts receivable, net	575,664	547,507
Prepaid expenses and other current assets	335,565	281,510
Total current assets	4,856,536	4,984,086
Property and equipment, net	254,062	263,979
Operating right-of-use assets	103,532	121,341
Equity method investment	684,144	699,911
Intangible assets, net	797,699	849,935
Goodwill	5,284,388	5,284,153
Other long-term assets	318,547	360,899
Total assets	$ 12,298,908	$ 12,564,304
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 121,157	$ 124,605
Accrued expenses and other current liabilities	475,871	490,221
Deferred revenue and customer deposits	136,517	139,110
Operating lease liability, current	54,904	54,222
Total current liabilities	788,449	808,158
Operating lease liability, noncurrent	162,114	164,551
Finance lease liability, noncurrent	17,832	21,290
Long-term debt, net	987,769	987,382
Other long-term liabilities	23,878	23,881
Total liabilities	1,980,042	2,005,262
Commitments and contingencies (Note 13)		
Stockholders' equity:		
Preferred stock	—	—
Class A and Class B common stock	186	186
Additional paid-in capital	14,233,590	14,055,853
Accumulated other comprehensive loss	(71,945)	(121,161)
Accumulated deficit	(3,842,965)	(3,375,836)
Total stockholders’ equity	10,318,866	10,559,042
Total liabilities and stockholders’ equity	$ 12,298,908	$ 12,564,304

See accompanying notes to condensed consolidated financial statements.

TWILIO INC.
Condensed Consolidated Statements of Operations
(Unaudited)

	Three Months Ended March 31,	
	2023	**2022**
	(In thousands, except share and per share amounts)	
Revenue	$ 1,006,564	$ 875,363
Cost of revenue	515,874	450,292
Gross profit	490,690	425,071
Operating expenses:		
Research and development	238,595	240,611
Sales and marketing	259,885	287,906
General and administrative	112,568	114,362
Restructuring costs	121,942	—
Impairment of long-lived assets	21,784	—
Total operating expenses	754,774	642,879
Loss from operations	(264,084)	(217,808)
Other expenses, net:		
Share of losses from equity method investment	(30,419)	—
Impairment of strategic investments	(46,154)	—
Other income (expenses), net	8,985	(6,677)
Total other expenses, net	(67,588)	(6,677)
Loss before (provision for) benefit from income taxes	(331,672)	(224,485)
(Provision for) benefit from income taxes	(10,467)	2,858
Net loss attributable to common stockholders	$ (342,139)	$ (221,627)
Net loss per share attributable to common stockholders, basic and diluted	$ (1.84)	$ (1.23)
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted	186,403,349	180,898,713

See accompanying notes to condensed consolidated financial statements.

TWILIO INC.
Condensed Consolidated Statements of Comprehensive Loss
(Unaudited)

	Three Months Ended March 31, 2023	Three Months Ended March 31, 2022
	(In thousands)	
Net loss	$ (342,139)	$ (221,627)
Other comprehensive income (loss):		
Unrealized gain (loss) on marketable securities	30,750	(62,826)
Foreign currency translation	483	(165)
Net change in market value of effective foreign currency forward exchange contracts	3,335	(3,852)
Share of other comprehensive income from equity method investment	14,648	—
Total other comprehensive income (loss)	49,216	(66,843)
Comprehensive loss attributable to common stockholders	$ (292,923)	$ (288,470)

See accompanying notes to condensed consolidated financial statements.

TWILIO INC.
Condensed Consolidated Statements of Stockholders' Equity
(Unaudited)

	Common Stock Class A		Common Stock Class B		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount				
	(In thousands, except share amounts)							
Balance as of December 31, 2022	**176,358,104**	**$ 174**	**9,617,605**	**$ 12**	**$ 14,055,853**	**$ (121,161)**	**$ (3,375,836)**	**$ 10,559,042**
Net loss	—	—	—	—	—	—	(342,139)	(342,139)
Exercises of vested stock options	66,968	—	97,199	—	3,264	—	—	3,264
Vesting of restricted stock units	1,516,634	2	—	—	(2)	—	—	—
Value of equity awards withheld for tax liability	(36,965)	—	—	—	(2,456)	—	—	(2,456)
Conversion of shares of Class B common stock into shares of Class A common stock	97,199	—	(97,199)	—	—	—	—	—
Shares of Class A common stock issued and donated to charity	22,102	—	—	—	1,599	—	—	1,599
Unrealized gain on marketable securities	—	—	—	—	—	30,750	—	30,750
Repurchases of shares of Class A common stock including related costs	(1,902,124)	(2)	—	—	—	—	(124,990)	(124,992)
Foreign currency translation	—	—	—	—	—	483	—	483
Net change in market value of effective foreign currency forward exchange contracts	—	—	—	—	—	3,335	—	3,335
Share of other comprehensive income from equity method investment	—	—	—	—	—	14,648	—	14,648
Stock-based compensation	—	—	—	—	164,999	—	—	164,999
Stock-based compensation - restructuring	—	—	—	—	10,333	—	—	10,333
Balance as of March 31, 2023	**176,121,918**	**$ 174**	**9,617,605**	**$ 12**	**$ 14,233,590**	**$ (71,945)**	**$ (3,842,965)**	**$ 10,318,866**

See accompanying notes to condensed consolidated financial statements.

TWILIO INC.
Condensed Consolidated Statements of Stockholders' Equity
(Unaudited)

	Common Stock Class A		Common Stock Class B		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount				
	(In thousands, except share amounts)							
Balance as of December 31, 2021	**170,625,994**	**$ 168**	**9,842,105**	**$ 12**	**$ 13,169,118**	**$ (18,141)**	**$ (2,119,691)**	**$ 11,031,466**
Net loss	—	—	—	—	—	—	(221,627)	(221,627)
Exercises of vested stock options	180,643	—	193,889	—	11,727	—	—	11,727
Vesting of restricted stock units	877,089	1	—	—	(1)	—	—	—
Value of equity awards withheld for tax liability	(5,804)	—	—	—	(1,065)	—	—	(1,065)
Conversion of shares of Class B common stock into shares of Class A common stock	215,389	—	(215,389)	—	—	—	—	—
Shares of Class A common stock donated to charity	22,102	—	—	—	4,232	—	—	4,232
Shares returned from escrow	(152,239)	—	—	—	(387)	—	—	(387)
Unrealized loss on marketable securities	—	—	—	—	—	(62,826)	—	(62,826)
Foreign currency translation	—	—	—	—	—	(165)	—	(165)
Net change in market value of effective foreign currency forward exchange contracts	—	—	—	—	—	(3,852)	—	(3,852)
Stock-based compensation	—	—	—	—	159,930	—	—	159,930
Balance as of March 31, 2022	**171,763,174**	**$ 169**	**9,820,605**	**$ 12**	**$ 13,343,554**	**$ (84,984)**	**$ (2,341,318)**	**$ 10,917,433**

See accompanying notes to condensed consolidated financial statements.

TWILIO INC.
Condensed Consolidated Statements of Cash Flows
(Unaudited)

	Three Months Ended March 31, 2023	Three Months Ended March 31, 2022
CASH FLOWS FROM OPERATING ACTIVITIES:	(In thousands)	
Net loss	$ (342,139)	$ (221,627)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	71,393	68,103
Non-cash reduction to the right-of-use asset	8,574	12,415
Net amortization of investment premium and discount	3,515	10,712
Impairment of long-lived assets due to office closures	21,784	—
Stock-based compensation including restructuring	170,799	155,275
Amortization of deferred commissions	17,865	12,626
Value of shares of Class A common stock issued and donated to charity	1,599	4,232
Share of losses from equity method investment	30,419	—
Impairment of strategic investments	46,154	—
Other adjustments	15,367	1,418
Changes in operating assets and liabilities:		
Accounts receivable	(35,215)	(19,623)
Prepaid expenses and other current assets	(51,438)	(14,176)
Other long-term assets	(21,481)	(27,399)
Accounts payable	66	1,247
Accrued expenses and other current liabilities	(19,130)	18,148
Deferred revenue and customer deposits	(2,611)	(1,453)
Operating lease liabilities	(13,651)	(13,058)
Other long-term liabilities	264	(4,415)
Net cash used in operating activities	(97,866)	(17,575)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Acquisitions, net of cash acquired and other related payments	—	(27,682)
Purchases of marketable securities and other investments	(136,119)	(246,874)
Proceeds from sales and maturities of marketable securities	355,195	442,753
Capitalized software development costs	(9,860)	(10,250)
Purchases of long-lived and intangible assets	(6,751)	(6,980)
Net cash provided by investing activities	202,465	150,967
CASH FLOWS FROM FINANCING ACTIVITIES:		
Payments of costs related to public offerings	—	(35)
Principal payments on debt and finance leases	(7,353)	(6,520)
Value of equity awards withheld for tax liabilities	(2,456)	(1,065)
Repurchases of shares of Class A common stock and related costs	(114,993)	—
Proceeds from exercises of stock options	3,264	11,727
Net cash (used in) provided by financing activities	(121,538)	4,107
Effect of exchange rate changes on cash, cash equivalents and restricted cash	39	27
NET (DECREASE) INCREASE IN CASH, CASH EQUIVALENTS AND RESTRICTED CASH	(16,900)	137,526
CASH, CASH EQUIVALENTS AND RESTRICTED CASH—Beginning of period	656,078	1,481,831
CASH, CASH EQUIVALENTS AND RESTRICTED CASH —End of period	$ 639,178	$ 1,619,357
Cash paid for income taxes, net	$ 3,479	$ 1,443
Cash paid for interest	$ 18,750	$ 19,011
RECONCILIATION OF CASH, CASH EQUIVALENTS AND RESTRICTED CASH TO THE CONDENSED CONSOLIDATED BALANCE SHEETS		
Cash and cash equivalents	$ 634,824	$ 1,617,022
Restricted cash in other current assets	3,916	1,970
Restricted cash in other long-term assets	438	365
Total cash, cash equivalents and restricted cash	$ 639,178	$ 1,619,357

See accompanying notes to condensed consolidated financial statements.

TWILIO INC.
Notes to Condensed Consolidated Financial Statements
(Unaudited)

1. Organization and Description of Business

Twilio Inc. (the "Company") was incorporated in the state of Delaware on March 13, 2008. Today's leading companies trust Twilio's Customer Engagement Platform to build direct, personalized relationships with their customers everywhere in the world. Twilio enables companies to use communications and data to add intelligence and security to every step of their customers' journey, from sales to marketing to growth, customer service and many more engagement use cases in a flexible, programmatic way.

The Company's headquarters are located in San Francisco, California, and the Company has subsidiaries across North America, South America, Europe, Asia and Australia.

2. Summary of Significant Accounting Policies

(a) Basis of Presentation

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States of America ("U.S. GAAP") and applicable rules and regulations of the Securities and Exchange Commission ("SEC") regarding interim financial reporting. Certain information and note disclosures normally included in the financial statements prepared in accordance with U.S. GAAP have been condensed or omitted pursuant to such rules and regulations. Therefore, these condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and notes included in the Company's Annual Report on Form 10-K filed with the SEC on February 27, 2023 ("Annual Report").

The condensed consolidated balance sheet as of December 31, 2022, included herein, was derived from the audited financial statements as of that date, but may not include all disclosures including certain notes required by U.S. GAAP on an annual reporting basis.

In the opinion of management, the accompanying condensed consolidated financial statements reflect all normal recurring adjustments necessary to present fairly the financial position, results of operations, comprehensive loss, stockholders' equity and cash flows for the interim periods, but are not necessarily indicative of the results of operations to be anticipated for the full year 2023 or any future period.

(b) Principles of Consolidation

The condensed consolidated financial statements include the Company and its wholly owned subsidiaries. All significant intercompany balances and transactions have been eliminated.

(c) Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates are used for, but not limited to, revenue allowances and sales credit reserves; recoverability of long-lived and intangible assets; impairment assessments of goodwill and indefinite-lived intangible assets; capitalization and useful life of the Company's capitalized internal-use software development costs; fair value of acquired intangible assets and goodwill; accruals and contingencies. Estimates are based on historical experience and on various assumptions that the Company believes are reasonable under current circumstances. However, future events are subject to change and best estimates and judgments may require further adjustments, therefore, actual results could differ materially from those estimates. Management periodically evaluates such estimates and they are adjusted prospectively based upon such periodic evaluation.

(d) Remaining Performance Obligations

Revenue allocated to remaining performance obligations for contracts with durations of more than one year was $165.9 million as of March 31, 2023, of which 72% is expected to be recognized over the next 12 months and 95% is expected to be recognized over the next 24 months.

(e) Deferred Revenue and Customer Deposits

As of March 31, 2023, and December 31, 2022, the Company recorded $136.5 million and $139.1 million as its deferred revenue and customer deposits, respectively, that are included in deferred revenue and customer deposits and other long-term liabilities in the accompanying condensed consolidated balance sheets. During the three months ended March 31, 2023 and 2022, the Company recognized $71.3 million and $64.9 million of revenue, respectively, that was included in the deferred revenue and customer deposits balances as of the end of the previous year.

(f) Deferred Sales Commissions

Total net capitalized commission costs as of March 31, 2023, and December 31, 2022, were $237.0 million and $239.1 million, respectively, and are included in prepaid expenses and other current assets and other long-term assets in the accompanying condensed consolidated balance sheets.

(g) Concentration of Credit Risk

Financial instruments that potentially expose the Company to a concentration of credit risk consist primarily of cash, cash equivalents, restricted cash, marketable securities and accounts receivable. The Company maintains cash, restricted cash, cash equivalents and marketable securities with financial institutions. Certain balances held by such financial institutions exceed insured limits.

The Company sells its services to a wide variety of customers. If the financial condition or results of operations of any significant customer deteriorates substantially, operating results could be adversely affected. To reduce credit risk, management performs credit evaluations of the financial condition of significant customers. The Company does not require collateral from its credit customers and maintains reserves for estimated credit losses on customer accounts when considered necessary. Actual credit losses may differ from the Company's estimates. In the three months ended March 31, 2023 and 2022, no customer organization accounted for more than 10% of the Company's total revenue.

As of March 31, 2023, and December 31, 2022, no customer organization represented more than 10% of the Company's gross accounts receivable.

(h) Changes to Significant Accounting Policies

Share Repurchases

The Company elected to record the excess of the repurchase price over the par value of the repurchased shares of its Class A common stock in accumulated deficit, along with the associated transaction costs and excise taxes. Immediately upon repurchase, the shares are retired and returned to the status of unauthorized and unissued.

On August 16, 2022, the Inflation Reduction Act of 2022 (the "IR Act") was signed into federal law. The IR Act provides for, among other things, a new U.S. federal 1% excise tax on certain repurchases of stock by publicly traded U.S. domestic corporations and certain U.S. domestic subsidiaries of publicly traded foreign corporations occurring on or after January 1, 2023. The excise tax is imposed on the repurchasing corporation itself, not its shareholders from which shares are repurchased. The amount of the excise tax is generally 1% of the fair market value of the shares repurchased at the time of the repurchase. However, for purposes of calculating the excise tax, repurchasing corporations are permitted to net the fair market value of certain new stock issuances against the fair market value of stock repurchases during the same taxable year. In addition, certain exceptions apply to the excise tax.

There have been no other changes to the Company's significant accounting policies as described in its Annual Report.

(i) Recently Issued Accounting Guidance, Not yet Adopted

In June 2022, the Financial Accounting Standards Board issued Accounting Standards Update No. 2022-03, "*Fair Value Measurements (Topic 820): Fair Value Measurement of Equity Securities Subject to Contractual Sale Restrictions,*" which clarifies and amends the guidance of measuring the fair value of equity securities subject to contractual restrictions that prohibit the sale of the equity securities. The guidance will be effective for fiscal years beginning after December 15, 2023, and interim periods within those fiscal years. The Company is evaluating the impact of the adoption of this guidance on its condensed consolidated financial statements.

3. Fair Value Measurements

Financial Assets

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

	Amortized Cost or Carrying Value	Gross Unrealized Gains	Gross Unrealized Losses Less Than 12 Months	Gross Unrealized Losses More Than 12 Months	Fair Value Hierarchy as of March 31, 2023			Aggregate Fair Value
					Level 1	Level 2	Level 3	
Financial Assets:	(In thousands)							
Cash and cash equivalents:								
Money market funds	$ 289,997	$ —	$ —	$ —	$ 289,997	$ —	$ —	$ 289,997
Total included in cash and cash equivalents	289,997	—	—	—	289,997	—	—	289,997
Marketable securities:								
U.S. Treasury securities	416,493	—	(650)	(7,747)	408,096	—	—	408,096
Non-U.S. government securities	149,510	—	(22)	(4,543)	144,945	—	—	144,945
Corporate debt securities and commercial paper	2,815,621	1,372	(6,169)	(53,382)	5,000	2,752,442	—	2,757,442
Total marketable securities	3,381,624	1,372	(6,841)	(65,672)	558,041	2,752,442	—	3,310,483
Total financial assets	$ 3,671,621	$ 1,372	$ (6,841)	$ (65,672)	$ 848,038	$ 2,752,442	$ —	$ 3,600,480

	Amortized Cost or Carrying Value	Gross Unrealized Gains	Gross Unrealized Losses Less Than 12 Months	Gross Unrealized Losses More Than 12 Months	Fair Value Hierarchy as of December 31, 2022			Aggregate Fair Value
					Level 1	Level 2	Level 3	
Financial Assets:	(In thousands)							
Cash and cash equivalents:								
Money market funds	$ 46,610	$ —	$ —	$ —	$ 46,610	$ —	$ —	$ 46,610
Reverse repurchase agreements	200,000	—	—	—	—	200,000	—	200,000
Commercial paper	2,249	—	—	—		2,249		2,249
Total included in cash and cash equivalents	248,859	—	—	—	46,610	202,249	—	248,859
Marketable securities:								
U.S. Treasury securities	481,463	—	(1,269)	(11,347)	468,847	—	—	468,847
Non-U.S. government securities	149,901	—	(33)	(6,304)	143,564	—	—	143,564
Corporate debt securities and commercial paper	2,973,844	307	(12,202)	(71,043)	5,000	2,885,906	—	2,890,906
Total marketable securities	3,605,208	307	(13,504)	(88,694)	617,411	2,885,906	—	3,503,317
Total financial assets	$ 3,854,067	$ 307	$ (13,504)	$ (88,694)	$ 664,021	$ 3,088,155	$ —	$ 3,752,176

The aggregate related fair value of the corporate debt securities with unrealized losses was $2.4 billion as of March 31, 2023, of which $1.9 billion were in an unrealized loss position for more than 12 months and $420.2 million were in an unrealized loss position for less than 12 months. The aggregate related fair value of corporate debt securities with unrealized losses was $2.7 billion as of December 31, 2022, of which $2.0 billion were in an unrealized loss position for more than 12 months and $620.5 million were in an unrealized loss position for less than 12 months. Unrealized losses related to other investments as of March 31, 2023, and December 31, 2022, were not significant.

The Company's primary objective when investing excess cash is preservation of capital, hence the Company's marketable securities primarily consist of U.S. Treasury Securities, non-U.S government securities, high credit quality corporate debt securities and commercial paper. Because the Company views its marketable securities as available to support current operations, it has classified all available for sale securities as short-term. As of March 31, 2023, and December 31, 2022, for all fixed income securities that were in unrealized loss positions, the Company has determined that (i) it does not have the intent to sell any of these investments, and (ii) it is not more likely than not that it will be required to sell any of these investments before recovery of the entire amortized cost basis. In addition, as of March 31, 2023, and December 31, 2022, the Company anticipates that it will recover the entire amortized cost basis of such fixed income securities before maturity.

Interest earned on marketable securities was $17.2 million and $15.6 million in the three months ended March 31, 2023 and 2022, respectively. The interest is recorded as other income (expenses), net, in the accompanying condensed consolidated statements of operations.

The following table summarizes the contractual maturities of marketable securities:

	As of March 31, 2023		As of December 31, 2022	
	Amortized Cost	**Aggregate Fair Value**	**Amortized Cost**	**Aggregate Fair Value**
Financial Assets:	(In thousands)			
Less than one year	$ 2,155,152	$ 2,116,532	$ 1,943,836	$ 1,909,218
One to three years	1,226,472	1,193,951	1,661,372	1,594,099
Total	$ 3,381,624	$ 3,310,483	$ 3,605,208	$ 3,503,317

Strategic Investments

As of March 31, 2023, and December 31, 2022, the Company held strategic investments with a carrying value of $30.7 million and $76.9 million, respectively, recorded as other long-term assets in the accompanying condensed consolidated balance sheets. The carrying value of these securities is determined under the measurement alternative on a non-recurring basis and adjusted for observable changes in fair value or impairment. In the three months ended March 31, 2023, the Company remeasured one of its strategic investments that it acquired in 2021 to fair value due to an assessed impairment. The fair value measurement of the strategic investment is categorized under Level 2 in the fair value hierarchy and the primary input used in the fair value measurement was the publicly available stock price of the issuer’s unrestricted security of the same class. The impairment loss of $46.2 million is recorded in other income (expenses), net, in the accompanying condensed consolidated statement of operations for the three months ended March 31, 2023. There were no other impairments or adjustments recorded in the three months ended March 31, 2023 and 2022, related to these securities.

Financial Liabilities

The Company’s financial liabilities that are measured at fair value on a recurring basis consist of foreign currency derivative liabilities and are classified as Level 2 financial instruments in the fair value hierarchy. As of March 31, 2023, and December 31, 2022, the aggregate fair value of these liabilities and the associated unrealized losses were not significant.

The Company’s financial liabilities that are not measured at fair value on a recurring basis are its Senior Notes due 2029 (“2029 Notes”) and its Senior Notes due 2031 (“2031 Notes”). As of March 31, 2023, the fair value of the 2029 Notes and 2031 Notes were $437.4 million and $427.5 million, respectively. As of December 31, 2022, the fair value of the 2029 Notes and 2031 Notes were $410.9 million and $399.4 million, respectively.

4. Property and Equipment

Property and equipment consisted of the following:

	As of March 31, 2023	As of December 31, 2022
	(In thousands)	
Capitalized internal-use software developments costs	$ 269,463	$ 257,983
Data center equipment [1]	101,178	100,207
Leasehold improvements	92,475	91,660
Office equipment	71,344	70,815
Furniture and fixtures	14,913	14,935
Software	14,832	14,675
Total property and equipment	564,205	550,275
Less: accumulated depreciation and amortization [1]	(310,143)	(286,296)
Total property and equipment, net	$ 254,062	$ 263,979

[1] Data center equipment contains $72.4 million in assets held under finance leases as of March 31, 2023, and December 31, 2022. Accumulated depreciation and amortization includes $45.0 million and $41.2 million of accumulated depreciation for assets held under finance leases as of March 31, 2023, and December 31, 2022, respectively.

Depreciation and amortization expense was $20.1 million and $16.6 million in the three months ended March 31, 2023 and 2022, respectively.

The Company capitalized $14.2 million and $14.7 million in internal-use software development costs in the three months ended March 31, 2023 and 2022, respectively.

In the three months ended March 31, 2023, the Company signed an agreement to divest its Internet of Things (“IoT”) assets and liabilities to a third party. The Company recorded a $3.8 million loss on net assets held for sale related to this transaction and an additional $2.2 million of related costs. The assets and liabilities held for sale are not significant.

5. Impairment

In February 2023, the Company announced plans to close additional offices as part of its 2022 strategy to become a remote-first company. The Company regularly assesses recoverability of all impacted right-of-use (“ROU”) assets and the related leasehold improvements and property and equipment for indicators of impairment. In the three months ended March 31, 2023, the Company recorded a $21.8 million impairment expense related to its permanent office closures.

No other significant impairments were recorded in the three months ended March 31, 2023 and 2022.

6. Restructuring Activities

On February 13, 2023, the Company committed to a workforce reduction plan (the “February 2023 Plan”) that eliminated approximately 17% of the Company’s workforce. In the three months ended March 31, 2023, the Company recorded restructuring charges of $121.9 million, which consisted of $111.6 million related to employee severances, benefits and facilitation costs and $10.3 million related to vesting of stock-based awards of the impacted employees. The execution of the February 2023 Plan was substantially completed as of March 31, 2023. The estimated remaining expenses related to the February 2023 Plan are approximately $20.0 million and are expected to be incurred in 2023. The actual expenses may differ materially from the original estimates.

The following table summarizes the Company's restructuring liability related to the February 2023 Plan that is included in accrued expenses and other current liabilities in the accompanying condensed consolidated balance sheet:

	Workforce Reduction Costs	Facilitation Costs	Total
	(In thousands)		
Balance as of December 31, 2022	$ —	$ —	$ —
Restructuring charges	105,113	6,455	111,568
Cash payments	(77,873)	(539)	(78,412)
Balance as of March 31, 2023	$ 27,240	$ 5,916	$ 33,156

The $10.3 million vesting of the stock-based awards is recorded in the additional-paid-in capital in the accompanying condensed consolidated statement of stockholders' equity.

The activity and the remaining amounts related to the restructuring plan effected in September 2022 (the "September 2022 Plan") were insignificant.

7. Reorganization and Segment Reporting

In February 2023, concurrent with the announcement of the February 2023 Plan, the Company announced a reorganization of its business into two business units, Twilio Data & Applications and Twilio Communications, to enable the Company to better execute on the key priorities for each side of its business—accelerating growth for Twilio Data & Applications and driving efficiencies for Twilio Communications—while accounting for each business unit's unique economic, customer and product needs (the "Reorganization"). Effective March 1, 2023, the Company's Board of Directors appointed a president for each newly created business unit. Both presidents report directly to the Chief Operating Decision Maker ("CODM"), maintain regular contact with the CODM and are directly accountable for specific activities and financial results of their respective business units. The Company's Chief Executive Officer is its CODM.

An operating segment is a component of a public entity that has all of the following characteristics:

– it engages in business activities from which it may recognize revenues and incur expenses,
– its operating results are regularly reviewed by the public entity's CODM to make decisions about resources to be allocated to the segment and assess its performance, and
– its discrete financial information is available.

With the Reorganization, the Company significantly changed the organizational structure of its business, including the way management will operate the business in the future. As such, in February 2023, the Company began making significant realignments to its internal processes and controls to build a financial reporting process within its enterprise reporting system that would enable consistent, comparable and reliable internal reporting of discrete financial information on a newly formed business unit level (the "Realignment"). The Realignment includes efforts, such as remapping of the Company's functional cost centers to the newly formed business units, developing new allocation methodologies for various costs and reserves, redesigning employee compensation structure, including commissions plans, and other changes - most of which involve judgment and assumptions. Additionally, as of March 31, 2023, the Company was still in process of determining the optimal measure of profitability to be used by the CODM to assess performance of the newly formed business units. The Company expects to complete these efforts during 2023 in order to regularly provide the CODM with discrete financial information on the business unit level, which will also enable the Company to provide segment level disclosures. As this information was not yet available as of March 31, 2023, the Company concluded that it continued to have one operating and reportable segment in the first quarter of 2023.

In connection with the expected shift from one operating segment to two operating segments in 2023, the Company will also shift into a multiple reporting unit structure. Once this occurs and the Company is able to allocate goodwill to each reporting unit, the Company will perform an impairment assessment for each newly formed reporting unit, which may result in goodwill and other asset impairments that could be material.

8. Derivatives and Hedging

As of March 31, 2023, the Company had outstanding foreign currency forward contracts designated as cash flow hedges with a total sell notional value of $286.8 million. The notional value represents the amount that will be sold upon maturity of the forward contract. As of March 31, 2023, these contracts had maturities of up to seventeen months.

Gains and losses associated with these foreign currency forward contracts were as follows:

	Condensed Consolidated Statement of Operations and Statement of Comprehensive Loss	Three Months Ended March 31, 2023	Three Months Ended March 31, 2022
		(In thousands)	
Gains (Losses) recognized in OCI	Net change in market value of effective foreign currency forward exchange contracts	$ 3,335	$ (3,852)
Gains (Losses) recognized in income due to instruments maturing	Cost of revenue	$ 735	$ (1,597)

The Company is subject to master netting agreements with certain counterparties of the foreign exchange contracts, under which it is permitted to net settle transactions of the same currency with a single net amount payable by one party to the other. It is the Company's policy to present the derivatives at gross in its condensed consolidated balance sheets. The Company's foreign currency forward contracts are not subject to any credit contingent features or collateral requirements. The Company manages its exposure to counterparty risk by entering into contracts with a diversified group of major financial institutions and by actively monitoring its outstanding positions. As of March 31, 2023, the Company did not have any offsetting arrangements.

9. Goodwill and Intangible Assets

Goodwill

The goodwill balance as of March 31, 2023, and December 31, 2022, was as follows:

	Total
	(In thousands)
Balance as of December 31, 2022	$ 5,284,153
Foreign currency adjustments	235
Balance as of March 31, 2023	$ 5,284,388

Intangible assets

Intangible assets consisted of the following:

	As of March 31, 2023		
	Cost	Accumulated Amortization	Net
Amortizable intangible assets:		(In thousands)	
Developed technology	$ 794,567	$ (363,631)	$ 430,936
Customer relationships	538,223	(223,148)	315,075
Supplier relationships	56,971	(22,520)	34,451
Trade names	30,372	(21,622)	8,750
Order backlog	10,000	(10,000)	—
Patent	4,028	(756)	3,272
Total amortizable intangible assets	1,434,161	(641,677)	792,484
Non-amortizable intangible assets:			
Telecommunication licenses	4,920	—	4,920
Trademarks and other	295	—	295
Total	$ 1,439,376	$ (641,677)	$ 797,699

	As of December 31, 2022		
	Cost	Accumulated Amortization	Net
Amortizable intangible assets:		(In thousands)	
Developed technology	$ 795,753	$ (335,893)	$ 459,860
Customer relationships	538,466	(204,241)	334,225
Supplier relationships	56,922	(19,846)	37,076
Trade names	30,342	(20,106)	10,236
Order backlog	10,000	(10,000)	—
Patent	4,028	(705)	3,323
Total amortizable intangible assets	1,435,511	(590,791)	844,720
Non-amortizable intangible assets:			
Telecommunication licenses	4,920	—	4,920
Trademarks and other	295	—	295
Total	$ 1,440,726	$ (590,791)	$ 849,935

Amortization expense was $50.8 million and $51.5 million for the three months ended March 31, 2023 and 2022, respectively.

Total estimated future amortization expense is as follows:

Year Ended December 31,	As of March 31, 2023
	(In thousands)
2023	$ 152,782
2024	196,111
2025	192,538
2026	120,240
2027	72,221
Thereafter	58,592
Total	$ 792,484

10. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consisted of the following:

	As of March 31, 2023	As of December 31, 2022
	(In thousands)	
Accrued payroll and related	$ 60,215	$ 79,703
Accrued bonus and commission	20,764	35,449
Accrued cost of revenue	153,469	161,455
Sales and other taxes payable	90,901	92,319
ESPP contributions	19,981	8,499
Finance lease liability	10,108	11,871
Restructuring liability	33,469	1,066
Employee sabbatical benefit accrual[1]	15,714	30,683
Accrued other expense	71,250	69,176
Total accrued expenses and other current liabilities	$ 475,871	$ 490,221

[1] In February 2023, the Company announced that it will sunset its employee sabbatical program as of December 31, 2023. The accrued liability as of March 31, 2023, represents the accumulated benefit balance for the employees who remain eligible under this program through its termination date.

11. Long-Term Debt

Long-term debt, net, consisted of the following:

	As of March 31, 2023	As of December 31, 2022
	(In thousands)	
2029 Senior Notes		
Principal	$ 500,000	$ 500,000
Unamortized discount	(4,822)	(5,001)
Unamortized issuance costs	(1,085)	(1,126)
Net carrying amount	494,093	493,873
2031 Senior Notes		
Principal	500,000	500,000
Unamortized discount	(5,162)	(5,299)
Unamortized issuance costs	(1,162)	(1,192)
Net carrying amount	493,676	493,509
Total long-term debt, net	$ 987,769	$ 987,382

As of March 31, 2023, the Company was in compliance with all of its covenants under the related indentures.

12. Revenue by Geographic Area and Business Units

Revenue by geographic area is based on the IP address or the mailing address at the time of registration. The following table sets forth revenue by geographic area:

	Three Months Ended March 31,	
	2023	2022
Revenue by geographic area:	(In thousands)	
United States	$ 662,092	$ 570,380
International	344,472	304,983
Total	$ 1,006,564	$ 875,363
Percentage of revenue by geographic area:		
United States	66 %	65 %
International	34 %	35 %

Long-lived assets outside of the United States were $52.5 million and $54.5 million as of March 31, 2023, and December 31, 2022, respectively.

The following table sets forth revenue by business unit:

	Three Months Ended March 31,	
	2023	2022
Revenue by business unit:	(In thousands)	
Twilio Communications	$ 846,658	$ 742,745
Twilio Data & Applications	120,142	101,086
Other	39,764	31,532
Total	$ 1,006,564	$ 875,363

Twilio Communications includes a variety of application programming interfaces ("APIs") and software solutions to optimize communications between Twilio customers and their end users. This is primarily concentrated within the Messaging, Voice and Email communication channels. Twilio Data & Applications includes Twilio Segment, Twilio Engage, Twilio Flex and Marketing Campaigns. These products enable businesses to achieve more effective customer engagement by providing the tools necessary for customers to build direct, personalized relationships with their end users. Other consists of revenue from enterprise and support plans, professional services, IoT/wireless and other smaller products. As a result of the Realignment described in Note 6, the groups of products included in each of the above categories may be adjusted in future periods.

13. Commitments and Contingencies

(a) Lease and Other Commitments

The Company has entered into various non-cancelable operating lease agreements for its facilities. In the three months ended March 31, 2023, the Company did not enter into any significant new lease agreements.

The Company has non-cancelable contractual commitments with its cloud infrastructure provider, network service providers and other vendors. In the three months ended March 31, 2023, the Company entered into several such agreements with terms up to two years for a total purchase commitment of $47.6 million.

(b) Legal Matters

The City and County of San Francisco ("San Francisco") has assessed the Company for additional Telephone Users Tax ("TUT") and Access Line Tax on certain of the Company's services for the years 2009 through 2018. The assessments totaled $38.8 million, including interest and penalties. The Company paid the assessments under protest in the third quarter of 2020.

On May 27, 2021, the Company filed a lawsuit against San Francisco in San Francisco Superior Court challenging the assessments. The Company raised numerous defenses to the assessments including that its services are not telecommunications services, application of the taxes to the Company's services violates the Internet Tax Freedom Act and San Francisco does not have jurisdiction to impose tax on services provided outside of San Francisco. The Company is seeking refunds of the taxes paid, waivers of interest and penalties, cost of suit and reasonable attorneys' fees, and other legal and equitable relief as the court deems appropriate. The previously set trial date was vacated, and a case management conference is scheduled for June 2023.

The Company believes it has strong arguments against the assessments, but litigation is uncertain and there is no assurance that it will prevail in court. Should the Company lose on one or more of its arguments, it could incur additional losses associated with taxes, interest, and penalties that together, in aggregate, could be material. The Company regularly assesses the likelihood of adverse outcomes resulting from tax disputes such as this and examines all open years to determine the necessity and adequacy of any tax reserves. The Company's tax reserves are further discussed in Note 13(d) of these condensed consolidated financial statements.

In addition to the litigation discussed above, from time to time, the Company may be subject to legal actions 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 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 the Company because of defense and settlement costs, diversion of management resources and other factors.

Legal fees and other costs related to litigation and other legal proceedings are expensed as incurred and are included in general and administrative expenses in the accompanying condensed consolidated statements of operations.

(c) Indemnification Agreements

The Company has signed indemnification agreements with all of its board members and executive officers. The agreements indemnify the board members and executive officers from claims and expenses on actions brought against the individuals separately or jointly with the Company for certain indemnifiable events. Indemnifiable events generally mean any event or occurrence related to the fact that the board member or the executive officer was or is acting in his or her capacity as a board member or an executive officer for the Company or was or is acting or representing the interests of the Company.

In the ordinary course of business and in connection with its financing and business combinations transactions, the Company enters into contractual arrangements under which it agrees to provide indemnification of varying scope and terms to business partners, customers and other parties with respect to certain matters, including, but not limited to, losses arising out of the breach of such agreements, intellectual property infringement claims made by third parties and other liabilities relating to or arising from the Company’s various products, or its acts or omissions. In these circumstances, payment may be conditional on the other party making a claim pursuant to the procedures specified in the particular contract. Further, the Company’s obligations under these agreements may be limited in terms of time and/or amount, and in some instances, the Company may have recourse against third parties for certain payments. The terms of such obligations may vary.

As of March 31, 2023 and December 31, 2022, no amounts were accrued related to any outstanding indemnification agreements.

(d) Other Taxes

The Company conducts operations in many tax jurisdictions within and outside of the United States. In many of these jurisdictions, non-income-based taxes, such as sales, use, telecommunications and other local taxes are assessed on the Company’s operations. The Company carries reserves for certain of its non-income-based tax exposures in certain jurisdictions when it is both probable that a liability was incurred and the amount of the exposure could be reasonably estimated. These reserves are based on estimates which include several key assumptions including, but not limited to, the taxability of the Company’s services, the jurisdictions in which its management believes it had nexus and the sourcing of revenues to those jurisdictions.

The Company continues to remain in discussions with certain jurisdictions regarding its prior sales and other taxes that it may owe. In the event any of these jurisdictions disagree with management’s assumptions and analysis, the assessment of the Company’s tax exposure could differ materially from management’s current estimates. For example, as described in Note 13(b), the Company is currently involved in legal proceedings with the City and County of San Francisco challenging their assessment of the Company’s estimated tax liability for a specific period. The $38.8 million assessment of taxes, including interest and penalties, that the Company paid as required in 2020, net of the $11.5 million reserve the Company had accrued for the same period, was recorded as a deposit in other assets in the accompanying condensed consolidated balance sheets.

As of March 31, 2023, the liabilities recorded for the non-income-based taxes were $30.3 million for domestic jurisdictions and $21.8 million for jurisdictions outside of the United States. As of December 31, 2022, these liabilities were $29.1 million and $20.6 million, respectively.

14. Stockholders' Equity

Preferred Stock

As of March 31, 2023, and December 31, 2022, the Company had authorized 100,000,000 shares of preferred stock, par value $0.001, of which no shares were issued and outstanding.

Common Stock

As of March 31, 2023, and December 31, 2022, the Company had authorized 1,000,000,000 shares of Class A common stock and 100,000,000 shares of Class B common stock, each with a par value of $0.001 per share. As of March 31, 2023, 176,121,918 shares of Class A common stock and 9,617,605 shares of Class B common stock were issued and outstanding. As of December 31, 2022, 176,358,104 shares of Class A common stock and 9,617,605 shares of Class B common stock were issued and outstanding.

The Company had reserved shares of common stock for issuance as follows:

	As of March 31, 2023	As of December 31, 2022
Stock options issued and outstanding	2,007,636	2,277,379
Unvested restricted stock units issued and outstanding	13,487,645	15,414,997
Class A common stock reserved for Twilio.org	508,347	530,449
Stock-based awards available for grant under 2016 Plan	29,755,557	19,851,399
Stock-based awards available for grant under ESPP	9,448,429	7,648,429
Total	55,207,614	45,722,653

Share Repurchase Program

In February 2023, the Board of Directors of the Company authorized a share repurchase program pursuant to which the Company may repurchase up to $1.0 billion in aggregate value of its outstanding Class A common stock. Repurchases under this program will be made through open market, private transactions or other means, in compliance with applicable federal securities laws, and could include repurchases pursuant to Rule 10b5-1 trading plans. The Company has discretion in determining the conditions under which shares may be repurchased from time to time. The program is set to expire on December 31, 2024.

In the three months ended March 31, 2023, the Company repurchased 1.9 million shares of its Class A common stock for an aggregate purchase price of $125.0 million, including related costs. As of March 31, 2023, approximately $875.0 million of the originally authorized amount remained available for future repurchases. Subsequent to March 31, 2023, the Company has repurchased additional shares of its Class A common stock for an aggregate purchase price of $125.0 million.

15. Stock-Based Compensation

The Company's 2016 Stock Option and Incentive Plan (the "2016 Plan") provides for granting stock options, restricted stock units, restricted stock awards, stock appreciation rights, unrestricted stock awards, performance share awards, dividend equivalent rights and cash-based awards to its employees, directors and consultants. Certain of the Company's outstanding equity awards were granted under equity incentive plans that are no longer active but continue to govern the outstanding equity awards granted thereunder.

The Company also offers an Employee Stock Purchase Plan ("ESPP") to eligible employees. The ESPP provides for separate six-month offering periods beginning in May and November of each year.

As of March 31, 2023, total unrecognized compensation cost related to all outstanding equity awards was as follows:

	As of March 31, 2023	
	Unrecognized Compensation Cost (In thousands)	Weighted-average remaining period (In years)
Unvested stock options	$ 31,238	1.7
Unvested restricted stock units and awards	1,427,132	2.8
ESPP	3,019	0.1
Class A shares in escrow subject to future vesting	1,822	1.3
Total	$ 1,463,211	

Stock-Based Compensation Expense

The Company recorded total stock-based compensation expense as follows:

	Three Months Ended March 31,	
	2023	2022
	(In thousands)	
Cost of revenue	$ 5,290	$ 4,521
Research and development	78,093	79,369
Sales and marketing	48,129	47,586
General and administrative	28,954	23,799
Restructuring costs	10,333	—
Total	$ 170,799	$ 155,275

16. Net Loss Per Share Attributable to Common Stockholders

The following table sets forth the calculation of basic and diluted net loss per share attributable to common stockholders during the periods presented:

	Three Months Ended March 31,	
	2023	2022
Net loss attributable to common stockholders (in thousands)	$ (342,139)	$ (221,627)
Weighted-average shares used to compute net loss per share attributable to common stockholders, basic and diluted	186,403,349	180,898,713
Net loss per share attributable to common stockholders, basic and diluted	$ (1.84)	$ (1.23)

The following outstanding shares of common stock equivalents were excluded from the calculation of the diluted net loss per share attributable to common stockholders because their effect would have been anti-dilutive:

	As of March 31,	
	2023	2022
Stock options issued and outstanding	2,007,636	2,709,573
Unvested restricted stock units issued and outstanding	13,487,645	7,745,115
Class A common stock reserved for Twilio.org	508,347	596,755
Class A common stock committed under ESPP	742,303	147,947
Class A common stock in escrow	31,503	31,503
Class A common stock in escrow and restricted stock awards subject to future vesting	15,936	76,080
Total	16,793,370	11,306,973

17. Income Taxes

The Company computes its provision for income taxes for interim periods by applying an estimated annual effective tax rate to anticipated annual pretax income or loss. The estimated annual effective tax rate is applied to the Company’s year to date income or loss, and is adjusted for discrete items recorded in the period. The primary difference between the Company’s effective tax rate and the federal statutory rate is the full valuation allowance the Company has established on its federal, state and certain foreign net operating losses and credits. The Company recorded an income tax provision of $10.5 million for the three months ended March 31, 2023, and an income tax benefit of $2.9 million for the three months ended March 31, 2022.

The provision for income taxes recorded in the three months ended March 31, 2023, consists primarily of income taxes and withholding taxes, partially offset by an income tax benefit from the release of tax liabilities related to uncertain tax positions for which the statute of limitation had lapsed. The benefit for income taxes recorded in the three months ended March 31, 2022, consists primarily of an income tax benefit from the reversal of U.S. valuation allowance related to acquired intangible assets from business combinations, partially offset by income taxes and withholding taxes in foreign jurisdictions in which the Company conducts business.

The Company is subject to taxation in the U.S. and various other state and foreign jurisdictions. Because the Company has net operating loss carryforwards for U.S. federal and state jurisdictions, the statute of limitations is open for all tax years.

18. Related Party Transactions

In May 2022, the Company and Syniverse Corporation ("Syniverse"), an equity method investee, entered into a wholesale agreement, pursuant to which Syniverse will process, route and deliver application-to-person messages originating and/or terminating between the Company's customers and mobile network operators. For the three months ended March 31, 2023, the value of the transactions that occurred between the Company and Syniverse were $33.5 million. These transactions were recorded as cost of revenue in the accompanying condensed consolidated statement of operations.

Special Note Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), which statements involve substantial risks and uncertainties. Forward-looking statements generally relate to future events or our future financial or operating performance. In some cases, you can identify forward-looking statements because they contain words such as "may," "can," "will," "would," "should," "expects," "plans," "anticipates," "could," "intends," "target," "projects," "contemplates," "believes," "estimates," "predicts," "forecasts," "potential," or "continue" or the negative of these words or other similar terms or expressions that concern our expectations, strategy, plans or intentions. Forward-looking statements contained in this Quarterly Report on Form 10-Q include, but are not limited to, statements about:

- the impact of macroeconomic uncertainties and significant market volatility in the global economy on our customers, partners, employees and business;
- our future financial performance, including expectations regarding our revenue, cost of revenue, gross margin and operating expenses, our ability to generate positive cash flow and ability to achieve and sustain profitability, and the assumptions underlying such expectations;
- the benefits and efficiencies we expect to derive from recent workforce reductions and other cost-saving initiatives, including reducing our global office footprint;
- our business unit reorganization, including its expected costs and benefits, related accounting determinations and changes to our leadership structure;
- our expectations regarding our Data & Applications business, including increased investment and go-to-market focus to capture market share and increase revenue growth;
- our expectations regarding our Communications business, including anticipated efficiencies and strategy for streamlining the customer experience, including increased focus on self-service capabilities;
- our ability to retain and increase revenue from existing customers and attract new customers, including enterprises and international organizations;
- our ability to maintain reliable service levels for our customers;
- our anticipated investments in sales and marketing, research and development and additional systems and processes to support our growth;
- our ability to compete effectively in an intensely competitive market, including our ability to set optimal prices for our products and adapt and respond effectively to rising costs, rapidly changing technology and evolving customer needs, requirements, and preferences;
- potential harm caused by compromises in security, data and infrastructure, including cybersecurity protections;
- our ability to comply with modified or new industry standards, laws and regulations applying to our business;
- our ability to make progress on our environmental, social and governance ("ESG") programs, goals and commitments;
- our ability to manage changes in network service provider fees that we pay in connection with the delivery of communications on our platform;
- investments and costs required to prevent, detect and remediate potential cybersecurity threats, incidents and breaches of ours or our customers' systems or information;
- our ability to optimize our network service provider coverage and connectivity;
- our ability to work closely with email inbox service providers to maintain deliverability rates;

- the impact and expected results from changes in our relationships with our larger customers;
- our ability to form and expand partnerships with technology partners and consulting partners;
- anticipated technology trends, such as the use of and demand for cloud communications and customer engagement tools;
- our ability to successfully enter into new markets and manage our international expansion;
- the sufficiency of our cash and cash equivalents to meet our liquidity needs;
- our expectations regarding our share repurchase program;
- our ability to maintain, protect and enhance our intellectual property;
- our ability to successfully defend litigation brought against us;
- our ability to service the interest on our 3.625% senior notes due 2029 (“2029 Notes”) and on our 3.875% notes due 2031 (“2031 Notes,” and together with the 2029 Notes, the “Notes”), and repay such Notes;
- our customers’ and other platform users’ violation of our policies or other misuse of our platform; and
- our ability to successfully integrate and realize the benefits of our past or future strategic acquisitions, divestitures or investments, and our expectations regarding the impact of the pending divestiture of our Internet of Things (“IoT”) business.

We caution you that the foregoing list may not contain all of the forward-looking statements made in this Quarterly Report on Form 10-Q.

You should not rely upon forward-looking statements as predictions of future events. We have based the forward-looking statements contained in this Quarterly Report on Form 10-Q primarily on our current expectations and projections about future events and trends that we believe may affect our business, results of operations and financial condition. The outcome of the events described in these forward-looking statements is subject to risks, uncertainties and other factors described below in Part II, Item 1A, “Risk Factors,” and elsewhere in this Quarterly Report on Form 10-Q. Moreover, we operate in a very competitive and rapidly changing environment. New risks and uncertainties emerge from time to time, and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this Quarterly Report on Form 10-Q. We cannot assure you that the results, events and circumstances reflected in the forward-looking statements will be achieved or occur, and actual results, events or circumstances could differ materially from those described in the forward-looking statements.

The forward-looking statements made in this Quarterly Report on Form 10-Q relate only to events as of the date on which the statements are made. We undertake no obligation to update any forward-looking statements made in this Quarterly Report on Form 10-Q to reflect events or circumstances after the date of this Quarterly Report on Form 10-Q or to reflect new information or the occurrence of unanticipated events, except as required by law. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

PART I - FINANCIAL INFORMATION

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 condensed consolidated financial statements and related notes appearing elsewhere in this Quarterly Report on Form 10-Q and our audited consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2022. In addition to historical financial information, the following discussion contains forward-looking statements that are based upon current plans, expectations and beliefs that involve risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth under Part II, Item 1A, "Risk Factors" in this Quarterly Report on Form 10-Q.

Overview

We enable businesses of all sizes and across numerous industries to revolutionize how they engage their customers. Our leading customer engagement platform is comprised of a suite of flexible software and communications solutions that allow businesses to deliver seamless, trusted and engaging customer experiences at scale. In order to deliver the personalized experiences through digital communication channels that their customers have come to expect, businesses seek a comprehensive view of their customers across multiple digital touchpoints that reveals what their needs are and which communications methods they prefer. Our platform, which combines our highly customizable communications Application Programming Interfaces ("APIs") with leading customer data management capabilities, allows businesses to break down data silos and build a comprehensive view of customers to create the exact solutions they need to engage their customers at every step of the customer journey through real-time, relevant, personalized communications over the customers' preferred communication channels.

With our platform, businesses can personalize every transaction with real-time data, build lasting loyalty, reduce customer acquisition costs and increase customer lifetime value. Our customized software products are designed to address specific use cases, including our customer data platform, virtual contact centers, personalized yet scalable marketing campaigns and advanced account security systems. Our leading communications solutions, including our APIs, are highly customizable and enable developers to embed numerous forms of voice, messaging and email interactions into their customer-facing applications. Our platform is designed to support all of the most important ways people communicate through technology and our global infrastructure is capable of supporting virtually any business at scale.

In the three months ended March 31, 2023 and 2022, our revenue was $1.0 billion and $875.4 million, respectively, and our net loss was $342.1 million and $221.6 million, respectively. In the three months ended March 31, 2023 and 2022, our 10 largest Active Customer Accounts generated an aggregate of 10% and 11% of our total revenue, respectively.

Recent Developments

Business Unit Reorganization. In February 2023, we announced the reorganization of our business into two business units: Twilio Data & Applications and Twilio Communications (the "Reorganization"). In connection with the Reorganization, we appointed Elena Donio as President, Twilio Data & Applications, and Khozema Shipchandler as President, Twilio Communications, effective March 1, 2023. We also appointed Aidan Viggiano as our Chief Financial Officer, effective March 1, 2023.

We believe that this strategic realignment will enable us to better execute on the key priorities for each side of our business—accelerating growth for Data & Applications and driving efficiencies for Communications—while accounting for each business unit's unique economic, customer and product needs. These two business units can execute against their respective financial goals with more focus and independence—but they are also highly complementary. Our Data & Applications business benefits from our underlying communications platform and our substantial active customer base. Our success in Data & Applications also drives more intelligence for our Communications products. Together, they address adjacent buyers and related problems that our customers have.

In connection with the Reorganization, we significantly changed the organizational structure of our business, including the way we will manage the business in the future. As such, in February 2023, we began making significant realignments to our internal processes and controls to build a financial reporting process within our enterprise reporting system that will enable consistent, comparable and reliable internal reporting on a business unit level. We expect to substantially complete our internal process realignments during 2023, which will enable us to provide segment level reporting.

Share Repurchase Program. In February 2023, our Board of Directors authorized a share repurchase program pursuant to which we may repurchase up to $1.0 billion in aggregate value of our Class A common stock. Repurchases under this program can be made through open market, private transactions or other means in compliance with applicable federal securities laws and could include repurchases pursuant to Rule 10b5-1 trading plans. We have a discretion in determining the conditions under which shares may be repurchased from time to time. The program is set to expire on December 31, 2024.

In the first quarter of 2023, we repurchased $125.0 million in aggregate value, or 1.9 million shares, of our Class A common stock under this program. Subsequent to March 31, 2023, we have repurchased additional shares of our Class A common stock for an aggregate purchase price of $125.0 million. Approximately $750.0 million of the originally authorized amount remains available for future repurchases.

Workforce Reduction Plan. In February 2023, we committed to a workforce restructuring plan (the "February 2023 Plan") that eliminated approximately 17% of our workforce. The execution of the February 2023 Plan was substantially completed as of March 31, 2023. In the first quarter of 2023, we incurred total restructuring expenses of $121.9 million related to employee severances, benefits, vesting of equity awards and facilitation costs. We are expecting to record an estimated additional $20.0 million of restructuring expenses until the execution of the plan is completed in 2023. The actual remaining expenses may differ materially from our original estimates. Previously, in September 2022, we executed a similar workforce reduction plan (the "September 2022 Plan") that was intended to reduce operating costs, improve operating margins and shift our selling capacity to accelerate software sales. For further details refer to Note 6 to our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

Sabbatical Program. In February 2023, we announced that we will be sunsetting our employee sabbatical program that we introduced effective July 1, 2022. The sabbatical program was intended to provide our tenured employees with a paid leave of four consecutive weeks after every three years of service. Employees who had accumulated more than three years of service as of the program's effective date became eligible for their benefit immediately. The discontinuation of this program and the reduction in force under our February 2023 Plan resulted in a $12.0 million cumulative one-time decrease to our accrued sabbatical liability in the first quarter of 2023. As of March 31, 2023, the remaining liability of $15.7 million related to the accumulated benefits for employees who remain eligible for this benefit until its expiration on December 31, 2023. As of December 31, 2022, the accrued sabbatical liability was $30.7 million.

Remote-First Company. In 2022, we announced our decision to become a remote-first company allowing our employees the flexibility to work remotely on a permanent basis. As part of our new operating strategy, we permanently closed several of our offices in 2022 and early 2023. In February 2023, we announced that we will be closing additional offices during 2023. These office closures resulted in an impairment of several long-lived assets, including our operating lease assets, leasehold improvements and property and equipment. In the first quarter of 2023, we recorded a total impairment loss of $21.8 million and we expect to record an estimated additional impairment of approximately $10 million to $20 million in 2023 as the exit activities are finalized in each location.

Impairment of Strategic Investment. In the first quarter of 2023, we recorded a $46.2 million, non-cash impairment charge associated with one of our investments from 2021 to reduce its carrying amount to fair value.

Divestiture of IoT Assets. In the first quarter of 2023, we signed an agreement to divest our Internet of Things assets and liabilities to a third party. In connection with this transaction, we recorded a $3.8 million loss on net assets held for sale and an additional $2.2 million in related expenses. We may realize an additional gain or loss on the transaction closing date that is expected in the second quarter of 2023, which amount is not expected to be material.

Macroeconomic and Geopolitical Factors. Our results of operations may be significantly affected by several macroeconomic and geopolitical factors, such as changes in global economic conditions, customer demand and spending, inflation, labor market constraints, uncertainty regarding the impacts of fluctuations in foreign exchange rates, world events, existing and new domestic and foreign laws and regulations, as well as those factors outlined in Part II, Item 1A, "Risk Factors."

Key Business Metrics

We review a number of operational and financial metrics, including Active Customer Accounts and Dollar-Based Net Expansion Rate, to evaluate our business, measure our performance, identify trends affecting our business, formulate business plans and make strategic decisions.

The following table summarizes our year-over-year revenue growth and Dollar-Based Net Expansion Rate for the three months ended March 31, 2023 and 2022, and the number of Active Customer Accounts as of March 31, 2023 and 2022.

	Three Months Ended March 31, 2023	Three Months Ended March 31, 2022
Active Customer Accounts (as of end date of period)	300,000	268,000
Total Revenue (in thousands)	$ 1,006,564	$ 875,363
Total Revenue Growth	15 %	48 %
Dollar-Based Net Expansion Rate	106 %	127 %

Active Customer Accounts

We define an Active Customer Account at the end of any period as an individual account, as identified by a unique account identifier, for which we have recognized at least $5 of revenue in the last month of the period. A single organization may constitute multiple unique Active Customer Accounts if it has multiple account identifiers, each of which is treated as a separate Active Customer Account. Active Customer Accounts excludes customer accounts from Zipwhip, Inc.

We believe that the number of Active Customer Accounts is an important indicator of the growth of our business, the market acceptance of our platform and future revenue trends. We believe that use of our platform by customers at or above the $5 per month threshold is a stronger indicator of potential future engagement than trial usage of our platform or usage at levels below $5 per month. The number of Active Customer Accounts is rounded down to the nearest thousand. In the three months ended March 31, 2023 and 2022, revenue from Active Customer Accounts represented over 99% of total revenue in each period.

Dollar-Based Net Expansion Rate

Our Dollar-Based Net Expansion Rate compares the total revenue from all Active Customer Accounts in a quarter to the same quarter in the prior year. To calculate the Dollar-Based Net Expansion Rate, we first identify the cohort of Active Customer Accounts that were Active Customer Accounts in the same quarter of the prior year. The Dollar-Based Net Expansion Rate is the quotient obtained by dividing the revenue generated from that cohort in a quarter, by the revenue generated from that same cohort in the corresponding quarter in the prior year. When we calculate Dollar-Based Net Expansion Rate for periods longer than one quarter, we use the average of the applicable quarterly Dollar-Based Net Expansion Rates for each of the quarters in such period. Revenue from acquisitions does not impact the Dollar-Based Net Expansion Rate calculation until the quarter following the one-year anniversary of the applicable acquisition, unless the acquisition closing date is the first day of a quarter. As a result, for the quarter ended March 31, 2023, our Dollar-Based Net Expansion Rate excludes the contributions from acquisitions made after January 1, 2022.

We believe that measuring Dollar-Based Net Expansion Rate provides a more meaningful indication of the performance of our efforts to increase revenue from existing customers. Our ability to drive growth and generate incremental revenue depends, in part, on our ability to maintain and grow our relationships with existing Active Customer Accounts and to increase their use of our platform. An important way in which we have historically tracked performance in this area is by measuring the Dollar-Based Net Expansion Rate for Active Customer Accounts. Our Dollar-Based Net Expansion Rate increases when such Active Customer Accounts increase their usage of a product, extend their usage of a product to new applications or adopt a new product. Our Dollar-Based Net Expansion Rate decreases when such Active Customer Accounts cease or reduce their usage of a product or when we lower usage prices on a product. As our customers grow their businesses and extend the use of our platform, they sometimes create multiple customer accounts with us for operational or other reasons. As such, when we identify a significant customer organization (defined as a single customer organization generating more than 1% of revenue in a quarterly reporting period) that has created a new Active Customer Account, this new Active Customer Account is tied to, and revenue from this new Active Customer Account is included with, the original Active Customer Account for the purposes of calculating this metric.

Key Components of Statements of Operations

Revenue

Revenue. We derive the majority of our revenue from usage-based fees earned from our Twilio Communications products when customers access our cloud-based platform. Our usage-based products primarily include offerings, such as Programmable Messaging, Programmable Voice, Twilio Verify and others. Some examples of the usage-based fees that we charge include fees related to the number of text messages sent or received using our Programmable Messaging, minutes of call duration activity for our Programmable Voice and the number of authentications for Twilio Verify. In the three months ended March 31, 2023 and 2022, we generated 71% and 73% of our revenue, respectively, from usage-based fees.

We earn monthly subscription-based fees from various of our Twilio Data & Applications products and solutions on our platform, such as our customer data platform Twilio Segment, our customer engagement solution Twilio Engage, our cloud contact center Twilio Flex; as well as certain of our Twilio Communications fee-based products, such as our Email API. When our usage-based Twilio Communications products are embedded into our Twilio Data & Applications and other products, we charge for them separately on a usage basis.

Customers gain access to our products and solutions either through an e-commerce self service sign-up format which requires an upfront prepayment via credit card that is drawn down as they use our products; or for our larger customers, including enterprise customers, a negotiated contract is established for at least 12 months that contain minimum revenue commitments and which may contain more favorable pricing. Customers on such contracts are typically either invoiced monthly in arrears for products used or invoiced in advance at the start of the term.

Amounts that have been charged via credit card or invoiced are recorded in revenue, deferred revenue or customer deposits, depending on whether the revenue recognition criteria have been met. Our deferred revenue and customer deposits liability balance is not a meaningful indicator of our future revenue at any point in time because the number of contracts with our invoiced customers that contain terms requiring any form of prepayment is not significant.

We define U.S. revenue as revenue from customers with IP addresses or mailing addresses at the time of registration in the United States. We define international revenue as revenue from customers with IP addresses or mailing addresses at the time of registration outside of the United States.

As part of our expected shift to two operating segments in 2023, “Other” revenue, as described in Note 12 to the unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q, will be allocated to our two business units—Twilio Data & Applications and Twilio Communications—and in such future periods each business unit will include revenue that was not included in such business unit in the current quarter or in prior periods. Upon finalizing the shift to two operating segments, prior periods presented for purposes of comparison will be recast accordingly.

Cost of Revenue and Gross Margin

Cost of Revenue. Cost of revenue consists primarily of fees paid to network service providers. Cost of revenue also includes cloud infrastructure fees, direct costs of personnel, such as salaries and stock-based compensation for our customer support employees, and other non-personnel costs, such as depreciation and amortization expense related to data centers and hosting equipment, amortization of capitalized internal-use software development costs and acquired intangible assets.

Our arrangements with network service providers require us to pay fees based on the volume of phone calls initiated or text messages sent, as well as the number of telephone numbers acquired by us to service our customers. Our arrangements with our cloud infrastructure provider require us to pay fees based on our server capacity consumption.

Gross Margin. Gross margin is gross profit expressed as a percentage of revenue. Our gross margin has been and will continue to be affected by a number of factors, including the timing and extent of our investments in our operations; our product mix; our ability to manage our network service provider and cloud infrastructure-related fees, including A2P SMS fees; the mix of U.S. revenue compared to international revenue; changes in foreign exchange rates; the timing of amortization of capitalized software development costs and acquired intangibles; and the extent to which we periodically choose to adjust prices of our products.

Operating Expenses

The most significant components of operating expenses are personnel costs, which consist of salaries, benefits, sales commissions and bonuses and stock-based compensation. We also incur other non-personnel costs related to our general overhead expenses.

Research and Development. Research and development expenses consist primarily of personnel costs, outsourced engineering services, cloud infrastructure fees for staging and development of our products, depreciation, amortization of capitalized internal-use software development costs and an allocation of our general overhead expenses. We capitalize the portion of our software development costs that meets the criteria for capitalization.

We are focusing our research and development investment in the highest impact product areas for our future. We are investing strategically in alignment with our focus on building a trusted leading customer engagement platform.

Sales and Marketing. Sales and marketing expenses consist primarily of personnel costs, including commissions and bonuses to our sales employees. Sales and marketing expenses also include expenditures related to advertising, marketing, our brand awareness activities, costs related to our SIGNAL customer and developer conferences, credit card processing fees, professional services fees, depreciation, amortization of acquired intangible assets and an allocation of our general overhead expenses.

We focus our sales and marketing efforts on generating awareness of our company, platform and products, creating sales leads and establishing and promoting our brand, both domestically and internationally.

General and Administrative. General and administrative expenses consist primarily of personnel costs for our accounting, finance, legal, human resources and administrative support personnel. General and administrative expenses also include costs related to business acquisitions and dispositions, legal and other professional services fees, certain taxes, depreciation and amortization, charitable contributions and an allocation of our general overhead expenses.

We expect that we will incur costs associated with supporting the growth of our business and to meet the increased compliance requirements associated with our operations. We may also incur higher than usual losses related to deterioration of quality of certain financial assets caused by macroeconomic conditions.

Restructuring Costs. Restructuring costs consist primarily of personnel costs, such as employee severance payments, benefits and certain facilitation costs, associated with our workforce reductions, which are described in Note 6 to our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q. Restructuring costs also include stock-based compensation expense related to vesting of stock-based awards of the impacted employees.

Impairment of Long-Lived Assets. Impairment of long-lived assets consists primarily of impairment charges allocated to the carrying amount of certain operating right-of-use assets and the associated leasehold improvements and property and equipment when the carrying amounts exceed their respective fair values.

(Provision for) Benefit from Income Taxes

Our (provision for) benefit from income taxes consists primarily of income taxes and withholding taxes in foreign jurisdictions in which the Company conducts business.

The primary difference between our effective tax rate and the federal statutory rate relates to the valuation allowance the Company established on the federal, state and certain foreign net operating losses and credits.

Non-GAAP Financial Measures

We use the following non-GAAP financial information, collectively, to evaluate our ongoing operations and for internal planning and forecasting purposes. We believe that non-GAAP financial information, when taken collectively, may be helpful to investors because it provides consistency and comparability with past financial performance, facilitates period-to-period comparisons of results of operations and assists in comparisons with other companies, many of which use similar non-GAAP financial information to supplement their results of operations reported in accordance with generally accepted accounting principles ("GAAP"). Non-GAAP financial information is presented for supplemental informational purposes only, should not be considered a substitute for financial information presented in accordance with GAAP and may be different from similarly-titled non-GAAP measures used by other companies. Whenever we use a non-GAAP financial measure, a reconciliation is provided to the most closely applicable financial measure stated in accordance with GAAP. The users of our consolidated financial statements are encouraged to review the related GAAP financial measures and the reconciliation of these non-GAAP financial measures to their most directly comparable GAAP financial measures.

Non-GAAP Gross Profit and Non-GAAP Gross Margin

For the periods presented, we define non-GAAP gross profit and non-GAAP gross margin as GAAP gross profit and GAAP gross margin, respectively, adjusted to exclude, as applicable, certain expenses as presented in the table below:

	Three Months Ended March 31,	
	2023	**2022**
Reconciliation:	(In thousands)	
GAAP gross profit	$ 490,690	$ 425,071
GAAP gross margin	49 %	49 %
Non-GAAP adjustments:		
Stock-based compensation	5,290	4,521
Amortization of acquired intangibles	29,961	30,636
Payroll taxes related to stock-based compensation	195	—
Non-GAAP gross profit	$ 526,136	$ 460,228
Non-GAAP gross margin	52 %	53 %

Non-GAAP Operating Expenses

For the periods presented, we define non-GAAP operating expenses (including categories of operating expenses) as GAAP operating expenses (and categories of operating expenses) adjusted to exclude, as applicable, certain expenses as presented in the table below:

	Three Months Ended March 31,	
	2023	**2022**
Reconciliation:	(In thousands)	
GAAP operating expenses	$ 754,774	$ 642,879
Non-GAAP adjustments:		
Stock-based compensation	(155,176)	(150,754)
Amortization of acquired intangibles	(20,813)	(20,830)
Acquisition and divestiture related expenses	(2,235)	(660)
Loss on net assets held for sale	(3,824)	—
Payroll taxes related to stock-based compensation	(5,052)	(11,218)
Charitable contribution	(1,599)	(4,232)
Restructuring costs	(121,942)	—
Impairment of long-lived assets	(21,784)	—
Non-GAAP operating expenses	$ 422,349	$ 455,185

Non-GAAP Income (Loss) from Operations and Non-GAAP Operating Margin

For the periods presented, we define non-GAAP income (loss) from operations and non-GAAP operating margin as GAAP income (loss) from operations and GAAP operating margin, respectively, adjusted to exclude, as applicable, certain expenses as presented in the table below:

	Three Months Ended March 31,	
	2023	2022
Reconciliation:	(In thousands)	
GAAP loss from operations	$ (264,084)	$ (217,808)
GAAP operating margin	(26)%	(25)%
Non-GAAP adjustments:		
Stock-based compensation	160,466	155,275
Amortization of acquired intangibles	50,774	51,466
Acquisition and divestiture related expenses	2,235	660
Loss on net assets held for sale	3,824	—
Payroll taxes related to stock-based compensation	5,247	11,218
Charitable contribution	1,599	4,232
Restructuring costs	121,942	—
Impairment of long-lived assets	21,784	—
Non-GAAP income from operations	$ 103,787	$ 5,043
Non-GAAP operating margin	10 %	1 %

Results of Operations

The following table sets forth our results of operations for the periods presented. We have included results of operations for acquisitions closed after January 1, 2022, from the closing date of each such acquisition. The period-to-period comparison of our historical results are not indicative of the results that may be expected in the future.

	Three Months Ended March 31,	
	2023	2022
Condensed Consolidated Statements of Operations Data:	(In thousands, except share and per share amounts)	
Revenue	$ 1,006,564	$ 875,363
Cost of revenue [1] [2]	515,874	450,292
Gross profit	490,690	425,071
Operating expenses:		
Research and development [1] [2]	238,595	240,611
Sales and marketing [1] [2]	259,885	287,906
General and administrative [1] [2]	112,568	114,362
Restructuring costs [1]	121,942	—
Impairment of long-lived assets	21,784	—
Total operating expenses	754,774	642,879
Loss from operations	(264,084)	(217,808)
Other expenses, net:		
Share of losses from equity method investment	(30,419)	—
Impairment of strategic investments	(46,154)	—
Other income (expenses), net	8,985	(6,677)
Total other expenses, net	(67,588)	(6,677)
Loss before (provision for) benefit from income taxes	(331,672)	(224,485)
(Provision for) benefit from income taxes	(10,467)	2,858
Net loss attributable to common stockholders	$ (342,139)	$ (221,627)
Net loss per share attributable to common stockholders, basic and diluted	$ (1.84)	$ (1.23)
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted	186,403,349	180,898,713

[1] Includes stock-based compensation expense as follows:

	Three Months Ended March 31,	
	2023	2022
	(In thousands)	
Cost of revenue	$ 5,290	$ 4,521
Research and development	78,093	79,369
Sales and marketing	48,129	47,586
General and administrative	28,954	23,799
Restructuring costs	10,333	—
Total	$ 170,799	$ 155,275

(2) Includes amortization of acquired intangibles as follows:

	Three Months Ended March 31,	
	2023	2022
	(In thousands)	
Cost of revenue	$ 29,961	$ 30,636
Research and development	420	420
Sales and marketing	20,393	20,403
General and administrative	—	7
Total	$ 50,774	$ 51,466

The following table sets forth our results of operations for each of the periods presented as a percentage of our total revenue:

	Three Months Ended March 31,	
	2023	2022
**Condensed Consolidated Statements of Operations, as a percentage of revenue: ** **		
Revenue	100 %	100 %
Cost of revenue	51	51
Gross profit	49	49
Operating expenses:		
Research and development	24	27
Sales and marketing	26	33
General and administrative	11	13
Restructuring costs	12	—
Impairment of long-lived assets	2	—
Total operating expenses	75	73
Loss from operations	(26)	(25)
Other expenses, net		
Share of losses from equity method investment	(3)	—
Impairment of strategic investments	(5)	—
Other income (expenses), net	1	(1)
Total other expenses, net	(7)	(1)
Loss before (provision for) benefit from income taxes	(33)	(26)
(Provision for) benefit from income taxes	(1)	*
Net loss attributable to common stockholders	(34 %)	(25 %)

* Less than 0.5% of revenue.
** Columns may not add up to 100% due to rounding.

Comparison of the Three Months Ended March 31, 2023 and 2022

Revenue

	Three Months Ended March 31, 2023	Three Months Ended March 31, 2022	Change	
	(Dollars in thousands)			
Total revenue	$ 1,006,564	$ 875,363	$ 131,201	15 %

In the three months ended March 31, 2023, total revenue increased by $131.2 million, or 15%, compared to the same period last year. This increase was attributable to an increase in the usage of our products by our existing customers as reflected in our Dollar-Based Net Expansion Rate of 106%, as well as a 12% increase in the number of Active Customer Accounts, from over 268,000 as of March 31, 2022, to over 300,000 as of March 31, 2023. This growth in usage and Active Customer Accounts helped to drive a $103.9 million increase in Communications revenue and a $19.1 million increase in Data & Applications revenue during the three months ended March 31, 2023 compared to the same period last year.

In the three months ended March 31, 2023, U.S. revenue and international revenue represented $662.1 million or 66%, and $344.5 million, or 34%, respectively, of total revenue. In the three months ended March 31, 2022, U.S. revenue and international revenue represented $570.4 million, or 65%, and $305.0 million, or 35%, respectively, of total revenue. The increases in revenue in each geographical area were attributable to the growth in usage of our products by our existing customers and Active Customer Accounts as described above.

Cost of Revenue and Gross Margin

	Three Months Ended March 31, 2023	Three Months Ended March 31, 2022	Change	
	(Dollars in thousands)			
Cost of revenue	$ 515,874	$ 450,292	$ 65,582	15 %
Gross margin	49 %	49 %		

In the three months ended March 31, 2023, cost of revenue increased by $65.6 million, or 15%, compared to the same period last year. The increase in cost of revenue was primarily attributable to a $58.4 million increase in network service providers’ costs, which support the growth in usage of our products driven by the growth in Active Customer Accounts and the increase in usage of our products by existing customers as described above.

Operating Expenses

	Three Months Ended March 31,		Change	
	2023	2022		
	(Dollars in thousands)			
Research and development	$ 238,595	$ 240,611	$ (2,016)	(1)%
Sales and marketing	259,885	287,906	(28,021)	(10)%
General and administrative	112,568	114,362	(1,794)	(2)%
Restructuring costs	121,942	—	121,942	100 %
Impairment of long-lived assets	21,784	—	21,784	100 %
Total operating expenses	$ 754,774	$ 642,879	$ 111,895	17 %

In the three months ended March 31, 2023, research and development expenses decreased by $2.0 million, or 1%, compared to the same period last year. The decrease was attributable to our efforts to manage our cost structure, including the restructuring of our workforce in September 2022 and February 2023, and sunsetting of the employee sabbatical program in the three months ended March 31, 2023. As a result, total personnel costs decreased by $5.5 million, despite a 4% average increase in research and development headcount. This decrease was partially offset by increases in other operating expense categories that were not significant either individually or in the aggregate.

In the three months ended March 31, 2023, sales and marketing expenses decreased by $28.0 million, or 10%, compared to the same period last year. The decrease was attributable to our efforts to manage our cost structure, including the restructuring of our workforce in September 2022 and February 2023, and sunsetting of the employee sabbatical program in the three months ended March 31, 2023. As a results, total personnel costs decreased by $18.5 million, driven by a 12% average decrease in sales and marketing headcount. The lower sales and marketing expenses were also due to a $4.3 million decrease in advertising expenses and a $2.7 million decrease in expenses related to corporate events.

In the three months ended March 31, 2023, general and administrative expenses decreased by $1.8 million, or 2%, compared to the same period last year. The decrease was attributable to our efforts to manage our cost structure, including the restructuring of our workforce in September 2022 and February 2023, and sunsetting of the employee sabbatical program in the three months ended March 31, 2023. As a result, total personnel costs decreased by $3.6 million, driven by a 23% average decrease in general and administrative headcount. This decrease was partially offset by increases in other operating expense categories that were not significant either individually or in the aggregate.

In the three months ended March 31, 2023, we incurred $121.9 million in restructuring costs primarily as a result of our February 2023 Plan. For further detail refer to Note 6 to our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

In the three months ended March 31, 2023, we incurred $21.8 million in impairment charges related to certain of our operating lease assets and other long-lived assets as a result of our permanent office closure announcements in 2022 and in the first quarter of 2023. For further detail refer to Note 5 to our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

Liquidity and Capital Resources

As of March 31, 2023, we had cash and cash equivalents of $634.8 million and short-term marketable securities of $3.3 billion. In any given period, cash and cash equivalents may consist of money market funds, reverse repurchase agreements and commercial paper. Short-term marketable securities consist primarily of U.S. treasury securities, non-U.S. government securities, high credit quality corporate debt securities and commercial paper. The cash and cash equivalents and short-term marketable securities are held for working capital purposes.

Our principal sources of liquidity have been (i) the net proceeds of $979.0 million, $1.4 billion and $1.8 billion, net of underwriting discounts and offering expenses paid by us, from our public equity offerings in June 2019, August 2020 and February 2021, respectively; (ii) the aggregate net proceeds of approximately $984.7 million, after deducting purchaser discounts and debt issuance costs paid by us, from the issuance of our 2029 Notes and 2031 Notes in March 2021 (each, as defined below); (iii) the net proceeds of $228.4 million, after deducting transaction costs paid by us, from settlement of our capped call arrangements in June 2021; and (iv) the payments received from customers using our products.

Our primary uses of cash include operating costs, such as personnel-related costs, network service provider costs, cloud infrastructure costs, facility-related spending, as well as, from time to time, acquisitions, investments and share repurchases. Our principal contractual and other commitments consist of obligations under our 2029 Notes and 2031 Notes, our operating leases for office space that we occupy, sublease or hold to sublease, and contractual commitments to our cloud infrastructure and network service providers. Refer to Note 11 and Note 13(a) to our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q for discussions of our obligations and commitments related to leases, debt and other purchase obligations.

We may, from time to time, consider acquisitions of, or investments in, complementary businesses, products, services, capital infrastructure or technologies which might affect our liquidity requirements, cause us to secure additional financing or issue additional equity or debt securities. There can be no assurance that additional credit lines or financing instruments will be available in amounts or on terms acceptable to us, if at all.

We believe that our cash, cash equivalents and marketable securities balances, as well as the cash flows generated by our operations, will be sufficient to satisfy our anticipated cash needs for working capital and capital expenditure needs, including authorized share repurchases, for the next 12 months and beyond. However, our belief may prove to be incorrect, and we could utilize our available financial resources sooner than we currently expect. Our future capital requirements and the adequacy of available funds will depend on many factors, including those set forth in Part II, Item 1A, “Risk Factors.” We may be required to seek additional equity or debt financing in order to meet these future capital requirements. In the event that additional financing is required from outside sources, we may not be able to raise it on terms acceptable to us, or at all. If we are unable to raise additional capital when desired, our business, results of operations and financial condition would be adversely affected. Additionally, cash from operations could also be affected by various risks and uncertainties in connection with the impact of an economic downturn or recession, significant market volatility in the global economy, timing and ability to collect payments from our customers and other risks detailed in Part II, Item 1A, “Risk Factors.”

Share Repurchase Program

In February 2023, our Board of Directors authorized a share repurchase program pursuant to which we may repurchase up to $1.0 billion in aggregate value of our Class A common stock. Repurchases under the program will be made through open market, private transactions or other means in compliance with applicable federal securities laws, and could include repurchases pursuant to Rule 10b5-1 trading plans. We have a discretion in determining the conditions under which shares may be repurchased from time to time. The program is set to expire on December 31, 2024.

In the first quarter of 2023, we purchased $125.0 million in aggregate value, or 1.9 million shares, of our Class A common stock on the open market under this program. Subsequent to March 31, 2023, we have repurchased additional shares of our Class A common stock for an aggregate purchase price of $125.0 million. Approximately $750.0 million of the originally authorized amount remains available for future repurchases.

2029 Notes and 2031 Notes

In March 2021, we issued and sold $1.0 billion aggregate principal amount of senior notes, consisting of $500.0 million principal amount of 3.625% notes due 2029 (the “2029 Notes”) and $500.0 million principal amount of 3.875% notes due 2031 (the “2031 Notes,” and together with the 2029 Notes, the “Notes”). The Notes are described in detail in Note 13 to our Annual Report on Form 10-K filed with the SEC on February 27, 2023.

Cash Flows

The following table summarizes our cash flows:

	Three Months Ended March 31,	
	2023	2022
	(In thousands)	
Cash used in operating activities	$ (97,866)	$ (17,575)
Cash provided by investing activities	202,465	150,967
Cash (used in) provided by financing activities	(121,538)	4,107
Effect of exchange rate changes on cash, cash equivalents and restricted cash	39	27
Net (decrease) increase in cash, cash equivalents and restricted cash	$ (16,900)	$ 137,526

Cash Flows from Operating Activities

In the three months ended March 31, 2023, cash used in operating activities consisted primarily of our net loss of $342.1 million adjusted for non-cash items, including $170.8 million of stock-based compensation expense which included the impact of our February 2023 Plan, $71.4 million of depreciation and amortization expense, $21.8 million of impairment of operating lease assets and other long-lived assets, $8.6 million of non-cash reduction in our operating right-of-use asset, $17.9 million amortization of deferred commissions, $30.4 million of our share of losses from an equity method investment, $46.2 million of impairment of an investment that we acquired in 2021, and $143.2 million of cumulative changes in operating assets and liabilities. With respect to changes in operating assets and liabilities, accounts receivable and prepaid expenses increased $86.7 million primarily due to revenue growth, timing of cash receipts and pre-payments and certain operating expenses. Accounts payable and other current liabilities increased $19.1 million primarily driven by a $33.2 million increase in the restructuring liabilities that was offset by a $15.0 million decrease in the sabbatical benefit accrual as a result of lower headcount and sunsetting of the program. Operating lease liabilities decreased $13.7 million due to payments made against our operating lease obligations. Other long-term assets increased $21.5 million primarily due to an increase in the sales commissions balances related to the growth of our business. The impairment of operating lease assets and other long lived assets and the details of the February 2023 Plan are described further in Note 5 and Note 6, respectively, to our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

In the three months ended March 31, 2022, cash used in operating activities consisted primarily of our net loss of $221.6 million adjusted for non-cash items, including $155.3 million of stock-based compensation expense, $68.1 million of depreciation and amortization expense, $12.4 million of non-cash reduction to our operating right-of-use asset, $12.6 million amortization of deferred commissions and $60.7 million of cumulative changes in operating assets and liabilities. With respect to changes in operating assets and liabilities, accounts receivable and prepaid expenses increased $33.8 million primarily due to revenue growth, the timing of cash receipts and pre-payments for cloud infrastructure fees and certain operating expenses. Accounts payable and other current liabilities increased $19.4 million primarily due to increases in transaction volumes. Operating lease liability decreased $13.1 million due to payments made against our operating lease obligations. Other long-term assets increased $27.4 million primarily due to an increase in the sales commissions balances related to the growth of our business.

Cash Flows from Investing Activities

In the three months ended March 31, 2023, cash provided by investing activities was $202.5 million primarily consisting of $219.1 million of proceeds from sales and maturities of marketable securities, net of purchases of marketable securities and other investments; $9.9 million related to capitalized software development costs and $6.8 million related to purchases of long-lived assets.

In the three months ended March 31, 2022, cash provided by investing activities was $151.0 million primarily consisting of $195.9 million of proceeds from sales and maturities of marketable securities, net of purchases of marketable securities and other investments, offset by $27.7 million of net cash paid to acquire other businesses, $10.3 million related to capitalized software development costs and $7.0 million related to purchases of long-lived assets.

Cash Flows from Financing Activities

In the three months ended March 31, 2023, cash used in financing activities was $121.5 million primarily consisting of $115.0 million of cash paid to repurchase 1.9 million shares of our Class A common stock in the open market, including related costs, and $7.4 million in principal payments on debt and finance leases, offset by $3.3 million in proceeds from stock options exercised by our employees and shares issued under our employee stock purchase plan.

In the three months ended March 31, 2022, cash provided by financing activities was $4.1 million primarily consisting of $11.7 million in proceeds from stock options exercised by our employees, offset by $6.5 million in principal payments on debt and finance leases.

Critical Accounting Policies and Estimates

Our unaudited condensed consolidated financial statements are prepared in accordance with generally accepted accounting principles in the United States of America. The preparation of these unaudited condensed consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, expenses and related disclosures. We evaluate our estimates and assumptions on an ongoing basis. Our estimates are based on historical experience and various other assumptions that we believe to be reasonable under the circumstances. Our actual results could differ from these estimates.

There have been no changes to our critical accounting policies as described in our Annual Report on Form 10-K filed with the SEC on February 27, 2023, other than the addition of a policy related to our share repurchase program as described in Note 2 to the unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

Recent Accounting Pronouncements Not Yet Adopted

Refer to Note 2 to the unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q for a discussion of recent accounting pronouncements not yet adopted.

Available Information

Our filings are available to be viewed and downloaded free of charge through our investor relations website after we file them with the SEC. Our filings include our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, our Proxy Statement for our annual meeting of stockholders, Current Reports on Form 8-K and other filings with the SEC. Our investor relations website is located at http://investors.twilio.com. The SEC also maintains a website that contains periodic and current reports, proxy statements and other information about issuers, like us, that file electronically with the SEC. The address of that website is www.sec.gov.

We webcast our earnings calls and certain events we participate in or host with members of the investment community on our investor relations website. Additionally, we provide notifications of news or announcements regarding our financial performance, including SEC filings, investor events, press and earnings releases, and blogs as part of our investor relations website. Further corporate governance information, including our corporate governance guidelines and code of business conduct and ethics, is also available on our investor relations website under the heading “Governance.” The contents of our websites are not intended to be incorporated by reference into this Quarterly Report on Form 10-Q or in any other report or document we file with the SEC, and any references to our websites are intended to be inactive textual references only.

Item 3. ***Quantitative and Qualitative Disclosures about Market Risk***

We are exposed to certain market risks in the ordinary course of our business, including sensitivities as follows:

Interest Rate Risk

We had cash and cash equivalents of $634.8 million and marketable securities of $3.3 billion as of March 31, 2023. In any given period, cash and cash equivalents may consist of bank deposits, money market funds, reverse repurchase agreements and commercial paper. Marketable securities consist primarily of U.S. treasury securities, non-U.S. government securities and high credit quality corporate debt securities. The cash and cash equivalents and marketable securities are held for working capital purposes. Such interest-earning instruments carry a degree of interest rate risk. To date, fluctuations in interest income have not been significant. The primary objective of our investment activities is to preserve principal while maximizing income without significantly increasing risk. We do not enter into investments for trading or speculative purposes and have not used any derivative financial instruments to manage our interest rate risk exposure. In March 2021, we issued $1.0 billion aggregate principal amount of our 2029 Notes and 2031 Notes carrying fixed interest rates of 3.625% and 3.875%, respectively. Due to the short-term nature of our investments and fixed rate nature of our debt, we have not been exposed to, nor do we anticipate being exposed to, material risks due to changes in interest rates. A hypothetical 10% change in interest rates during any of the periods presented would not have had a material impact on our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

Currency Exchange Risks

The functional currency of most of our foreign subsidiaries is the U.S. dollar. The local currencies of our foreign subsidiaries are the Australian dollar, the Bermuda dollar, the Brazilian real, the British pound, the Canadian dollar, the Colombian peso, the Czech Republic koruna, the Euro, the Hong Kong dollar, the Indian rupee, the Japanese yen, the Mexican peso, the Polish zloty, the Serbian dinar, the Singapore dollar and the Swedish krona.

The majority of our subsidiaries remeasure monetary assets and liabilities at period-end exchange rates, while non-monetary items are remeasured at historical rates. Revenue and expense accounts are remeasured at the average exchange rate in effect during the month in which a transaction occurs. If there is a change in foreign currency exchange rates, the conversion of our foreign subsidiaries’ financial statements into U.S. dollars would result in a realized gain or loss which is recorded in our consolidated statements of operations included elsewhere in this Quarterly Report on Form 10-Q.

We enter into foreign currency derivative hedging transactions to mitigate our exposure to market risks that may result from changes in foreign currency exchange rates. For further information, refer to Note 8 to our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

A hypothetical 10% change in foreign exchange rates during any of the periods presented would not have had a material impact on our unaudited condensed consolidated financial statements.

Item 4. ***Controls and Procedures***

(a) Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and our Principal Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), as of the end of the period covered by this Quarterly Report on Form 10-Q.

Based on this evaluation, our Chief Executive Officer and our Principal Financial Officer concluded that, as of March 31, 2023, our disclosure controls and procedures were effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act 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 our management, including our Chief Executive Officer and our Principal Financial Officer, as appropriate, to allow timely decisions regarding required disclosures.

(b) Changes in Internal Control

There were no changes in our internal control over financial reporting in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the three months ended March 31, 2023, that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

(c) Inherent Limitations on Effectiveness of Controls

Our management, including our Chief Executive Officer and our Principal Financial Officer, does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the organization have been detected. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

PART II

Item 1. *Legal Proceedings*

Refer to Note 13(b) to our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q for a description of our current material legal proceedings.

Item 1A. *Risk Factors*

Investing in our Class A common stock involves a high degree of risk. A description of the risks and uncertainties associated with our business is set forth below. You should carefully consider the risks and uncertainties described below, together with all of the other information in this Quarterly Report on Form 10-Q, including the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our condensed consolidated financial statements and related notes, before making a decision to invest in our Class A common stock. The risks and uncertainties described below may not be the only ones we face. If any of the risks actually occur, our business, results of operations and financial condition could be adversely affected. In that event, the market price of our Class A common stock could decline, and you could lose part or all of your investment.

Risk Factor Summary

Our business operations are subject to numerous risks and uncertainties, including those outside of our control, that could cause our business, results of operations, and/or financial condition to be harmed, including risks regarding the following:

<u>Risks Related to Our Business and Industry</u>

- *the impact of macroeconomic uncertainties;*
- *fluctuations in our quarterly results and our ability to meet securities analysts' and investors' expectations;*
- *the effectiveness of actions taken to restructure our business in alignment with our strategic priorities;*
- *the potential disruption caused by the reorganization of our business into business units;*
- *our ability to maintain and grow our relationships with existing customers such that they increase their usage of our platform;*
- *our ability to attract new customers in a cost-effective manner and increase adoption of our products by enterprises;*
- *the evolution of the market for our products and platform, including the continued adoption of such by developers;*
- *our ability to effectively manage our growth;*
- *our ability to compete effectively in an intensely competitive market;*
- *our history of losses and uncertainty about our future profitability;*
- *our ability to hire, integrate and retain highly skilled personnel;*

- *our ability to maintain and enhance our brand and increase market awareness of our company and products;*
- *our ability to adapt and respond effectively to rapidly changing technology, evolving industry standards, changing regulations, and changing customer needs, requirements or preferences;*
- *disruptions or deterioration in the quality of service and connectivity by third-party service providers;*
- *a failure to set optimal prices for our products;*
- *significant risks associated with expansion of our international operations;*
- *our reliance on our largest customers to generate a significant amount of our revenue;*
- *our ability to integrate and achieve the expected benefits of acquisitions, partnerships and investments;*

Risks Related to Cyber Security, Data Privacy and Intellectual Property

- *any breaches of our networks or systems, or those of AWS or our service providers;*
- *our substantial reliance on AWS to operate our platform;*
- *our actual or perceived failure to comply with increasingly stringent laws, regulations and obligations relating to privacy, data protection and data security;*
- *our ability to protect our intellectual property rights;*
- *our use of open source software;*

Risks Related to Legal and Regulatory Matters

- *our ability to comply with telecommunications-related regulations, and the impact of future legislative or regulatory actions;*
- *our ability to obtain or retain geographical, mobile, regional, local or toll-free numbers and to effectively process requests to port such numbers in a timely manner due to industry regulations;*
- *federal legislation and international laws imposing obligations on the senders of commercial emails;*
- *fraudulent usage of or activity relating to our products;*
- *changes in laws and regulations related to the Internet or its infrastructure;*
- *compliance with applicable laws and regulations, including export control, economic trade sanctions, and anti-corruption regulations;*
- *standards imposed by private entities and inbox service providers that interfere with the effectiveness of our platform;*
- *any legal proceedings or claims against us;*

Risks Related to Financial and Accounting Matters

- *exposure to foreign currency exchange rate fluctuations;*
- *our substantial indebtedness that may decrease our business flexibility;*
- *our ability to obtain additional capital to support our business and its availability on acceptable terms;*
- *the accuracy of our estimates and judgments related to our critical accounting policies;*
- *changes in accounting standards that may cause adverse financial reporting fluctuations;*
- *our failure to maintain an effective system of disclosure controls and internal control over financial reporting;*

Risks Related to Tax Matters

- *our ability to use our net operating losses and certain other tax attributes to offset future taxable income and taxes;*
- *additional tax liabilities or potentially adverse tax consequences on our global operations and structure;*
- *changes in tax rules and regulations;*

Risks Related to Ownership of Our Class A Common Stock

- *volatility of the trading price of our Class A common stock;*
- *potential decline in the market price of our Class A common stock due to substantial future sales of shares;*
- *the dual class nature of our stock;*
- *the possibility that we may not realize the anticipated long-term stockholder value of our share repurchase program;*
- *securities or industry analysts changing their recommendations regarding our Class A common stock; and*
- *anti-takeover provisions contained in our governing documents and the exclusive forum provision in our bylaws.*

Risks Related to Our Business and Our Industry

Global economic and political conditions, including macroeconomic uncertainties, may continue to adversely impact our business, results of operations and financial condition.

Global economic and business activities continue to face widespread macroeconomic uncertainties, including changes in the labor market and supply chain disruptions, inflation and monetary supply shifts, volatility in the banking and financial services sectors, and recession risks, which may continue for an extended period. Additionally, the instability in the geopolitical environment in many parts of the world, including from the war in Ukraine, may continue to put pressure on and lead to uncertain economic conditions. These macroeconomic conditions have resulted in, and may continue to result in, decreased business spending by our current and prospective customers and business partners, reduced demand for our products, lower renewal rates by our customers, longer or delayed sales cycles, including current and prospective customers delaying contract signing or contract renewals, reduced budgets or minimum commitments related to the products that we offer, or delays in customer payments or our ability to collect accounts receivable, all of which could have an adverse impact on our business, results of operations and financial condition.

The current macroeconomic environment has constrained the budgets and financial resources of some of our current and prospective customers, which has caused the impacted current and prospective customers to become more budget-conscious, to delay and/or reduce spending. Given that a majority of our revenue is usage-based and impacted by general consumer sentiment and activity, our business may be more immediately and severely impacted by adverse macroeconomic conditions than those that rely primarily on software-as-a-service (“SaaS”) subscription revenue. The current macroeconomic environment has caused certain customers without long-term contracts with us to reduce or terminate their usage of our products without notice or termination changes, which has negatively impacted, and may in the future negatively impact, Communications revenue. Similarly, the current macroeconomic environment has caused certain customers to renegotiate existing contracts on less advantageous terms to us than those currently in place, default on payments due on existing contracts, or fail to renew at the end of their current contract term, which has had a negative impact on our Data & Applications revenue. A prolonged economic slowdown could exacerbate these negative effects on revenue and revenue growth in both our Communications and Data & Applications business units Additionally, when customers fail to pay us or reduce their spending with us, we may be adversely affected by an inability to collect amounts due, the costs of enforcing the terms of our contracts, including through litigation, and/or a reduction in revenue. For example, in February 2023, one of our customers, Oi SA, a Brazilian telecom company, initiated reorganization proceedings in a Brazilian bankruptcy court as well as a secondary proceeding under Chapter 15 in the United States and exposed us to risks on collections of pre-petition receivables and ongoing revenue.

Many of our customers are in industries that have been negatively impacted by recent macroeconomic conditions, including customers in social media, cryptocurrencies, retail and e-commerce, consumer packaged goods, direct-to-consumer and other industries dependent on consumer spending, and the concentration of our customer base within these industries could exacerbate the effects of weakening macroeconomic conditions on our business. For example, we have generally experienced, and expect to continue to experience, longer sales cycles when engaging with current and potential customers in industries negatively impacted by macroeconomic conditions. Our products are also utilized by many small and medium-sized businesses, which have been, and may continue to be, adversely affected by the current economic downturn to a greater extent than larger enterprises with greater financial resources. To the extent that the effects of the current macroeconomic environment continue to adversely affect our business and the businesses of our current and prospective customers, our results of operations and financial condition may continue to be harmed and, many of the other risks described in this “Risk Factors” section will be exacerbated.

Our quarterly and annual results of operations have fluctuated in the past and may continue to do so in the future. As a result, we may fail to meet securities analysts’ and investors’ expectations, which could cause the price of our Class A common stock to decline.

Our quarterly and annual results of operations, including our revenue, cost of revenue, gross margin and operating expenses, have fluctuated in the past and may continue to do so in the future due to a variety of factors, many of which are outside of our control. These fluctuations and the related impacts to any earnings guidance we may issue from time to time could cause the price of our Class A common stock to change significantly or experience declines. In addition to the other risks described in this “Risk Factors” section, some of the factors that may result in fluctuations to our results of operations include:

- fluctuations in demand for, pricing of, or usage of, our products, including due to the effects of global macroeconomic conditions, competition, and differing levels of demand for our products based on changing customer priorities, resources, financial conditions and economic outlook;

- general economic conditions, including a downturn or recession, rising inflation and rising interest rates, geopolitical uncertainty and instability;

- the expected costs and benefits of our business unit reorganization and changes to our leadership structure;
- the amount and timing of costs, including any adverse effects associated with, our recent workforce reductions;
- our ability to attract and retain new customers, obtain renewals from existing customers and cross-sell or otherwise increase revenue from existing customers;
- our ability to introduce new products and enhance existing products;
- our ability to leverage more of our self-service capabilities for customers;
- competition and the actions of our competitors, including pricing changes and the introduction of new products, services and geographies;
- significant security breaches or incidents impacting our platform, or interruptions to, the delivery and use of our products;
- changes in cloud infrastructure, network services and other third-party technology, including the fees charged by their providers;
- the rate productivity of our salesforce, including our enterprise salesforce;
- the length and complexity of the sales cycle for our products, especially for sales to larger enterprises, government and regulated organizations;
- changes in the mix of products that our customers use during a particular period;
- changes in the mix or amount of products sold in the United States versus internationally;
- the amount and timing of operating costs and capital expenditures related to the operations and expansion of our business;
- expenses in connection with mergers, acquisitions, dispositions, or other strategic transactions;
- the timing of customer payments and our ability to collect accounts receivable from customers;
- rising inflation and our ability to control costs, including our operating expenses;
- the amount and timing of costs associated with recruiting, training and integrating new employees, and retaining existing employees;
- changes in foreign currency exchange rates and our ability to effectively hedge our foreign currency exposure;
- extraordinary expenses such as litigation or other dispute-related settlement payments;
- changes in laws, industry standards and regulations that affect our business;
- sales tax and other tax determinations by authorities in the jurisdictions in which we conduct business;
- the impact of new accounting pronouncements; and
- fluctuations in stock-based compensation expense.

The occurrence of one or more of the foregoing and other factors may cause our results of operations to vary significantly. As such, comparing our operating results on a period-to-period basis may not be meaningful and should not be relied upon as an indication of future performance. In addition, a significant percentage of our operating expenses is fixed in nature and is based on forecasted revenue trends. Accordingly, in the event of a revenue shortfall, we may not be able to mitigate the negative impact on our net income (loss) and margins in the short term. If we fail to meet or exceed the expectations of investors or securities analysts, then the trading price of our Class A common stock could fall substantially, and we could face costly lawsuits, including securities class action suits.

Actions that we are taking to restructure our business in alignment with our strategic priorities may not be as effective as anticipated.

In September of 2022, we reduced our workforce by approximately 11%, and in February 2023, we reduced our workforce by an additional approximately 17%. While our reductions in force and other efforts to restructure our business were designed to reduce operating costs, improve operating margins and shift our selling capacity to accelerate software sales, we may encounter challenges in the execution of these efforts that could prevent us from recognizing the intended benefits of such efforts or otherwise adversely affect our business, results of operations and financial condition.

As a result of the reductions in force, we have incurred and may continue to incur additional costs in the short-term, including cash expenditures for employee transition, notice period and severance payments, employee benefits and related facilitation costs, as well as non-cash expenditures related to vesting of share-based awards. These additional cash and non-cash expenditures could have the effect of reducing our operating margins. Our reductions in force may result in other unintended consequences, including employee attrition beyond our intended reduction in force, which may also be further exacerbated by the actual or perceived declining value of our equity awards; damage to our corporate culture and decreased employee morale among our remaining employees, including as a result of reduced employee perks; diversion of management attention; damage to our reputation as an employer, which could make it more difficult for us to hire new employees in the future; and the loss of institutional knowledge and expertise of departing employees. If we experience any of these adverse consequences, our reductions in force and other restructuring efforts may not achieve or sustain their intended benefits, or the benefits, even if achieved, may not be adequate to meet our long-term profitability and operational expectations, which could adversely affect our business, results of operations and financial condition.

In addition, our reductions in force and other restructuring efforts could lead us to fail to meet, or cause delays in meeting, our operational and growth targets. While positions have been eliminated, functions that they performed remain necessary to our operations, and we may be unsuccessful in effectively and efficiently distributing the duties and obligations of departed employees among our remaining employees. The reduction in our workforce could also prevent us from pursuing new opportunities and initiatives or require us to adjust our growth strategy. As part of our reductions in force, we have reduced the size of our sales force to drive further efficiencies in our sales operations. As the size of our workforce decreases, we will increasingly rely on our self-service model to drive sales of our communications products to customers that do not require direct account coverage. Our self-service capabilities may not be as successful as we anticipate, and our efforts to accelerate software sales may not be effective or may take longer than we expect to drive growth. If these factors lead us to fail to meet our operational and growth targets or to delays in meeting such targets, our business, results of operations and financial condition may be adversely affected.

As we continue to identify areas of cost savings and operating efficiencies, we may consider implementing further measures to reduce operating costs and improve operating margins. We may not be successful in implementing such initiatives, including as a result of factors beyond our control. If we are unable to realize the anticipated savings and efficiencies from our reductions in force, other restructuring efforts and future strategic initiatives, our business, results of operations and financial condition could be harmed.

In the first quarter of 2023, we reorganized our business into business units. These changes may be disruptive to our business and may not have the desired effects.

As we announced in February 2023, in the first quarter of 2023, we reorganized our business into two business units – Twilio Communications and Twilio Data & Applications – to enable us to develop the organization and systems to successfully operate a multi-product business and to better align our sales resources with customer and market opportunities. In addition, as the business units were created based on how management views and evaluates our business, we also expect to change our operating and reporting segment structure from one reportable segment to two reportable segments in 2023, and we expect to revise our prior period presentation to conform to the new segments.

We expect that our business unit reorganization and changes in our segment reporting structure will require significant expenditures and allocation of valuable management resources and may place significant demands on our operational and financial infrastructure. This could lead to a number of risks, including: actual or perceived disruption of service or reduction in service standards to our customers; the failure to preserve adequate internal controls as we reorganize our general and administrative functions, including our information technology and financial reporting infrastructure; the failure to preserve partnership, sales and other important relationships and to resolve conflicts that may arise; loss of sales as we eliminate certain sales positions, reorganize our sales teams into business units, and focus on leveraging our self-service capabilities; failure to develop effective cross-selling motions between the businesses; failure of the business units to drive efficiencies and leverage; diversion of management attention from ongoing business activities and core business objectives in order to manage operational changes; failure to achieve our timing expectations regarding our transition from one reportable segment to two reportable segments; and the failure to maintain our corporate culture, employee morale and productivity, and to retain highly skilled employees due to reductions in our workforce and changes in leadership structure. Because of these and other factors, we cannot predict whether we will realize the purpose and anticipated benefits of Reorganization and segment reporting changes, and if we do not, our business, results of operations and financial condition could be adversely affected.

There is no guarantee that investors, analysts or the market will understand or favorably view the changes we make to our financial reporting or that any such changes will have the desired effect. Failure of investors or analysts to understand our revised segment reporting structure may negatively affect their ability to understand our business and operating results, which could adversely affect our stock price. In addition, we test for goodwill impairment at the reporting unit level and consider the difference between the fair value of a reporting unit and its carrying value when determining whether any impairment exists. There can be no assurance that the change to our segment reporting structure will not result in impairment charges in future periods, which could harm our operating results.

Our business depends on customers increasing their use of our products, and a loss of customers or decline in their use of our products could adversely affect our business, results of operations and financial condition.

Our revenue grows as customers increase their usage of a product, extend their usage of a product to new applications or adopt a new product that we offer. The majority of our revenue is usage-based and our ability to grow and generate incremental revenue depends, in part, on our ability to maintain and grow our relationships with existing customers and to have them increase their usage of our platform. If our customers do not increase their use of our products, then our revenue may decline. The majority of our customers are charged based on their usage of our products. Most customers do not have long-term contractual financial commitments to us and, therefore, most of our customers may reduce or cease their use of our products at any time without penalty or termination charges. Customers may terminate or reduce their use of our products for any number of reasons, including if they are not satisfied with our products, the value proposition of our products or our ability to meet their needs and expectations, or due to their use of competitors' products. For example, prior instances of disruptions in our cloud communications platform impacted our customers' ability to use products on our platform for up to several hours at a time. Issues with our products have caused, and may in the future cause, us to incur certain costs associated with offering credits to our affected customers, which have had, and in the future may have, an adverse impact on customer satisfaction and our ability to retain or attract customers.

Additionally, we believe our ability to provide customers with high-quality, effective customer support services at all stages of the process is a crucial component of maintaining customer satisfaction, generating increased customer usage of our products and ultimately retaining customers. Our inability to devote sufficient resources to effectively assist our customers could adversely affect our ability to retain existing customers and could disincentivize prospective customers from adopting our products. We may be unable to respond quickly enough to accommodate short-term increases in demand for customer support. We also may be unable to modify the nature, scope and delivery of our customer support in order to compete with changes in the support services provided by our competitors. Our sales are highly dependent on our business reputation and on positive recommendations from our customers. Our inability to provide high-quality customer support, or a market perception that we do not maintain high-quality customer support, could erode the trust of current and potential customers and adversely affect our reputation.

Customer usage of our products is generally outside of our control and therefore it is difficult to accurately predict customers' usage levels. The loss of customers or reductions in their usage levels of our products may each have a negative impact on our business, results of operations and financial condition. Our Dollar-Based Net Expansion Rate may decline in the future if customers are not satisfied with our products and related customer service experience, the value proposition of our products or our ability to meet their needs and expectations. If a significant number of customers cease using, or reduce their usage of our products, including due to cost-saving measures in the face of macroeconomic uncertainty or changes in the competitive landscape, then we may be required to spend significantly more on sales and marketing than we currently expect in order to maintain or increase revenue from customers. Such additional sales and marketing expenditures could adversely affect our business, results of operations and financial condition.

If we are unable to attract new customers in a cost-effective manner, sell additional products to our existing customers or develop new products and enhancements to our products that achieve market acceptance then our business, results of operations and financial condition would be adversely affected.

To grow our business, we must continue to attract new customers in a cost-effective manner, increase revenue from existing customers, and increase gross margins, each of which depends in part on our ability to enhance and improve our existing products, increase adoption and usage of our products, and introduce new products, particularly products with higher gross margins. We use a variety of marketing channels to promote our products and platform, such as developer events and developer evangelism, search engine marketing and optimization, regional customer events, email campaigns, billboard advertising and public relations initiatives. If the costs of the marketing channels we use increase, then we may choose to use alternative and less expensive channels, which may not be as effective as the channels we currently use. We have made in the past, and may make in the future, significant expenditures and investments in new marketing campaigns, and we cannot guarantee that any such investments will lead wider adoption of our products or to the cost-effective acquisition of additional customers. If we are unable to maintain effective marketing programs, then our ability to efficiently attract new customers could be adversely affected and we may not be able to attract the number and types of new customers we are seeking.

In addition, our ability to attract new customers and increase revenue from existing customers depends in large part on our ability to enhance and improve our existing products and to introduce compelling new products that reflect the changing nature of our markets, technological advances and industry standards. The success of any enhancements or new products depends on several factors, including timely completion, adequate quality testing, actual performance quality, market-accepted pricing levels and overall market acceptance. Enhancements and new products that we develop may not be introduced in a timely or cost-effective manner, may contain errors or defects, may require reworking features and capabilities, may have interoperability difficulties with our platform or other products or may not achieve the broad market acceptance necessary to generate significant revenue or increase our gross margins. Furthermore, our ability to increase the usage of our products depends, in part, on the development of new use cases for our products, which is typically driven by our developer community and may be outside of our control. Our ability to generate usage of additional products by our customers may also require increasingly sophisticated and more costly sales efforts and result in a longer sales cycle. If we are unable to successfully enhance our existing products to meet evolving customer requirements, increase adoption and usage of our products, develop and drive adoption of new products, and increase our gross margins, or if our efforts to increase the usage of our products are more expensive than we expect, then our business, results of operations and financial condition would be adversely affected. The adoption of our products, and the development of enhancements and new products, also depends, in part, on our ability to anticipate complex and uncertain emerging technologies, changes to customers’ needs and expectations, and shifts in industry standard practices. Anticipating these factors requires that we allocate significant resources without any guarantee that any such investments and efforts will result in wider adoption of our products in the marketplace. If we are unable to adequately anticipate these changes, then our business and financial condition could be adversely affected.

Additionally, the success of our existing products and any new products we introduce depends, in part, on our ability to integrate them with third-party products used by us or our customers. The providers of such third-party products may modify the features, functionality, pricing, and other terms and conditions with respect to such products in a manner adverse to us and to our customers that use such third-party products in connection with our products. If we are unable to maintain the integrations between our products with such third-party products, our ability to meet the needs and expectations of our current and prospective customers could be adversely affected and adversely affect our business.

If we are unable to successfully enhance our existing products to meet evolving customer requirements, increase adoption and usage of our products, develop and drive adoption of new products, maintain integrations with third-party products, anticipate changes in technology, customers’ needs and expectations, or industry standards, and increase our gross margins, or if our efforts to increase the usage of our products are more expensive than we expect, then our business, results of operations and financial condition would be adversely affected.

If we are unable to increase adoption of our products by enterprises, our business, results of operations and financial condition may be adversely affected.

Historically, a majority of our revenue has been generated as a result of software developers adopting our products through our self-service model. Our ability to increase our customer base, especially among enterprises, and achieve broader market acceptance of our products will depend, in part, on our ability to effectively organize, focus and train our sales, marketing and other employees. Our ability to convince enterprises to adopt our products will depend, in part, on our ability to attract and retain sales employees with experience selling to enterprises. We believe that there is significant competition for experienced sales professionals with the skills and technical knowledge that we require. Even if we are successful in hiring qualified sales employees, new hires require significant training and experience before they achieve full productivity, particularly for sales efforts targeted at enterprises and new territories. Our recent hires and planned hires may not become as productive as quickly as we expect, and we may encounter difficulties or be unable to hire or retain sufficient numbers of qualified individuals in the future in the markets where we do business. Because we do not have a long history of targeting our sales efforts at enterprises, we cannot predict whether, or to what extent, our sales will increase as we organize and train our sales force or how long it will take for sales employees to become productive.

As we seek to increase the adoption of our products by enterprises, including products like Segment and Engage, which are primarily aimed at complex customer data platform implementations at larger companies, and Flex, which is primarily aimed at complex contact center implementations at larger companies, we expect to incur higher costs and longer sales cycles. In the enterprise market segment, the decision to adopt our products may require the approval of multiple technical and business decision makers, including legal, security, compliance, procurement, operations and information technology ("IT"). In addition, while enterprise customers may quickly deploy our products on a limited basis, before they will commit to deploying our products at scale, they often require extensive education about our products and significant customer support time and also engage in protracted pricing and contract negotiations, which may be exacerbated by changing inflationary pressure and reduced IT budgets and may result in higher costs and longer sales cycles. In addition, sales cycles for enterprises are inherently more complex and less predictable than the sales through our self-service model, and some enterprise customers may not use our products enough to generate revenue that justifies the cost to obtain such customers. These complex and resource-intensive sales efforts could place additional strain on our product and engineering resources. Further, enterprises, including some of our customers, may choose to develop their own solutions that do not include our products. They may also demand reductions in pricing as their usage of our products increases, notwithstanding increased costs incurred by us to provide such products, which could have an adverse impact on our gross margin. Additionally, economic recessions or slowdowns can result in our enterprise customers terminating their arrangements with us, longer sales cycles, and reduced or limited contract values as enterprise organizations focus on general cost reductions in the face of macroeconomic uncertainty. As a result of our limited experience selling and marketing to enterprises, our efforts to sell to these potential customers may not be successful. If we are unable to increase the revenue that we derive from enterprises, then our business, results of operations and financial condition may be adversely affected.

The market for our products and platform continues to evolve, and may decline or experience limited growth, and is dependent in part on developers continuing to adopt our platform and use our products.

The market for our products and platform continues to evolve, which makes our business and future prospects difficult to evaluate. We believe that our revenue currently constitutes a significant portion of the total revenue in the market, and therefore, we believe that our future success will depend in large part on the growth, if any, and evolution of this market. If developers and organizations do not recognize the need for and benefits of our products and platform, they may decide to adopt alternative products and services to satisfy some portion of their business needs. In order to grow our business and extend our market position, we intend to focus on educating developers and other potential customers about the benefits of our products and platform, expanding and improving the functionality of our products and bringing new technologies to market to increase market acceptance and use of our platform. Our growth will depend, in part, on our ability to leverage more of our self-service capability for developers that do not need direct account coverage. We will also continue to prioritize accelerating software sales, which could have an impact on our results of operations. Our ability to expand the market that our products and platform address depends upon a number of factors, including the cost, performance and perceived value associated with such products and platform. The market for our products and platform could fail to grow significantly, or at all, or there could be a reduction in demand for our products as a result of any number of factors, including a lack of developer acceptance, technological challenges, competing products and services, decreases in spending by current and prospective customers, weakening economic conditions, including due to labor shortages, supply chain disruptions and inflationary pressures and other causes. If our market does not experience significant growth or demand for our products decreases, then our business, results of operations and financial condition could be adversely affected.

If we fail to effectively manage our growth, then our business, results of operations and financial condition could be adversely affected.

Although we cannot provide any assurance that our business will continue to grow at the same rate or at all in the future, we have experienced substantial growth in our business and operations in recent years, which has placed, and may continue to place, significant demands on our management and our operational and financial resources, especially as we continue to focus on improving our operating efficiency. Although we committed to workforce reduction plans in September 2022 and February 2023 to reduce operating costs, improve operating margins and accelerate profitability, we may experience employee growth in the future. We have also experienced significant growth in the number of customers, usage and amount of data that our platform and associated infrastructure support. As a result of this growth, our organizational structure is becoming more complex as we improve our operational, financial and management controls as well as our reporting systems and procedures. The expansion of our systems and infrastructure, as well as the changes arising from the Reorganization, will require us to commit substantial financial, operational, and technical resources. Our revenue may not increase as a result of our investments in these areas and, if revenue does increase, it may not increase enough to offset these investments, or it may take several periods before we begin to see the benefits of these investments. If we are unable to adequately manage our growth and other business changes in a manner that preserves the key aspects of our corporate culture, including as a result of our recent reductions in force and the Reorganization, the quality and performance of our products may suffer, which could negatively affect our brand, reputation and ability to retain and attract customers and employees. Finally, if we are unable to maintain reliable service levels for our customers or if the level of efficiency in our organization suffers as we grow and transform our operating model, then our business, results of operations and financial condition could be adversely affected.

The market in which we participate is intensely competitive, and if we do not compete effectively, our business, results of operations and financial condition could be harmed.

The market for customer engagement platform is rapidly evolving, significantly fragmented and highly competitive, with relatively low barriers to entry in some segments. The principal competitive factors in our market include completeness of offering, credibility with customers, global reach, ease of integration and programmability, product features, platform scalability, reliability, deliverability, security and performance, brand awareness and reputation, the strength of sales and marketing efforts, customer support, as well as the cost of deploying and using our products. In our Communications business, our competitors are primarily (i) regional network service providers that offer limited developer functionality on top of their own physical infrastructure, (ii) CPaaS companies that offer communications products and applications, and (iii) other software companies that compete with portions of our communications product line. In our Data & Applications business our competitors are primarily (i) legacy on-premises vendors, (ii) SaaS companies and marketing cloud platform vendors that offer bundled applications and platforms, and (iii) CRM and customer experience vendors.

Some of our competitors and potential competitors are larger and have greater name recognition, longer operating histories, more established customer relationships, larger budgets, lower operating costs, and significantly greater resources than we do. As a result, our competitors may be able to respond more quickly and effectively than we can to new or changing opportunities, technologies, standards, customer requirements or changing economic conditions. Our competitors may also offer products or services that address one or a limited number of functions at lower prices, with greater depth than our products or in different geographies. Our current and potential competitors may develop and market new products and services with comparable functionality to our products, and this could lead to us having to decrease prices in order to remain competitive.

With the introduction of new products and services and new market entrants, we expect competition to intensify in the future. As we expand the scope of our products, we may face additional competition and, in some cases, may find our products in competition with those of our customers, which could cause them to replace our products with competitive offerings. If one or more of our competitors were to merge or partner with another of our competitors or our suppliers, the change in the competitive landscape could also adversely affect our ability to compete effectively. For example, certain of our competitors have engaged in acquisition activity and we expect that our competitors will continue to evaluate the acquisition of companies and technologies that could increase competition with our products in the future. In addition, some of our competitors have lower list prices than us, which may be attractive to certain customers even if those products have different or lesser functionality. Pricing pressures and increased competition generally could result in reduced revenue, reduced margins, increased losses or the failure of our products to achieve or maintain widespread market acceptance, any of which could harm our business, results of operations and financial condition.

Our business, results of operations and financial condition also depends, in part, on our ability to establish and maintain relationships through resellers, distributors, and strategic partners. A portion of our revenue is derived from sales made by these partners and any one of them may later decide to sell their own products or those of third parties that may be competitive with our products. A loss or reduction in sales of our products through these third-party intermediaries could adversely affect our revenue and other results of operations.

We have a history of losses and may not achieve or sustain profitability in the future.

We have incurred net losses in each year since our inception, including net losses of $342.1 million, $1.3 billion and $949.9 million in the three months ended March 31, 2023 and the years ended December 31, 2022 and 2021, respectively. We had an accumulated deficit of $3.8 billion as of March 31, 2023. We will need to generate and sustain increased revenue levels, and manage our operating expenses, in future periods to become profitable and, even if we do, we may not be able to maintain or increase our level of profitability. We expect to continue to expend substantial financial and other resources on, among other things: investments in our engineering team; improvements in security and data protection; the development of new products, features and functionality and enhancements to our platform; sales and marketing, including the continued expansion of our direct sales organization and marketing programs, especially for enterprises, organizations outside of the United States, and programs directed at increasing our brand awareness among developers, as well expansion of our self-service capabilities; expansion of our operations and infrastructure, both domestically and internationally; and general administration, including legal, accounting and other expenses related to being a public company. Our efforts to grow our business may be more costly than we expect, and we may not be able to increase our revenue enough to offset our increased operating expenses. We may incur significant losses in the future for a number of reasons, including the other risks described herein, and unforeseen expenses, difficulties, complications and delays and other unknown events. If we are unable to achieve and sustain profitability, or if we incur significant losses, the value of our business and Class A common stock may significantly decrease.

We depend largely on the continued services of highly skilled personnel, including our senior management and other key employees, and failing to attract, integrate or retain such employees could adversely affect our business, results of operations and financial condition.

Our future performance depends on the continued services and contributions of highly skilled personnel, including our senior management and other key employees, to execute on our business plan, to develop our products and platform, to deliver our products to customers, to attract and retain customers and to identify and pursue opportunities to expand our business. We believe that there is, and will continue to be, intense competition for highly skilled management, technical, sales and other employees with experience in our industry. In addition, we have experienced and may continue to experience high levels of employee attrition, which could significantly delay or prevent the achievement of our business objectives, and any resulting influx of new employees may require us to expend time, attention and resources to recruit and retain employees, restructure parts of our organization and train and integrate new personnel. We have focused our hiring efforts on areas such as Segment, Engage and Flex, and we have frozen the vast majority of new hires and backfills outside of these core areas. If we fail to effectively manage attrition, and to hire, integrate and adequately incentivize our personnel, our efficiency and ability to meet our operational and growth targets, as well as our corporate culture, employee morale, productivity and retention, could suffer, and our business and operating results would be adversely impacted. Additionally, loss of services of senior management or other key employees could significantly delay or prevent the achievement of our development and strategic objectives. In particular, we depend to a considerable degree on the vision, skills, experience and effort of our co-founder and Chief Executive Officer, Jeff Lawson. Any of our executive officers may terminate employment with us at any time with no advance notice. We have experienced, and may continue to experience, high attrition among our senior management team and key employees. The replacement of any of our senior management or other key employees will involve significant time and costs, and any loss of services of any such key employee for any reason could significantly delay or prevent the achievement of our business objectives and could adversely affect our business, results of operations and financial condition.

The labor market for our business is subject to external factors that are beyond our control, including our industry's highly competitive market for skilled workers and leaders, inflation, effects that the COVID-19 pandemic has had on the labor market, and workforce participation rates. We must provide competitive compensation packages and a high-quality work environment to hire, retain and motivate employees. Volatility in, or the actual or perceived lack of performance of, our stock price may affect our ability to attract, motivate and retain key employees. In September 2022 and February 2023, we implemented reductions in force, which may have an impact on our ability to hire, retain and motivate employees. If we are unable to retain and motivate our existing employees and attract qualified employees to fill key positions, we may be unable to manage our business effectively, including the development, marketing and sale of our products, which could adversely affect our business, results of operations and financial condition.

Further, we believe that a critical contributor to our success and our ability to attract, recruit, hire and retain highly skilled personnel has been our corporate culture. As we grow and experience organizational changes, including as a result of the reductions in force and the Reorganization, we may find it difficult to maintain important aspects of our corporate culture. While we are taking steps to develop a more inclusive and diverse workforce, there is no guarantee that we will be able to do so. Our inability to preserve our culture, or to reshape our culture, as we grow and transform our operating model could limit our ability to innovate and could negatively affect our ability to retain and recruit personnel, continue to perform at current levels or execute on our business strategy, any one of which could adversely affect our business, results of operations and financial condition.

If we are not able to maintain and enhance our brand and increase market awareness of our company and products, then our business, results of operations and financial condition may be adversely affected.

We believe that maintaining and enhancing the "Twilio" brand identity and increasing market awareness of our company and products, particularly among developers and enterprises, is critical to achieving widespread acceptance of our platform, to strengthen our relationships with our existing customers and to our ability to attract new customers. The successful promotion of our brand will depend largely on our continued marketing efforts, our ability to continue to offer high-quality products, and our ability to successfully differentiate our products and platform from competing products and services. Our brand promotion and thought leadership activities may not be successful or yield increased revenue. In addition, independent industry analysts often provide reviews of our products and competing products and services, which may significantly influence the perception of our products in the marketplace. If these reviews are negative or not as strong as reviews of our competitors' products and services, then our brand may be harmed.

The promotion of our brand also requires us to make substantial expenditures, and we anticipate that these expenditures will increase as our market becomes more competitive and as we expand into new markets. To the extent that these activities increase revenue, this revenue still may not be enough to offset the increased expenses we incur, including, but not limited to, as a result of recent inflationary pressures.

If we are unable to adapt and respond effectively to rapidly changing technology, evolving industry standards, changing regulations, evolving interoperability requirements, and changing customer needs, requirements or preferences, our products may become less competitive.

The market for communications in general, and cloud communications in particular, is subject to rapid technological change, evolving industry standards, changing regulations, as well as changing customer needs, requirements and preferences. These are all uncertain and we cannot predict the consequences, effects, or introduction of new, disruptive, emerging technologies or the manner and pace at which our market develops over time, and our ability to compete in our market depends on predicting and adapting to these changing circumstances. The success of our business will depend, in part, on our ability to adapt and respond effectively to these changes on a timely basis. If we are unable to develop new products that satisfy our customers and provide enhancements and new features for our existing products that keep pace with rapid technological and industry change, including but not limited to Signature-based Handling of Asserted Information Using toKENs ("SHAKEN") and Secure Telephone Identity Revisited ("STIR") standards (together, "SHAKEN/STIR") and applicable industry standards, our business, results of operations and financial condition could be adversely affected. If new technologies emerge that are able to deliver competitive products and services at lower prices, more efficiently, more conveniently or more securely or new products are introduced into the market that could render our products obsolete, such technologies and products could adversely impact our ability to compete effectively and may lead to customers reduce or terminate their usage of our products.

Our platform must integrate with a variety of network, hardware, mobile and software platforms and technologies, and we need to continuously modify and enhance our products and platform to adapt to changes and innovation in these technologies. For example, Apple, Google and other cell-phone operating system providers or inbox service providers have developed and, may in the future develop, new applications or functions intended to filter spam and unwanted phone calls, messages or emails. Third party platforms may also implement changes to their privacy policies or practices that may impact us or our customers. In addition, our network service providers may adopt new filtering technologies in an effort to combat spam or robocalling. Such technologies may inadvertently filter desired messages or calls to or from our customers. If cell-phone operating system providers, network service providers, our customers or their end users adopt new software platforms or infrastructure, we may be required to develop new versions of our products to work with those new platforms or infrastructure. This development effort may require significant resources, which would adversely affect our business, results of operations and financial condition. Any failure of our products and platform to operate effectively with evolving or new platforms and technologies could reduce the demand for our products. If we are unable to respond to these changes in a cost-effective manner, our products may become less marketable and less competitive or obsolete, and our business, results of operations and financial condition could be adversely affected.

To deliver our products, we rely on network service providers and internet service providers for our network service and connectivity, and disruption or deterioration in the quality of these services or changes in network service provider fees that we pay in connection with the delivery of communications on our platform could adversely affect our business, results of operations and financial condition.

We currently interconnect with fixed and mobile network service providers around the world to enable the use by our customers of our products over their networks. Although we are in the process of acquiring authorization in many countries for direct access to phone numbers and for the provision of voice and messaging services on the networks of fixed and mobile network service providers, we expect that we will continue to rely on network service providers for these services. Where we do not have direct access to phone numbers, our reliance on network service providers has reduced our operating flexibility, ability to make timely service changes and control quality of service. In addition, the fees that we are charged by network service providers may change daily or weekly and we can be subject to the imposition of additional fees, penalties, or other administrative or technical requirements, and even service interruption, due to regulatory, competitive, or other industry related changes over which we have little to no control. We typically do not change our customers' pricing as rapidly and, as a result, such fee increases could adversely affect our business and results of operations.

For example, in recent years, multiple major U.S. mobile carriers have introduced Application to Person ("A2P") SMS service offerings that added a new fee for A2P SMS messages delivered to their respective subscribers, and, from time-to-time, other U.S. mobile carriers have added similar fees. While we have historically responded to these types of fee increases through a combination of further negotiating efforts with our network service providers, absorbing the increased costs or changing our prices to customers, there is no guarantee that we will continue to be able to respond in these ways in the future without a material negative impact to our business. In the case of these new carriers' A2P SMS fees, after a short phase-in period where we absorbed the fees, we began on May 1, 2021 to pass these fees directly through to our customers who are sending SMS messages to these carriers' subscribers. Passing these fees through to our customers typically has the effect of increasing our revenue and cost of revenue, but typically does not impact the gross profit dollars received for sending these messages and, as a result, has a negative impact on our gross margins. Additionally, our ability to respond to any new fees may be constrained if all network service providers in a particular market impose equivalent fee structures, if the magnitude of the fees is disproportionately large when compared to the underlying prices paid by our customers, or if the market conditions limit our ability to increase the price we charge our customers.

Furthermore, many of these network service providers do not have long-term committed contracts with us and may interrupt services or terminate their agreements with us without notice. If a significant portion of our network service providers stop providing us with access to their infrastructure, fail to provide these services to us on a cost-effective basis, cease operations, or otherwise terminate these services, the delay caused by qualifying and switching to other network service providers could be time consuming and costly and could adversely affect our business, results of operations and financial condition. Further, if problems occur with our network service providers, it may cause errors, service outages, or poor-quality communications on our products, and we could encounter difficulty identifying the source of the problem. The occurrence of errors, service outages, or poor-quality communications on our products, whether caused by our platform or a network service provider, may result in the loss of our existing customers or the delay of adoption of our products by potential customers and may adversely affect our business, results of operations and financial condition.

Further, we sometimes access network services through intermediaries who have direct access to network service providers. Although we are in the process of securing direct connections with network service providers in many countries, we expect that we will continue to rely on intermediaries for these services for some period of time. These intermediaries sometimes have offerings that directly compete with our products and may stop providing services to us on a cost-effective basis. If a significant portion of these intermediaries stop providing services or stop providing services on a cost-effective basis, our business could be adversely affected.

We also interconnect with internet service providers around the world to enable the use of our email products by our customers, and we expect that we will continue to rely on internet service providers for network connectivity going forward. Our reliance on internet service providers reduces our control over quality of service and exposes us to potential service outages and rate fluctuations. The occurrence of poor-quality of service or service outages on our products may result in the loss of our existing customers or the delay of adoption of our products by potential customers and may adversely affect our business, results of operations and financial condition. Similarly, if a significant portion of our internet service providers stop providing us with access to their network infrastructure, fail to provide access on a cost-effective basis, cease operations, or otherwise terminate access, the delay caused by qualifying and switching to other internet service providers could be time consuming and costly and could adversely affect our business, results of operations, and financial condition.

Failure to set optimal prices for our products could adversely impact our business, results of operations and financial condition.

For certain of our products, we primarily charge our customers based on their use of such products ("usage-based pricing"). One of the challenges of our usage-based pricing model is the variability of the fees that we pay to network service providers over whose networks we transmit communications. Such network fees can vary daily or weekly and are affected by volume and other factors that may be outside of our control, and which are difficult to predict. This can result in us incurring increased costs that we may be unable or unwilling to pass through to our customers, which could adversely impact our business, results of operations and financial condition. If we elect to pass through increased fees to our customers, it could adversely affect our relationship with our customers and our customers may look for lower cost alternatives.

We expect that we may need to change our pricing model from time to time. In the past, we have at times reduced our prices either for individual customers in connection with long-term agreements or for a particular product. Further, as competitors introduce new products or services that compete with ours or reduce their prices, we may be unable to attract new customers or retain existing customers based on our historical pricing. As we expand internationally, we also must determine the appropriate price to enable us to compete effectively internationally. Moreover, enterprises may demand substantial price concessions. In addition, if the mix of products sold changes, including for a shift to IP-based products, then we may need to, or choose to, revise our pricing. As a result, in the future we may be required or choose to reduce our prices or change our pricing models, which could adversely affect our business, results of operations and financial condition.

We are continuing to expand our international operations, which exposes us to risks inherent in global operations.

We are continuing to expand our international operations to increase our revenue from customers outside of the United States as part of our growth strategy. In the three months ended March 31, 2023 and the year ended December 31, 2022, we derived 34% of our revenue from customer accounts located outside the United States. The future success of our business will depend, in part, on our ability to expand our customer base worldwide. Operating in international markets requires significant resources and management attention and will subject us to regulatory, economic and political risks in addition to those we already face in the United States.

In addition, we will face risks in doing business internationally that could adversely affect our business, including:

- inflation and actions taken by central banks to counter inflation;
- the difficulty of managing and staffing international operations and the increased operations, travel, infrastructure and legal compliance costs associated with servicing international customers and operating numerous international locations;
- our ability to effectively price our products in competitive international markets;
- new and different sources of competition or other changes to our current competitive landscape;
- potentially greater difficulty collecting accounts receivable and longer payment cycles;
- higher or more variable network service provider fees outside of the United States;
- the need to adapt and localize our products and support for specific countries;
- understanding, reconciling, and implementing technical controls to address, different technical standards, data privacy and telecommunications regulations, and registration and certification requirements outside the United States, which could prevent customers from deploying our products or limit their usage;
- our ability to comply with laws, regulations and industry standards relating to data privacy, data protection, data localization and data security enacted in countries and other regions in which we operate or do business, including the GDPR and Brazil’s General Data Protection Law (Lei Geral de Proteção de Dados Pessoais) (Law No. 13,709/2018);
- difficulties in understanding and complying with local laws, regulations and customs in non-U.S. jurisdictions;
- compliance with export controls and economic sanctions regulations administered by U.S. and foreign governmental entities in jurisdictions in which we operate, including the Department of Commerce's Bureau of Industry and Security and the Treasury Department’s Office of Foreign Assets Control;
- compliance with various anti-bribery and anti-corruption laws such as the U.S. Foreign Corrupt Practices Act, as amended (“FCPA”) and United Kingdom Bribery Act of 2010;
- changes in international trade policies, tariffs and other non-tariff barriers, such as quotas and local content rules;
- more limited protection for intellectual property rights in some countries;
- adverse tax consequences;
- fluctuations in currency exchange rates, which could increase the price of our products outside of the United States, increase the expenses of our international operations and expose us to foreign currency exchange rate risk;
- currency control regulations, which might restrict or prohibit our conversion of other currencies into U.S. dollars;

- restrictions on the transfer of funds;
- deterioration of political relations between the United States and other countries;
- the impact of natural disasters and public health epidemics or pandemics such as COVID-19 on employees, contingent workers, partners, travel and the global economy and the ability to operate freely and effectively in a region that may be fully or partially on lockdown; and
- political or social unrest, economic instability, conflict or war in a specific country or region in which we, our customers, partners or service providers operate, which could have an adverse impact on our operations in the region or otherwise have a material impact on regional or global economies, any or all of which could adversely affect our business.

Also, due to costs from our international expansion efforts and network service provider fees outside of the United States, which generally are higher than domestic rates, our gross margin for international customers is typically lower than our gross margin for domestic customers. As a result, our gross margin has been, and may continue to be, adversely impacted as we expand our operations and customer base worldwide. Our failure to manage any of these risks successfully could harm our international operations, and adversely affect our business, results of operations and financial condition.

We currently generate significant revenue from our largest customers, and the loss or decline in revenue from any of these customers could harm our business, results of operations and financial condition.

In the three months ended March 31, 2023 and the years ended December 31, 2022 and 2021, our 10 largest Active Customer Accounts generated an aggregate of 10%, 12% and 11% of our revenue, respectively. If any of these customers, or other large customers do not continue to use our products, use fewer of our products, or use our products in a more limited capacity, or not at all, our business, results of operations and financial condition could be adversely affected. Additionally, the usage of our products by customers that do not have long-term contracts with us may change between periods. Those with no long-term contract with us may reduce or fully terminate their usage of our products at any time without notice, penalty or termination charges, which may adversely impact our results of operations.

We may not realize potential benefits from our acquisitions, partnerships and investments because of difficulties related to integration, the achievement of synergies, and other challenges.

We have acquired and invested in businesses and technologies that are complementary to our business through acquisitions, partnerships or investments, and we expect to continue to selectively evaluate strategic opportunities in the future. There can be no assurances that our businesses can be combined in a manner that allows for the achievement of substantial benefits. Any integration process may require significant time and resources, and we may not be able to manage the process successfully as our ability to acquire and integrate larger or more complex companies, products, or technology in a successful manner is unproven. If we are not able to successfully integrate these acquired businesses with ours or pursue our customer and product strategy successfully, the anticipated benefits of such acquisitions may not be realized fully or may take longer than expected to be realized. Further, it is possible that there could be a loss of our key employees and customers, disruption of ongoing businesses or unexpected issues, higher than expected costs and an overall post-completion process that takes longer than originally anticipated. In addition, the following issues, among others, must be addressed in order to realize the anticipated benefits of our acquisitions, partnerships or investments:

- combining the acquired businesses' corporate functions with our corporate functions;
- combining acquired businesses with our business in a manner that permits us to achieve the synergies anticipated to result from such acquisitions, the failure of which would result in the anticipated benefits of our acquisitions not being realized in the time frame currently anticipated or at all;
- maintaining existing agreements with customers, distributors, providers, talent and vendors and avoiding delays in entering into new agreements with prospective customers, distributors, providers, talent and vendors;
- determining whether and how to address possible differences in corporate cultures and management philosophies;
- integrating the companies' compliance, administrative and IT infrastructure;
- developing products and technology that allow value to be unlocked in the future;

- evaluating and forecasting the financial impact of such acquisitions, partnerships and investments, including accounting charges; and

- effecting potential actions that may be required in connection with obtaining regulatory approvals.

In addition, at times the attention of certain members of our management and resources may be focused on integration of the acquired businesses and diverted from day-to-day business operations, which may disrupt our ongoing business.

We have incurred, and may continue to incur, significant, nonrecurring costs in connection with our acquisitions, partnerships and investments and integrating our operations with those of the acquired businesses, including costs to maintain employee morale and to retain key employees. Management cannot ensure that the elimination of duplicative costs or the realization of other efficiencies will offset the transaction and integration costs in the near term or at all.

From time to time we may also divest or stop investing in certain businesses or products. For example, in the first quarter of 2023, we signed an agreement to divest our Internet of Things assets and liabilities to a third party. The sale of a business or product may require us to restructure operations and/or terminate employees, and could expose us to unanticipated ongoing obligations and liabilities, including as a result of our indemnification obligations. Additionally, such transactions could disrupt our customer, supplier and/or employee relationships and divert management and our employees' time and attention. During the pendency of a divestiture, we may be subject to risks related to a decline in the business, loss of employees, customers, or suppliers, and that the transaction may not close, which could have an adverse effect on the business to be divested and on us. Additionally, we may experience harm to our financial results, including loss of revenue, and we may not realize the expected benefits and cost savings of these actions and our operating results may be adversely impacted.

Risks Related to Cyber Security, Data Privacy and Intellectual Property

Breaches of or incidents impacting our networks or systems, or those of Amazon Web Services ("AWS") or our service providers, could degrade our ability to conduct our business, compromise the integrity of our products, platform and data, result in significant loss or unavailability of data and the theft of our intellectual property, damage our reputation, expose us to liability to third parties and require us to incur significant additional costs to maintain the security of our networks and data.

We depend upon our IT systems to conduct virtually all of our business operations, ranging from our internal operations and research and development activities to our marketing and sales efforts and communications with our customers and business partners. We have in the past and may in the future be subject to a variety of evolving threats, including but not limited to social-engineering attacks (including through phishing attacks), malicious code (such as viruses and worms), malware (including as a result of advanced persistent threat intrusions), denial-of-service attacks (such as credential stuffing), personnel misconduct or error, ransomware attacks, supply-chain attacks, software bugs, server malfunctions, software or hardware failures, loss or unavailability of data or other information technology assets, adware, telecommunications failures, earthquakes, fires, floods and other similar threats.

Individuals or entities may attempt to penetrate the security of our platform, or of our network or systems, and to cause harm to our business operations, including by misappropriating our proprietary information or that of our customers, employees and business partners or to cause interruptions of our products and platform. In particular, cyberattacks and other malicious internet-based activity continue to increase in frequency and in magnitude generally, and cloud-based companies have been targeted in the past. In addition to threats from traditional computer hackers, malicious code, software vulnerabilities, supply chain attacks and vulnerabilities through our third-party partners, employees theft or misuse, password spraying, phishing, smishing, vishing, credential stuffing and denial-of-service attacks, we also face threats from sophisticated organized crime, nation-state, and nation-state supported actors who engage in attacks (including advanced persistent threat intrusions) that add to the risk to our systems (including those hosted on AWS or other cloud services), internal networks, our customers' systems and the information that they store and process. Ransomware and cyber extortion attacks, including those perpetrated by organized criminal threat actors, nation-states, and nation-state-supported actors, are becoming increasingly prevalent and severe and can lead to significant interruptions in our operations, loss of data and income, reputational harm, and diversion of funds. Extortion payments may alleviate or reduce the negative impact of a ransomware attack, but we may be unwilling or unable to make such payments due to, for example, applicable laws or regulations prohibiting such payments. Because the techniques used to access, disrupt or sabotage devices, systems and networks change frequently and may not be recognized until launched against a target, we may be required to make further investments over time to protect data and infrastructure as cybersecurity threats develop, evolve and grow more complex over time. We may also be unable to anticipate these techniques, and we may not become aware in a timely manner of any security breach or incident, which could exacerbate any damage we experience.

Additionally, we depend upon our employees and contractors to appropriately handle confidential and sensitive data, including customer data, and to deploy our IT resources in a safe and secure manner that does not expose our network systems to security breaches or incidents or the loss, alteration, unavailability, or other unauthorized processing of data. We have been and expect to be subject to cybersecurity threats and incidents, including denial-of-service attacks, employee errors or individual attempts to gain unauthorized access to information systems. Any data security incidents, including internal malfeasance or inadvertent disclosures by our employees or a third party's fraudulent inducement of our employees to disclose information, unauthorized access or usage, virus or similar breach or incident or disruption of our platform, systems, or networks or those of our service providers, such as AWS, could result in loss, unavailability, or other unauthorized processing of confidential information, and any such event, or the perception that it has occurred, may result in damage to our reputation, erosion of customer trust, loss of customers, litigation, regulatory investigations, fines, penalties and other liabilities. For example, in June and August 2022, we became aware that threat actors had conducted sophisticated social engineering campaigns against some of our employees after having obtained employee names and cell phone numbers from unknown sources. The attack identified in August, which involved smishing text messages that purported to be from our IT department, resulted in the threat actor obtaining some of our employees' credentials and access to certain data of approximately 209 customers out of our total customer base of approximately 270,000 at that time. We notified and worked with our affected customers. We also notified appropriate regulators and addressed their questions about the incident. We also took steps to remediate the incident, including enhancing our security training, improving our two factor authentication requirements, implementing additional layers of control within our VPN, reducing access to certain internal applications and tools, and increasing the refresh frequency for access to certain internal applications. Industry reports indicate that the threat actors also attacked other technology, telecommunication and cryptocurrency companies.

Furthermore, we are required to comply with laws and regulations that require us to maintain the security of personal information and we may have contractual and other legal obligations to notify customers, regulators, impacted individuals or other relevant stakeholders of security breaches. Such disclosures are costly, and the disclosures or the failure to comply with such requirements could lead to adverse consequences. If we (or a third party upon whom we rely) experience a security incident or are perceived to have experienced a security incident, we may experience adverse consequences. These consequences may include: government enforcement actions and other actions or proceedings (for example, investigations, audits, and inspections), and related fines, penalties, required remedial actions, or other obligations and liabilities; additional reporting requirements and/or oversight; restrictions on processing or transferring data (including personal data); claims, demands, and litigation (including class claims); indemnification obligations; monetary fund diversions; interruptions in our operations (including availability of data); financial loss and other similar harms. Actual and perceived security incidents and attendant consequences could also lead to negative publicity and reputational harm, may cause our customers to lose confidence in the effectiveness of our security measures and require us to expend significant capital and other resources to respond to and/or mitigate the security incident. Accordingly, if our cybersecurity measures or those of AWS or our service providers fail to protect against unauthorized access, attacks (which may include sophisticated cyberattacks), compromise or the mishandling of data by our employees and contractors, then our reputation, customer trust, business, results of operations and financial condition could be adversely affected.

While we maintain errors, omissions and cyber liability insurance policies covering certain security and privacy damages, we cannot be certain that our existing insurance coverage will continue to be available on acceptable terms or will be available, and in sufficient amounts, to cover the potentially significant losses that may result from a security incident or breach or that the insurer will not deny coverage as to any future claim.

We substantially rely upon AWS to operate our platform, and any disruption of or interference with our use of AWS would adversely affect our business, results of operations and financial condition.

We outsource a substantial majority of our cloud infrastructure to AWS, which hosts our products and platform. Our customers need to be able to reliably access our platform, without material interruption or degradation of performance. AWS runs its own platform that we access, and we are, therefore, vulnerable to service interruptions at AWS. We have experienced, and expect that we may experience interruptions, delays and outages in service and availability in the future due to a variety of factors, including infrastructure changes, human or software errors, website hosting disruptions and capacity constraints. Capacity constraints could be caused by a number of potential causes, including technical failures, natural disasters, public health epidemics or pandemics (such as COVID-19), fraud or security attacks. In addition, if our security, or that of AWS, is compromised, our products or platform are unavailable, or if our users are unable to use our products within a reasonable amount of time or at all, any one of which may be due to circumstances beyond our control, then our business, results of operations and financial condition could be adversely affected. In some instances, we may encounter difficulties or otherwise not be able to identify the cause or causes of these performance problems within a period of time acceptable to our customers. It may become increasingly difficult to maintain and improve our platform performance and to troubleshoot performance issues, especially during peak usage times, as our products become more complex and the usage of our products increases. To the extent that we do not effectively address capacity constraints, either through AWS or alternative providers of cloud infrastructure, or other factors that may result in interruptions, delays and outages in service and availability of our products and/or services, our business, results of operations and financial condition may be adversely affected. In addition, if Amazon requires that we comply with unfavorable terms in order to continue our use of AWS of if Amazon implements any changes in its service levels for AWS, the changes may adversely affect our ability to meet our customers' requirements, result in negative publicity which could harm our reputation and brand and may adversely affect the usage of our platform.

The substantial majority of the services we use from AWS are for cloud-based server capacity and, to a lesser extent, storage and other optimization offerings. AWS enables us to order and reserve server capacity in varying amounts and sizes distributed across multiple regions. We access AWS infrastructure through standard IP connectivity protocols. AWS provides us with computing and storage capacity pursuant to an agreement that continues until terminated by either party. AWS may terminate the agreement if we fail to cure a breach of the agreement within 30 days of our being notified of the breach and, in some cases, AWS may suspend the agreement immediately for cause upon notice. Although we expect that we could procure similar services from other third parties, if any of our arrangements with AWS are terminated, we could experience interruptions to our platform and encounter difficulties in our ability to make our products reliably accessible by customers, as well as delays and additional expenses in procuring, implementing, and transitioning to alternative cloud infrastructure services. Any of the above circumstances or events may harm our reputation, erode customer trust, cause customers to stop using or reducing their usage of our products, discourage them from renewing their contracts, impair our ability to increase revenue from existing customers, impair our ability to grow our customer base, subject us to financial penalties and liabilities under our service level agreements and otherwise harm our business, results of operations and financial condition.

Our actual or perceived failure to comply with increasingly stringent laws, regulations and contractual obligations relating to privacy, data protection and data security could harm our reputation and subject us to significant fines and liability or loss of business.

We and our customers are subject to numerous domestic (for example, the California Consumer Privacy Act of 2018 ("CCPA")) and foreign (for example, the General Data Protection Regulation ("GDPR") in the European Union ("EU")) privacy, data protection and data security laws and regulations that restrict the collection, use, disclosure and processing of personal information, including financial and health data. These laws and regulations are expanding globally, evolving, are being tested in courts, may result in increasing regulatory and public scrutiny of our practices relating to personal information and may increase our exposure to regulatory enforcement action, sanctions and litigation.

The CCPA imposes obligations on businesses to which it applies. These obligations include, but are not limited to, providing specific disclosures in privacy notices and affording California residents certain rights related to their personal information. The CCPA allows for statutory fines for noncompliance. In addition, the California Privacy Rights Act of 2020 ("CPRA"), which became enforceable as of January 1, 2023, expanded the CCPA protections for consumers and employees. Similar laws have been enacted or been proposed at the state and federal levels. For example, Connecticut, Utah, Virginia and Colorado have each passed laws similar to but different from the CCPA and CPRA that have taken or will take effect in 2023, and Iowa has passed such a law that will take effect in 2025. If we become subject to new privacy, data protection and data security laws, the risk of enforcement action against us could increase because we may become subject to additional obligations, and the number of individuals or entities that can initiate actions against us may increase, including individuals, via a private right of action, and state actors.

Outside the United States, an increasing number of laws, regulations, and industry standards apply to privacy, data protection and data security. For example, the GDPR, the United Kingdom's Data Protection Act 2018 ("UK GDPR") and the Swiss Federal Act on Data Protection impose strict requirements for processing the personal information of individuals protected by the legislation, whether their data is processed within or outside the European Economic Area ("EEA"), the United Kingdom ("UK") and Switzerland, respectively (such jurisdictions, collectively, "Europe"). For example, the GDPR imposes significant requirements regarding the processing of individuals' personal information, including in relation to transparency, lawfulness of processing, individuals' privacy rights, compliant contracting, data minimization, data breach notification, data re-usage, data retention, security of processing and international data transfers. Under the GDPR and UK GDPR, government regulators may impose temporary or definitive bans on data processing or data transfers, require a company to delete data, as well as impose significant fines, potentially ranging up to 20 million Euros under the GDPR, 17.5 million GBP under the UK GDPR, or 4% of a company's worldwide revenue, whichever is higher. Further, individuals may initiate compensation claims or litigation related to our processing of their personal information. Other privacy laws in Europe impose strict requirements around marketing communications and the deployment of cookies on users' devices. As another example, Brazil's General Data Protection Law (Lei Geral de Proteção de Dados Pessoais, or "LGPD") (Law No. 13,709/2018) may apply to our operations. The LGPD broadly regulates processing of personal information of individuals in Brazil and imposes compliance obligations and penalties comparable to those of the GDPR.

Further, the interpretation and application of new domestic and foreign laws and regulations in many cases is uncertain, and our legal and regulatory obligations in such jurisdictions are subject to frequent and unexpected changes, including the potential for various regulatory or other governmental bodies to enact new or additional laws or regulations, to issue rulings that invalidate prior laws or regulations, or to increase penalties significantly.

Similarly, with our registration as an interconnected VoIP provider for certain products with the Federal Communications Commission (“FCC”), we also must comply with privacy laws associated with customer proprietary network information rules in the United States. If we fail or are perceived to have failed to maintain compliance with these requirements, we could be subject to regulatory audits, civil and criminal penalties, fines and breach of contract claims, as well as reputational damage, which could impact the willingness of customers to do business with us.

In addition to our legal obligations, our contractual obligations relating to privacy, data protection and data security have become increasingly stringent due to changes in laws and regulations and the expansion of our offerings. Certain privacy, data protection and data security laws, such as the GDPR and the CCPA, require our customers to impose specific contractual restrictions on their service providers. In addition, we support customer workloads that involve the processing of protected health information and are required to sign business associate agreements with customers that subject us to requirements under the federal Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, as well as state laws that govern health information.

Our actual or perceived failure to comply with laws, regulations, contractual commitments, or other actual or asserted obligations, including certain industry standards, regarding privacy, data protection and data security could lead to costly legal action, adverse publicity, significant liability, inability to process data, and decreased demand for our services, which could adversely affect our business, results of operations and financial condition.

As a cumulative example of these risks, because our primary data processing facilities are in the United States, we have experienced hesitancy, reluctance, or refusal by European or multinational customers to continue to use our services due to the potential risks posed as a result of the Court of Justice’s July 2020 ruling in the “Schrems II” case, as well as related guidance from regulators. For example, absent appropriate safeguards or other circumstances, the GDPR and laws in Switzerland and the UK generally restrict the transfer of personal information to countries outside of the EEA, Switzerland and the UK such as the United States, that the European Commission does not consider as providing an adequate level of privacy, data protection and data security. On March 25, 2022, the United States and EU announced an “agreement in principle” to replace the EU-U.S. Privacy Shield transfer framework with the Trans-Atlantic Data Privacy Framework. Progress has since been made towards the establishment of this as a valid transfer mechanism with President Biden’s issuance of the Executive Order Enhancing Safeguards for United States Signals Intelligence Activity in October 2022. Additionally, on December 13, 2022, the European Commission published a draft adequacy decision on the level of protection of personal data under the EU-U.S. Data Privacy Framework and on February 28, 2023, the European Data Protection Board adopted its opinion on the draft adequacy decision on the level of protection of personal data under the EU-U.S. Data Privacy Framework, but this framework has not yet been established. If we cannot implement and maintain a valid mechanism for cross-border data transfers, we and our customers may face increased exposure to regulatory actions, substantial fines, and injunctions against processing or transferring personal information from Europe or elsewhere. The inability to import personal information to the United States could significantly and negatively impact our business operations; limit our ability to collaborate with parties that are subject to data privacy and security laws; or require us to increase our personal information processing capabilities in Europe and/or elsewhere at significant expense. In addition, outside of Europe, other jurisdictions have proposed and enacted laws relating to cross-border data transfer or requiring personal information, or certain subcategories of personal information, to be stored in the jurisdiction of origin. If we are unable to increase our data processing capabilities and storage in Europe and other countries to limit or eliminate the need for data transfers out of Europe and other applicable countries quickly enough, and other valid solutions for personal information transfers to the United States or other countries are not available or are difficult to implement in the interim, we will likely face continuing reluctance from European and multinational customers to use our services and increased exposure to regulatory actions, substantial fines and injunctions against processing or transferring personal information across borders.

Evolving laws, regulations, and other actual and asserted obligations relating to privacy, data protection, and data security could reduce demand for our platform, increase our costs, impair our ability to grow our business, or restrict our ability to store and process data or, in some cases, impact our ability to offer our service in some locations and may subject us to liability. Further, in view of new or modified federal, state or foreign laws and regulations, industry standards, contractual obligations and other actual and asserted obligations, or any changes in their interpretation, we may find it necessary or desirable to fundamentally change our business activities and practices or to expend significant resources to modify our practices and platform and otherwise adapt to these changes. We may be unable to make such changes and modifications in a commercially reasonable manner or at all, and our ability to develop new products and features could be limited.

We could incur substantial costs in protecting or defending our intellectual property rights, and any failure to protect our intellectual property could adversely affect our business, results of operations and financial condition.

Our success depends, in part, on our ability to protect our brand and the proprietary methods and technologies that we develop under patent and other intellectual property laws. We rely on a combination of patents, copyrights, trademarks, service marks, trade secret laws and other intellectual property laws, contractual provisions, and internal processes, procedures, and controls in an effort to establish, maintain, enforce, and protect our intellectual property and proprietary rights. However, the steps we take to protect our intellectual property may be inadequate. While we have been issued patents in the United States and other countries and have additional patent applications pending, we may be unable to obtain patent protection for the technology covered in our patent applications. In addition, any patents issued to us in the future may not provide us with competitive advantages or may be successfully challenged by third parties. Further, the laws of some countries do not protect intellectual property or proprietary rights to the same extent as the laws of the United States, and mechanisms for enforcement of such rights in some foreign countries may be inadequate. To the extent we expand our international activities, our exposure to unauthorized copying and use of our products and proprietary information may increase. Accordingly, despite our efforts, we may be unable to prevent third parties from infringing upon or misappropriating our technology and intellectual property.

We also rely, in part, on contractual confidentiality obligations we impose on our business partners, employees, consultants, advisors, customers and others in our efforts to protect our proprietary technology, processes and methods. These obligations may not effectively prevent unauthorized disclosure or use of our confidential information, and it may be possible for unauthorized parties to copy or access our software or other proprietary technology or information, or to develop similar products independently without our having an adequate remedy for unauthorized use or disclosure of our confidential information. In addition, others may independently discover our trade secrets and proprietary information, and in these cases, we may not be able to assert any trade secret rights against those parties.

We may be required to spend significant resources to monitor, enforce, maintain, and protect our intellectual property and proprietary rights. Litigation brought to protect and enforce our intellectual property or proprietary rights could be costly, time-consuming and distracting to management, result in a diversion of significant resources, or the narrowing or invalidation of portions of our intellectual property. Our efforts to enforce our intellectual property or proprietary rights may be met with defenses, counterclaims and countersuits attacking the validity and enforceability of such rights. Our failure to meaningfully protect our intellectual property and proprietary rights, could have an adverse effect on our business, results of operations and financial condition.

We have been sued and may, in the future, be sued by third parties for alleged infringement of their intellectual or other proprietary rights, which could adversely affect our business, results of operations and financial condition.

There is considerable patent and other intellectual property development activity in our industry. We may also introduce or acquire new products or technologies, including in areas where we historically have not participated, which could increase our exposure to intellectual property infringement claims brought by third parties. Our future success depends, in part, on not infringing the intellectual property or proprietary rights of others and we may be unaware of such rights that may cover some or all of our technology or intellectual property. We have from time to time been subject to claims that our products or platform and underlying technology are infringing upon third-party intellectual property or proprietary rights. We may be subject to such claims in the future and we may be found to be infringing upon such rights. Any claims or litigation could cause us to incur significant expenses (including settlement payments and costs associated with litigation) and, if successfully asserted against us, could require that we pay substantial damages or ongoing royalty payments, prevent us from offering our products, or require that we comply with other unfavorable terms.

Additionally, our agreements with customers and other third parties typically include indemnification or other provisions under which we agree to indemnify or are otherwise liable to them for losses suffered or incurred by them as a result of claims of intellectual property infringement. Although we typically limit our liability with respect to such obligations through such agreements, we may still incur substantial liability related to our indemnification obligations.

Regardless of the merits or ultimate outcome of any claims of infringement, misappropriation, or violation of intellectual or other proprietary rights that have been or may be brought against us or that we may bring against others, these types of claims, disputes, and lawsuits are time-consuming and expensive to resolve, divert management’s time and attention, and could harm our reputation. Litigation is inherently unpredictable and we cannot predict the timing, nature, controversy or outcome of disputes brought against us or assure you that the results of any of these actions will not have an adverse effect on our business, results of operations or financial condition.

Our use of open source software could negatively affect our ability to sell our products and subject us to possible litigation.

Our products and platform incorporate open source software, and we expect to continue to incorporate open source software in our products and platform in the future. Few of the licenses applicable to open source software have been interpreted by courts, and there is a risk that these licenses could be construed in a manner that could impose unanticipated conditions or restrictions on our ability to commercialize our products and platform. Although we have implemented policies to regulate the use and incorporation of open source software into our products and platform, we cannot be certain that we have not incorporated open source software in our products or platform in a manner that is inconsistent with such policies. If we fail to comply with open source licenses, we may be subject to certain requirements, including requirements that we offer our products that incorporate the open source software for no cost, that we make available the source code for any modifications or derivative works we create based upon, incorporating or using the open source software and that we license such modifications or derivative works under the terms of applicable open source licenses. If an author or other third party that distributes such open source software were to allege that we had not, or have not, complied with the terms and conditions of the license for such open source software, we could be required to incur significant legal expenses defending against such allegations and could be subject to significant damages, enjoined from generating revenue from customers using products that contained the open source software and required to comply with onerous conditions or restrictions on these products. In any of these events, we and our customers could be required to seek licenses from third parties in order to continue offering our products and platform and to re-engineer our products or platform or discontinue offering our products to customers in the event re-engineering cannot be accomplished on a timely basis. Any of the foregoing could require us to devote additional research and development resources to re-engineer our products or platform, damage our reputation, give rise to increased scrutiny regarding our use of open source software, result in customer dissatisfaction and may adversely affect our business, results of operations and financial condition.

Risks Related to Legal and Regulatory Matters

Certain of our products are subject to telecommunications-related regulations, and future legislative or regulatory actions could adversely affect our business, results of operations and financial condition.

As a provider of communications products, we are subject to existing or potential FCC regulations relating to privacy, telecommunications, consumer protection and other requirements. In addition, the extension of telecommunications regulations to our non-interconnected VoIP services could result in additional federal and state regulatory obligations and taxes. We are also in discussions with certain jurisdictions regarding potential sales and other taxes for prior periods that we may owe. In the event any of these jurisdictions disagree with management’s assumptions and analysis, the assessment of our tax exposure could differ materially from management's current estimates, which may increase our costs of doing business and negatively affect the prices our customers pay for our services. If we do not comply with FCC rules and regulations, we could be subject to FCC enforcement actions, fines, loss of licenses and possibly restrictions on our ability to operate or offer certain of our products. For example, on January 25, 2023, we received a “cease-and-desist” letter from the FCC related to reported fraudulent traffic on our messaging platform. We subsequently removed the identified traffic. In response to written questions from the FCC, we provided to the agency a follow-up letter on February 10, 2023 detailing our fraud mitigation practices and various improvements being carried out to reduce future risks. There has been no further communication from the agency on this matter. Any enforcement action by the FCC, which may be a public process, would hurt our reputation in the industry, could erode customer trust, possibly impair our ability to sell our VoIP and other telecommunications products to customers and could adversely affect our business, results of operations and financial condition.

Certain of our products are subject to a number of FCC regulations and laws that are administered by the FCC. Among others, we must comply (in whole or in part) with:

- the Communications Act of 1934, as amended, which regulates communications services and the provision of such services;
- the Telephone Consumer Protection Act, which limits the use of automatic dialing systems for calls and texts, artificial or prerecorded voice messages and fax machines;
- the Communications Assistance for Law Enforcement Act, which requires covered entities to assist law enforcement in undertaking electronic surveillance;
- requirements to safeguard the privacy of certain customer information;

- payment of annual FCC regulatory fees and contributions to FCC-administered funds based on our interstate and international revenues; and

- rules pertaining to access to our services by people with disabilities and contributions to the Telecommunications Relay Services fund.

In addition, Congress and the FCC are attempting to mitigate the prevalence of robocalls by requiring participation in a technical standard called SHAKEN/STIR, which allows voice carriers to authenticate caller ID, prohibiting malicious spoofing.

Similarly, in May 2021, the Biden Administration issued an Executive Order requiring federal agencies to implement additional information technology security measures, including, among other things, requiring agencies to adopt multifactor authentication and encryption for data at rest and in transit to the maximum extent consistent with Federal records laws and other applicable laws. The National Institute of Standards and Technology issued a Secure Software Development Framework (SSDF) on September 30, 2021 and Software Supply Chain Security Guidance (incorporating the SSDF), on February 4, 2022, and on March 7, 2022, the Office of Management and Budget directed federal agencies to incorporate both documents into their software lifecycle and acquisitions practices. The Executive Order also may lead to the development of additional secure software development practices and/or criteria for a consumer software labeling program, the criteria which will reflect a baseline level of secure practices, for software that is developed and sold to the U.S. federal government. Software developers will be required to provide visibility into their software and make security data publicly available. Due to this Executive Order, federal agencies may require us to modify our cybersecurity practices and policies, thereby increasing our compliance costs. If we are unable to meet the requirements of the Executive Order, our ability to work with the U.S. government may be impaired and may result in a loss of revenue.

If we do not comply with any current or future rules or regulations that apply to our business, we could be subject to substantial fines and penalties, and we may have to restructure our offerings, exit certain markets or raise the price of our products. In addition, any uncertainty regarding whether particular regulations apply to our business, and how they apply, could increase our costs or limit our ability to grow.

As we continue to expand internationally, we have become subject to telecommunications laws and regulations in the foreign countries where we offer our products. Internationally, we currently offer our products in more than 180 countries and territories.

Our international operations are subject to country-specific governmental regulation and related actions that have increased and will continue to increase our compliance costs or impact our products and platform or prevent us from offering or providing our products in certain countries. Moreover, the regulation of CPaaS companies like us is continuing to evolve internationally and many existing regulations may not fully contemplate the CPaaS business model or how they fit into the communications regulatory framework. As a result, interpretation and enforcement of regulations often involve significant uncertainties. In many countries, including those in the European Union, a number of our products or services are subject to licensing and communications regulatory requirements which increases the level of scrutiny and enforcement by regulators. Future legislative, regulatory or judicial actions impacting CPaaS services could also increase the cost and complexity of compliance and expose us to liability. For example, in some countries, some or all of the services we offer are not considered regulated telecommunications services, while in other countries they are subject to telecommunications regulations, including but not limited to payment into universal service funds, licensing fees, provision of emergency services, provision of information to support emergency services and number portability. Failure to comply with these regulations could result in our Company being issued remedial directions to undertake independent audits and implement effective systems, processes and practices to ensure compliance, significant fines or being prohibited from providing telecommunications services in a jurisdiction.

Moreover, certain of our products may be used by customers located in countries where voice and other forms of Internet Protocol (“IP”) communications may be illegal or require special licensing or in countries on a U.S. embargo list. Even where our products are reportedly illegal or become illegal or where users are located in an embargoed country, users in those countries may be able to continue to use our products in those countries notwithstanding the illegality or embargo. We may be subject to penalties or governmental action if consumers continue to use our products in countries where it is illegal to do so or if we use a local partner to provide services in a country and the local partner does not comply with applicable governmental regulations. Any such penalties or governmental action may be costly and may harm our business and damage our brand and reputation. We may be required to incur additional expenses to meet applicable international regulatory requirements or be required to raise the prices of services, or restructure or discontinue those services if required by law or if we cannot or will not meet those requirements. Any of the foregoing could adversely affect our business, results of operations and financial condition.

If we are unable to obtain or retain geographical, mobile, regional, local or toll-free numbers, or to effectively process requests to port such numbers in a timely manner due to industry regulations, our business and results of operations may be adversely affected.

Our future success depends in part on our ability to obtain allocations of geographical, mobile, regional, local and toll-free direct inward dialing numbers or phone numbers as well as short codes and alphanumeric sender IDs (collectively, "Numbering Resources") in the United States and foreign countries at a reasonable cost and without overly burdensome restrictions. Our ability to obtain allocations of, assign and retain Numbering Resources depends on factors outside of our control, such as applicable regulations, the practices of authorities that administer national numbering plans or of network service providers from whom we can provision Numbering Resources, such as offering these Numbering Resources with conditional minimum volume call level requirements, the cost of these Numbering Resources and the level of overall competitive demand for new Numbering Resources.

In addition, in order to obtain allocations of, assign and retain Numbering Resources in the EU or certain other regions, we are often required to be licensed by local telecommunications regulatory authorities, some of which have been increasingly monitoring and regulating the categories of Numbering Resources that are eligible for provisioning to our customers. We have obtained licenses and are in the process of obtaining licenses in various countries in which we do business, but in some countries, the regulatory regime around provisioning of Numbering Resources is unclear, subject to change over time, and sometimes may conflict from jurisdiction to jurisdiction. Furthermore, these regulations and governments' approach to their enforcement, as well as our products and services, are still evolving and we may be unable to maintain compliance with applicable regulations, or enforce compliance by our customers, on a timely basis or without significant cost. Also, compliance with these types of regulation may require changes in products or business practices that result in reduced revenue. Due to our or our customers' assignment and/or use of Numbering Resources in certain countries in a manner that violates applicable rules and regulations, we have been subjected to government inquiries and audits, and may in the future be subject to significant penalties or further governmental action, and in extreme cases, may be precluded from doing business in that particular country. We have also been forced to reclaim Numbering Resources from our customers as a result of certain events of non-compliance. These reclamations result in loss of customers, loss of revenue, reputational harm, erosion of customer trust, and may also result in breach of contract claims, all of which could have an adverse effect on our business, results of operations and financial condition.

Due to their limited availability, there are certain popular area code prefixes that we generally cannot obtain. Our inability to acquire or retain Numbering Resources for our operations may make our voice and messaging products less attractive to potential customers in the affected local geographic areas. In addition, future growth in our customer base, together with growth in the customer bases of other providers of cloud communications, has increased, which increases our dependence on needing sufficiently large quantities of Numbering Resources. It may become increasingly difficult to source larger quantities of Numbering Resources as we scale and we may need to pay higher costs for Numbering Resources, and Numbering Resources may become subject to more stringent regulation or conditions of usage such as the registration and on-going compliance requirements discussed above.

Additionally, in some geographies, we support number portability, which allows our customers to transfer their existing phone numbers to us and thereby retain their existing phone numbers when subscribing to our voice and messaging products. Transferring existing numbers is a manual process that can take up to 15 business days or longer to complete. Any delay that we experience in transferring these numbers typically results from the fact that we depend on network service providers to transfer these numbers, a process that we do not control, and these network service providers may refuse or substantially delay the transfer of these numbers to us. Number portability is considered an important feature by many potential customers, and if we fail to reduce any related delays, then we may experience increased difficulty in acquiring new customers.

United States federal legislation and international laws impose certain obligations on the senders of commercial emails, which could minimize the effectiveness of our platform, and establish financial penalties for non-compliance, which could increase the costs of our business.

The Federal Controlling the Assault of Non-Solicited Pornography and Marketing Act of 2003 (the "CAN-SPAM Act") establishes certain requirements for commercial email messages and transactional email messages and specifies penalties for the transmission of email messages that are intended to deceive the recipient as to source or content. Among other things, the CAN-SPAM Act, obligates the sender of commercial emails to provide recipients with the ability to "opt-out" of receiving future commercial emails from the sender. In addition, some states have passed laws regulating commercial email practices that are significantly more restrictive and difficult to comply with than the CAN-SPAM Act. For example, Utah and Michigan prohibit the sending of email messages that advertise products or services that minors are prohibited by law from purchasing or that contain content harmful to minors to email addresses listed on specified child protection registries. Some portions of these state laws may not be preempted by the CAN-SPAM Act. In addition, certain non-U.S. jurisdictions in which we operate have enacted laws regulating the sending of email that are more restrictive than U.S. laws. For example, some foreign laws prohibit sending broad categories of email unless the recipient has provided the sender advance consent (or "opted-in") to receipt of such email. If we were found to be in violation of the CAN-SPAM Act, applicable state laws governing email not preempted by the CAN-SPAM Act or foreign laws regulating the distribution of email, whether as a result of violations by our customers or our own acts or omissions, we could be required to pay large penalties, which would adversely affect our financial condition, significantly harm our business, injure our reputation and erode customer trust. The terms of any injunctions, judgments, consent decrees or settlement agreements entered into in connection with enforcement actions or investigations against our company in connection with any of the foregoing laws may also require us to change one or more aspects of the way we operate our business, which could impair our ability to attract and retain customers or could increase our operating costs.

Our customers' and other users' violation of our policies or other misuse of our platform to transmit unauthorized, offensive or illegal messages, spam, phishing scams, and website links to harmful applications or for other fraudulent or illegal activity could damage our reputation, and we may face a risk of litigation and liability for illegal activities on our platform and unauthorized, inaccurate, or fraudulent information distributed via our platform.

The actual or perceived improper sending of text messages or voice calls may subject us to potential risks, including liabilities or claims relating to consumer protection laws and regulatory enforcement, including fines. For example, the Telephone Consumer Protection Act of 1991 ("TCPA") restricts telemarketing and the use of automatic SMS text messages without explicit customer consent. TCPA violations can result in significant financial penalties, as businesses can incur penalties or criminal fines imposed by the FCC or be fined up to $1,500 per violation through private litigation or state attorneys general or other state actor enforcement. Class action suits are the most common method for private enforcement. This has resulted in civil claims against our company and requests for information through third-party subpoenas. The scope and interpretation of the laws that are or may be applicable to the delivery of text messages or voice calls are continuously evolving and developing. If we do not comply with these laws or regulations or if we become liable under these laws or regulations due to the failure of our customers to comply with these laws by obtaining proper consent, we could face direct liability.

Moreover, certain customers may use our platform to transmit unauthorized, offensive or illegal messages, calls, spam, phishing scams, and website links to harmful applications, reproduce and distribute copyrighted material or the trademarks of others without permission, and report inaccurate or fraudulent data or information. These issues also arise with respect to a portion of those users who use our platform on a free trial basis or upon initial use. These actions are in violation of our policies, in particular, our Acceptable Use Policy. For example, on January 25, 2023, we received a cease-and-desist letter from the FCC alleging that we were transmitting illegal robocall traffic that originated from an independent software vendor customer and their end user customer. In response, we have suspended the customers' accounts and we provided to the FCC a follow-up letter on February 10, 2023 detailing our fraud mitigation practices and various improvements being carried out to reduce future risks. There has been no further communication from the agency on this matter. Failure to respond appropriately to the FCC's allegations could allow domestic carriers to begin blocking all voice traffic transmitting from our network. However, our efforts to defeat spamming attacks, illegal robocalls and other fraudulent activity will not prevent all such attacks and activity. Such use of our platform could damage our reputation and we could face claims for damages, regulatory enforcement, copyright or trademark infringement, defamation, negligence, or fraud. Furthermore, enacting more stringent controls on our customers' use of our platform to combat such violations of our Acceptable Use Policy could increase friction for our legitimate customers and decrease their use of our platform.

Our customers' and other users' promotion of their products and services through our platform might not comply with federal, state, and foreign laws or of contractual requirements imposed by carriers, such as the CTIA Shortcode Agreement, The Campaign Registry, and associated policies. We rely on contractual representations made to us by our customers that their use of our platform will comply with our policies and applicable law, including, without limitation, our email and messaging policies. Although we retain the right to verify that customers and other users are abiding by certain contractual terms, our Acceptable Use Policy and our email and messaging policies and, in certain circumstances, to review their email, messages and distribution lists, our customers and other users are ultimately responsible for compliance with our policies, and we do not systematically audit our customers or other users to confirm compliance with our policies. We cannot predict whether our role in facilitating our customers' or other users' activities will result in violations of carrier policies which could result in fines, administrative delays, or service interruptions. We also cannot predict whether our role in facilitating our customers' or other users' activities would expose us to liability under applicable state or federal law, or whether that possibility could become more likely if changes to current laws regulating content moderation, such as Section 230 of the Communications Decency Act, are enacted. If we are found liable for our customers' or other users' activities, we could be required to pay fines or penalties, redesign business methods or otherwise expend resources to remedy any damages caused by such actions and to avoid future liability.

Additionally, our products may be subject to fraudulent usage, including but not limited to revenue share fraud, domestic traffic pumping, subscription fraud, premium text message scams and other fraudulent schemes. Although our customers are required to set passwords or personal identification numbers to protect their accounts, third parties have in the past been, and may in the future be, able to access and use their accounts through fraudulent means. Furthermore, spammers attempt to use our products to send targeted and untargeted spam messages. We cannot be certain that our efforts to defeat spamming attacks will be successful in eliminating all spam messages from being sent using our platform. In addition, a cybersecurity breach of our customers' systems could result in exposure of their authentication credentials, unauthorized access to their accounts or fraudulent calls on their accounts, any of which could adversely affect our business, results of operations and financial condition.

Changes in laws and regulations related to the Internet or changes in the Internet infrastructure itself may diminish the demand for our products, and could adversely affect our business, results of operations and financial condition.

The future success of our business depends upon the continued use of the Internet as a primary medium for commerce, communications and business applications. Federal, state or foreign government bodies or agencies have in the past adopted, and may in the future adopt, laws or regulations affecting the use of the Internet as a commercial medium. Changes in these laws or regulations could require us to modify our products and platform in order to comply with these changes. In addition, government agencies or private organizations have imposed and may impose additional taxes, fees or other charges for accessing the Internet or commerce conducted via the Internet. These laws or charges could limit the growth of Internet-related commerce or communications generally or result in reductions in the demand for Internet-based products and services such as our products and platform. In particular, a re-adoption of "network neutrality" rules in the United States, which President Biden supported during his campaign, could affect the services used by us and our customers. California's state network neutrality law went into effect on March 10, 2021. A temporary injunction preventing implementation of a similar law in Vermont expired on April 20, 2022, but a challenge to that law remains pending. A number of other states have adopted or are adopting or considering legislation or executive actions that would regulate the conduct of broadband providers. In addition, the use of the Internet as a business tool could be adversely affected due to delays in the development or adoption of new standards and protocols to handle increased demands of Internet activity, security, reliability, cost, ease-of-use, accessibility and quality of service. The performance of the Internet and its acceptance as a business tool has been adversely affected by "viruses," "worms," and similar malicious programs. If the use of the Internet is reduced as a result of these or other issues, then demand for our products could decline, which could adversely affect our business, results of operations and financial condition.

Our global operations subject us to potential liability under export control, economic trade sanctions, anti-corruption, and other laws and regulations, and such violations could impair our ability to compete in international markets and could subject us to liability for compliance violations.

Certain of our products and services may be subject to export control and economic sanctions laws and regulations, including the U.S. Export Administration Regulations, U.S. Customs regulations, and various economic and trade sanctions regulations administered by the U.S. Treasury Department's Office of Foreign Assets Control as well as similar laws and regulations in other countries in which we do business. Exports of our products and the provision of our services must be made in compliance with these requirements. Although we take precautions to prevent our products from being provided in violation of such laws, we are aware of previous exports of certain of our products to a small number of persons and organizations that are the subject of U.S. sanctions or are located in countries or regions subject to U.S. sanctions. If we fail to comply with these laws and regulations, we and certain of our employees could be subject to substantial civil or criminal penalties, including: the possible loss of export privileges; fines, which may be imposed on us and responsible employees or managers; and, in extreme cases, the incarceration of responsible employees or managers. Any change in trade protection laws, policies, export, sanctions and other regulatory requirements affecting trade and investments, shift in the enforcement or scope of existing regulations, or change in the countries, governments, persons or technologies targeted by such regulations, could also result in decreased use of our products and services, or in our decreased ability to export our products or provide our services to existing or prospective customers with international operations. Any decreased use of our products and services or limitations on our ability to export our products and provide our services could adversely affect our business, results of operations and financial condition.

Further, we incorporate encryption technology into certain of our products. Various countries regulate the import of certain encryption technology, including through import permitting and licensing requirements, and have enacted laws that could limit our customers' ability to import our products into those countries. Encryption products and the underlying technology may also be subject to export control restrictions. Governmental regulation of encryption technology and regulation of exports of encryption products, or our failure to obtain required approval for our products, when applicable, could harm our international sales and adversely affect our revenue. Compliance with applicable regulatory requirements regarding the export of our products and provision of our services, including with respect to new releases of our products and services, may create delays in the introduction of our products and services in international markets, prevent our customers with international operations from deploying our products and using our services throughout their globally-distributed systems or, in some cases, prevent the export of our products or provision of our services to some countries altogether.

We are also subject to U.S. and foreign anti-corruption and anti-bribery laws, including the FCPA, the UK Bribery Act 2010, and other anti-corruption laws and regulations in the countries in which we conduct activities. Anti-corruption laws are interpreted broadly and generally prohibit companies, their employees, agents, representatives, business partners, and third parties intermediaries from directly or indirectly authorizing, offering, or providing, improper payments or things of value to recipients in the public or private sector, and also require that we maintain accurate books and records and adequate internal controls and compliance procedures designed to prevent violations. We sometimes leverage third parties to sell our products and conduct our business abroad. We, our employees, agents, representatives, business partners and third-party intermediaries may have direct or indirect interactions with officials and employees of government agencies or state-owned or affiliated entities and we may be held liable for the corrupt or other illegal activities of these employees, agents, representatives, business partners or third-party intermediaries even if we do not explicitly authorize such activities. We cannot assure you that none of our employees agents, representatives, business partners or third-party intermediaries will fail to comply with our policies and applicable laws and regulations, for which we may ultimately be held responsible. Any allegations or violation of the FCPA or other applicable anti-bribery and anti-corruption laws and anti-money laundering laws could result could result in whistleblower complaints, sanctions, settlements, prosecution, enforcement actions, significant fines and penalties, damages, adverse media coverage, investigations, loss of export privileges, severe criminal or civil sanctions, or suspension or debarment from government contracts, all of which may have an adverse effect on our reputation, business, results of operations, and prospects. Responding to any investigation or action will likely result in a materially significant diversion of management's attention and resources and significant defense costs and other professional fees.

The standards imposed by private entities and inbox service providers to regulate the use and delivery of email have in the past interfered with, and may continue to interfere with, the effectiveness of our platform and our ability to conduct business.

From time to time, some of our IP addresses have become, and we expect will continue to be, listed with one or more denylisting entities due to the messaging practices of our customers and other users. We may be at an increased risk of having our IP addresses denylisted due to our scale and volume of email processed, compared to our smaller competitors. There can be no guarantee that we will be able to successfully remove ourselves from those lists. Because we fulfill email delivery on behalf of our customers, denylisting of this type could undermine the effectiveness of our customers' transactional email, email marketing programs and other email communications, all of which could have a material negative impact on our business, financial condition and results of operations.

Additionally, inbox service providers can block emails from reaching their users or categorize certain emails as "promotional" emails and, as a result, direct them to an alternate or "tabbed" section of the recipient's inbox. The implementation of new or more restrictive policies by inbox service providers may make it more difficult to deliver our customers' emails, particularly if we are not given adequate notice of a change in policy or struggle to update our platform or services to comply with the changed policy in a reasonable amount of time. If the open rates of our customers' emails are negatively impacted by the actions of inbox service providers to block or categorize emails then customers may question the effectiveness of our platform and cancel their accounts. This, in turn, could harm our business, financial condition and results of operations.

Any legal proceedings or claims against us could be costly and time-consuming to defend and could harm our reputation regardless of the outcome.

We are and may in the future become subject to legal proceedings and claims that arise in the ordinary course of business, such as disputes or employment claims made by our current or former employees. Any litigation, whether meritorious or not, could harm our reputation, will increase our costs and may divert management's attention, time and resources, which may in turn seriously harm our business. Insurance might not cover such claims or the costs to defend such claims, might not provide sufficient payments to cover all the costs to resolve one or more such claims, and might not continue to be available on terms acceptable to us. A claim brought against us that is uninsured or underinsured could result in unanticipated costs and could seriously harm our business. If we are required to make substantial payments or implement significant changes to our operations as a result of legal proceedings or claims, our business, results of operations and financial condition could be adversely affected.

Risks Related to Financial and Accounting Matters

We face exposure to foreign currency exchange rate fluctuations, and such fluctuations could adversely affect our business, results of operations and financial condition.

As our international operations expand, our exposure to the effects of fluctuations in currency exchange rates grows. For example, global geopolitical events, such as the war in Ukraine, economic events, public health epidemics and pandemics such as the COVID-19 pandemic, trade tariff developments and other events have caused global economic uncertainty and variability in foreign currency exchange rates. While we have primarily transacted with customers and business partners in U.S. dollars, we have also conducted business in currencies other than the U.S. dollar. We expect to significantly expand the number of transactions with customers that are denominated in foreign currencies in the future as we continue to expand our business internationally. We also incur expenses for some of our network service provider costs outside of the United States in local currencies and for employee compensation and other operating expenses at our non-U.S. locations in the respective local currency. Fluctuations in the exchange rates between the U.S. dollar and other currencies could result in an increase to the U.S. dollar equivalent of such expenses.

In addition, our international subsidiaries maintain net assets that are denominated in currencies other than the functional operating currencies of these entities. As we continue to expand our international operations, we become more exposed to the effects of fluctuations in currency exchange rates. Accordingly, changes in the value of foreign currencies relative to the U.S. dollar can affect our results of operations due to transactional and translational remeasurements. As a result of such foreign currency exchange rate fluctuations, it could be more difficult to detect underlying trends in our business and results of operations. In addition, to the extent that fluctuations in currency exchange rates cause our results of operations to differ from our expectations or the expectations of our investors and securities analysts who follow our stock, the trading price of our Class A common stock could be adversely affected.

We recently implemented a program to hedge transactional exposure against the Euro, and may do so in the future with respect to other foreign currencies. We also use derivative instruments, such as foreign currency forward and option contracts, to hedge certain exposures to fluctuations in foreign currency exchange rates. The use of such hedging activities may not offset any or more than a portion of the adverse financial effects of unfavorable movements in foreign exchange rates over the limited time the hedges are in place. Moreover, the use of hedging instruments may introduce additional risks if we are unable to structure effective hedges with such instruments.

We have incurred substantial indebtedness that may decrease our business flexibility, access to capital, and/or increase our borrowing costs, and we may still incur substantially more debt, which may adversely affect our operations and financial results.

As of March 31, 2023, we had $1.0 billion of indebtedness outstanding (excluding intercompany indebtedness). Our indebtedness may:

- limit our ability to obtain additional financing to fund future working capital, capital expenditures, business opportunities, acquisitions or other general corporate requirements;
- require a portion of our cash flows to be dedicated to debt service payments instead of other purposes, thereby reducing the amount of cash flows available for working capital, capital expenditures, business opportunities, acquisitions and other general corporate purposes;
- increase our vulnerability to adverse changes in general economic, industry and competitive conditions;
- expose us to the risk of increased interest rates as certain of our borrowings, including borrowings under a future revolving credit facility, may be at variable rates of interest;
- place us at a competitive disadvantage compared to our less leveraged competitors; and
- increase our cost of borrowing.

In addition, the indenture which governs our 3.625% notes due 2029 (the “2029 Notes”) and our 3.875% notes due 2031 (the “2031 Notes,” and together with the 2029 Notes, the “Notes”) contains restrictive covenants that limit our ability to engage in activities that may be in our long-term best interest. Our failure to comply with those covenants could result in an event of default which, if not cured or waived, could permit the trustee, or permit the holders of the Notes to cause the trustee, to declare all or part of the Notes to be immediately due and payable or to exercise any remedies provided to the trustee and/or result in the acceleration of substantially all of our indebtedness. Any such event would adversely affect our business, results of operations and financial condition.

If our cash flows and capital resources are insufficient to fund our debt service obligations, we could face substantial liquidity problems and may be forced to reduce or delay investments and capital expenditures. We may be forced to sell assets, seek additional capital, or restructure or refinance our indebtedness, including the Notes. Our ability to restructure or refinance our debt will depend on, among other things, the condition of capital markets and our financial condition at such time. Any refinancing of our debt could be at higher interest rates and may require us to comply with more onerous covenants, which could further restrict our business operations. The terms of existing or future debt instruments and the indenture that governs the Notes may restrict us from adopting some of these alternatives. In addition, any failure to make payments of interest and principal on our outstanding indebtedness on a timely basis would likely result in a reduction of our credit rating, which could harm our ability to incur additional indebtedness and our financial condition. In the absence of such cash flows and resources, we could face substantial liquidity problems and might be required to dispose of material assets or operations to meet our debt service and other obligations.

We may require additional capital to support our business, and this capital might not be available on acceptable terms, if at all.

We intend to continue to make investments to support our business and may require additional funds. In particular, we may seek additional funds to develop new products and enhance our platform and existing products, expand our operations, including our sales and marketing organizations and our presence outside of the United States, improve our infrastructure or acquire complementary businesses, technologies, services, products and other assets. In addition, we may use a portion of our cash to satisfy tax withholding and remittance obligations related to outstanding restricted stock units. Accordingly, we may need to engage in equity or debt financings to secure additional funds. If we raise additional funds through future issuances of equity or convertible debt securities, our stockholders could suffer significant dilution, and any new equity securities we issue could have rights, preferences and privileges superior to those of holders of our Class A common stock and Class B common stock. Any debt financing that we may secure in the future could involve restrictive covenants relating to our capital raising activities, our ability to repurchase stock, and other financial and operational matters, which may make it more difficult for us to obtain additional capital and to pursue business opportunities. We may not be able to obtain additional financing on terms favorable to us, if at all, particularly during times of market volatility and general economic instability. If we are unable to obtain adequate financing or financing on terms satisfactory to us when we require it, our ability to continue to support our business growth, scale our infrastructure, develop product enhancements and to respond to business challenges could be significantly impaired, and our business, results of operations and financial condition may be adversely affected.

We rely on assumptions and estimates to calculate certain of our key metrics, and real or perceived inaccuracies in such metrics could adversely affect our reputation and our business.

We rely on assumptions and estimates to calculate certain of our key metrics, such as Active Customer Accounts and Dollar-Based Net Expansion Rate. Our key metrics are not based on any standardized industry methodology and are not necessarily calculated in the same manner or comparable to similarly titled measures presented by other companies. Similarly, our key metrics may differ from estimates published by third parties or from similarly titled metrics of our competitors due to differences in methodology. The numbers that we use to calculate Active Customer Accounts and Dollar-Based Net Expansion Rate are based on internal data. While these numbers are based on what we believe to be reasonable judgments and estimates for the applicable period of measurement, there are inherent challenges in measuring usage. We regularly review and may adjust our processes for calculating our internal metrics to improve their accuracy. If investors or analysts do not perceive our metrics to be accurate representations of our business, or if we discover material inaccuracies in our metrics, our reputation, business, results of operations, and financial condition would be harmed.

If our estimates or judgments relating to our critical accounting policies prove to be incorrect, our results of operations could be adversely affected.

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, as provided in Part I, Item 2, “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” The results of these estimates form the basis for making judgments about the carrying values of assets, liabilities and equity, and the amount of revenue and expenses that are not readily apparent from other sources. Assumptions and estimates used in preparing our consolidated financial statements include those related to revenue recognition and business combinations. Our results of operations may be adversely affected if our assumptions change or if actual circumstances differ from those in our assumptions, which could cause our results of operations to fall below the expectations of securities analysts and investors, resulting in a decline in the trading price of our Class A common stock.

Changes in accounting standards or practices may cause adverse, unexpected financial reporting fluctuations and affect our results of operations.

A change in accounting standards or practices may have a significant effect on our results of operations and may even affect our reporting of transactions completed before the change is effective. New accounting pronouncements and varying interpretations of accounting pronouncements have occurred and may occur in the future. Changes to existing rules or the questioning of current practices may adversely affect our reported financial results or the way we conduct our business. For example, Accounting Standards Codification ("ASC") 842, "Leases" that became effective January 1, 2019, had a material impact on our consolidated financial statements as described in detail in Note 2 to the consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2020. Adoption of these types of accounting standards and any difficulties in implementation of changes in accounting principles, including the ability to modify our accounting systems, could cause us to fail to meet our financial reporting obligations, which result in regulatory discipline and harm investors' confidence in us.

If our goodwill or intangible assets become impaired, we may be required to record a significant charge to earnings.

We review our intangible assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. Goodwill is required to be tested for impairment at least annually. As of March 31, 2023, we carried a net $6.1 billion of goodwill and intangible assets. An adverse change in market conditions or significant changes in accounting conclusions, particularly if such changes have the effect of changing one of our critical assumptions or estimates, could result in a change to the estimation of fair value that could result in an impairment charge to our goodwill or intangible assets. Any such charges may adversely affect our results of operations.

In connection with the expected shift from one operating segment to two operating segments in 2023, we will also shift into a multiple reporting unit structure. Once this occurs and we are able to allocate goodwill to each reporting unit, we will perform an impairment assessment for each new reporting unit, which may result in a goodwill and other asset impairment charges that could be material.

If we fail to maintain an effective system of disclosure controls and internal control over financial reporting, our ability to produce timely and accurate financial statements or comply with applicable regulations could be impaired.

As a public company, we are required to maintain internal control over financial reporting and to report any material weaknesses in such internal control. Section 404 of the Sarbanes-Oxley Act of 2002 (the "Sarbanes-Oxley Act") requires that we evaluate and determine the effectiveness of our internal control over financial reporting and provide a management report on internal control over financial reporting. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our financial statements will not be prevented or detected on a timely basis.

Our current controls and any new controls that we develop may become inadequate because of changes in conditions in our business. Further, weaknesses in our disclosure controls and internal control over financial reporting may be discovered in the future. In addition, if we acquire additional businesses, we may not be able to successfully integrate the acquired operations and technologies and maintain internal control over financial reporting, if applicable, in accordance with the requirements of Section 404 of the Sarbanes-Oxley Act. Any failure to develop or maintain effective controls or any difficulties encountered in their implementation or improvement could harm our results of operations or cause us to fail to meet our reporting obligations and may result in a restatement of our financial statements for prior periods. Any failure to implement and maintain effective internal control over financial reporting also could adversely affect the results of periodic management evaluations and annual independent registered public accounting firm attestation reports regarding the effectiveness of our internal control over financial reporting that we are required to include in our periodic reports that will be filed with the SEC. Ineffective disclosure controls and procedures and internal control over financial reporting could also cause investors to lose confidence in our reported financial and other information, and could have a material and adverse effect on our business, results of operations and financial condition and could cause a decline in the trading price of our Class A common stock. In addition, if we are unable to continue to meet these requirements, we may not be able to remain listed on the New York Stock Exchange.

Risks Related to Tax Matters

Our ability to use our net operating losses and certain other tax attributes to offset future taxable income and taxes may be subject to certain limitations.

As of December 31, 2022, we had U.S. federal, state and foreign net operating loss carryforwards ("NOLs"), of $3.7 billion, $2.7 billion and $498.5 million, respectively. Utilization of these NOL carryforwards depends on our future taxable income, and there is risk that a portion of our existing NOLs could expire unused, and that even if we achieve profitability, the use of our unexpired NOLs would be subject to limitations, which could materially and adversely affect our operating results. U.S. federal NOLs generated in taxable years beginning before January 1, 2018, may be carried forward only 20 years to offset future taxable income, if any. Under current law, U.S. federal NOLs generated in taxable years beginning after December 31, 2017, can be carried forward indefinitely, but the deductibility of such U.S. federal NOLs in taxable years beginning after December 31, 2020, is limited to 80% of taxable income. It is uncertain if and to what extent various states will conform to federal law.

Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the "Code"), and corresponding provisions of state law, a corporation that undergoes an "ownership change" (generally defined as a greater than 50-percentage-point cumulative change (by value) in the equity ownership of certain stockholders over a rolling three-year period) is subject to limitations on its ability to utilize its pre-change NOLs and other pre-change tax attributes to offset post-change taxable income and taxes. Our existing NOLs and other tax attributes may be subject to limitations arising from previous ownership changes, and if we undergo an ownership change in the future, our ability to utilize NOLs could be further limited by Section 382 of the Code. Future changes in our stock ownership, some of which may be outside of our control, could result in an ownership change under Section 382 of the Code. In addition, at the state level, there may be periods during which the use of NOL carryforwards is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed.

We may have additional tax liabilities, which could harm our business, results of operations and financial condition.

Significant judgments and estimates are required in determining our provision for income taxes and other tax liabilities. Our tax expense may be impacted, for example, if tax laws change or are clarified to our detriment or if tax authorities successfully challenge the tax positions that we take, such as, for example, positions relating to the arms-length pricing standards for our intercompany transactions and our indirect tax positions. In determining the adequacy of our provision for income taxes, we assess the likelihood of adverse outcomes that could result if our tax positions were challenged by the Internal Revenue Service ("IRS"), and other tax authorities. Should the IRS or other tax authorities assess additional taxes as a result of examinations, we may be required to record charges to operations that could adversely affect our results of operations and financial condition.

We conduct operations in many tax jurisdictions throughout the United States and internationally. In many of these jurisdictions, non-income-based taxes, such as sales, VAT, GST, and telecommunications taxes, are assessed on our operations or our sales to customers. We are subject to indirect taxes, and may be subject to certain other taxes, in some of these jurisdictions. We collect certain telecommunications-based taxes from our customers in certain jurisdictions, and we expect to continue expanding the number of jurisdictions in which we will collect these taxes in the future.

Many states are also pursuing legislative expansion of the scope of goods and services that are subject to sales and similar taxes as well as the circumstances in which a vendor of goods and services must collect such taxes. Following the United States Supreme Court decision in South Dakota v. Wayfair, Inc., states are now free to levy taxes on sales of goods and services based on an "economic nexus," regardless of whether the seller has a physical presence in the state. Any additional fees and taxes levied on our services by any state may adversely impact our results of operations.

Historically, we have not billed or collected taxes in certain jurisdictions and, in accordance with generally accepted accounting principles in the United States ("U.S. GAAP"), we have recorded a provision for our tax exposure in these jurisdictions when it is both probable that a liability has been incurred and the amount of the exposure can be reasonably estimated. We reserved $29.1 million and $20.6 million for domestic jurisdictions and jurisdictions outside of the United States, respectively, on our December 31, 2022 balance sheet for these tax payments. These estimates include several key assumptions, including, but not limited to, the taxability of our products, the jurisdictions in which we believe we have nexus or a permanent establishment, and the sourcing of revenues to those jurisdictions. In the event these jurisdictions challenge our assumptions and analysis, our actual exposure could differ materially from our current estimates and reserves. If the actual payments we make to any jurisdiction exceed the accrual in our balance sheet, our results of operations would be harmed. In addition, some customers may question the incremental tax charges and seek to negotiate lower pricing from us, which could adversely affect our business, results of operations and financial condition.

We are in discussions with certain jurisdictions regarding potential sales and other indirect taxes for prior periods that we may owe. If any of these jurisdictions disagree with management's assumptions and analysis, the assessment of our tax exposure could differ materially from management's current estimates. For example, San Francisco City and County has assessed us for $38.8 million in taxes, including interest and penalties, which exceeded the $11.5 million we had accrued for that assessment. We have paid the full amount, as required by law, and the payment made in excess of the accrued amount is reflected as a deposit on our balance sheet. We believe, however, that this assessment is incorrect and, after failing to reach a settlement, filed a lawsuit on May 27, 2021 contesting the assessment. The previously set trial date was vacated, and a case management conference is scheduled for June 2023. However, litigation is uncertain and a ruling against us may adversely affect our financial position and results of operations.

Our global operations and structure subject us to potentially adverse tax consequences.

We generally conduct our global operations through subsidiaries and report our taxable income in various jurisdictions worldwide based upon our business operations in those jurisdictions. In particular, our intercompany relationships are subject to complex transfer pricing regulations administered by taxing authorities in various jurisdictions. Also, our tax expense could be affected depending on the applicability of withholding and other taxes (including withholding and indirect taxes on software licenses and related intercompany transactions) under the tax laws of certain jurisdictions in which we have business operations. The relevant revenue and taxing authorities may disagree with positions we have taken generally, or our determinations as to the value of assets sold or acquired or income and expenses attributable to specific jurisdictions. If such a disagreement were to occur, and our position were not sustained, we could be required to pay additional taxes, interest and penalties, which could result in one-time tax charges, higher effective tax rates, reduced cash flows and lower overall profitability of our operations.

Changes in, or interpretations of, tax rules and regulations or our tax positions may materially and adversely affect our income taxes.

We are subject to income taxes in both the United States and numerous international jurisdictions. Significant judgment is required in determining our worldwide provision for income taxes. In the ordinary course of our business, there are many transactions and calculations where the ultimate tax determination is uncertain. Our effective tax rates may fluctuate significantly on a quarterly basis because of a variety of factors, including changes in the mix of earnings and losses in countries with differing statutory tax rates, changes in our business or structure, changes in tax laws that could adversely impact our income or non-income taxes or the expiration of or disputes about certain tax agreements in a particular country. We are subject to audit by various tax authorities. In accordance with U.S. GAAP, we recognize income tax benefits, net of required valuation allowances and accrual for uncertain tax positions. Although we believe our tax estimates are reasonable, the final determination of tax audits and any related litigation could be materially different than that which is reflected in historical income tax provisions and accruals. Should additional taxes be assessed as a result of an audit or litigation, an adverse effect on our results of operations, financial condition and cash flows in the period or periods for which that determination is made could result.

Changes in tax laws (including in response to the COVID-19 pandemic) or tax rulings, or changes in interpretations of existing laws, could cause us to be subject to additional income-based taxes and non-income taxes (such as payroll, sales, use, value-added, digital tax, net worth, property, and goods and services taxes), which in turn could materially affect our financial position and results of operations. Additionally, new, changed, modified, or newly interpreted or applied tax laws could increase our customers' and our compliance, operating and other costs, as well as the costs of our products. For example, on August 16, 2022, the Inflation Reduction Act of 2022 was signed into law, with tax provisions primarily focused on implementing a 15% minimum tax on global adjusted financial statement income, effective for tax years beginning after December 31, 2022, and a 1% excise tax on share repurchases occurring after December 31, 2022, which may affect our share repurchase program.

As another example, beginning in 2022, the Tax Cuts and Jobs Act of 2017 (the "Tax Act") eliminates the option to deduct research and development expenditures currently and requires taxpayers to capitalize and amortize them over five or fifteen years pursuant to Section 174 of the Code, which impacts our effective tax rate and our cash tax liability in 2023. If the requirement to capitalize Section 174 expenditures is not modified by legislation, it may also impact our effective tax rate and our cash tax liability in the future.

On October 8, 2021, the Organization for Economic Co-operation and Development (the "OECD") announced the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting (the "Framework") which agreed to a two-pillar solution to address tax challenges arising from digitalization of the economy. On December 20, 2021, the OECD released Pillar Two Model Rules defining the global minimum tax rules, which contemplate a minimum tax rate of 15%. The OECD continues to release additional guidance on these rules and the Framework calls for law enactment by OECD and G20 members to take effect after 2023. These changes, when enacted by various countries in which we do business, may increase our taxes in these countries. Changes to these and other areas in relation to international tax reform, including future actions taken by foreign governments in response to the Tax Act, could increase uncertainty and may adversely affect our tax rate and cash flow in future years.

Risks Related to Ownership of Our Class A Common Stock

The trading price of our Class A common stock has been volatile and may continue to be volatile, and you could lose all or part of your investment.

The trading price of our Class A common stock has, and may continue to, fluctuate significantly in response to numerous factors, many of which are beyond our control and may not be related to our operating performance, including:

- price and volume fluctuations in the overall stock market from time to time;
- volatility in the trading prices and trading volumes of technology stocks;
- changes in operating performance and stock market valuations of other technology companies generally, or those in our industry in particular;
- sales of shares of our Class A common stock by our stockholders;
- our issuance or repurchase of shares of our Class A common stock;
- short selling of our Class A common stock or related derivatives;
- failure of securities analysts to maintain coverage of us, changes in financial estimates by securities analysts who follow our company, or our failure to meet these estimates or the expectations of investors;
- the financial projections we may provide to the public, any changes in those projections or our failure to meet those projections;
- announcements by us or our competitors of new products or services;
- the public’s reaction to our press releases, other public announcements and filings with the SEC;
- rumors and market speculation involving us or other companies in our industry;
- changes in laws, industry standards, regulations or regulatory enforcement in the United States or internationally;
- actual or anticipated changes in our results of operations or fluctuations in our results of operations;
- actual or anticipated developments in our business, our competitors’ businesses or the competitive landscape generally;
- litigation involving us, our industry or both, or investigations by regulators into our operations or those of our competitors;
- developments or disputes concerning our intellectual property or other proprietary rights;
- announced or completed acquisitions of businesses, products, services or technologies by us or our competitors;
- changes in accounting standards, policies, guidelines, interpretations or principles;
- any significant change in our management, including changes in the pace of hiring; and
- general political, social, economic and market conditions, in both domestic and foreign markets, including the effects of the COVID-19 pandemic and the war in Ukraine on the global economy, changes in the labor market,

supply chain disruptions, inflation, increased interest rates, instability and volatility in the banking and financial services sector, and slow or negative growth of our markets.

In addition, in the past, following periods of volatility in the overall market and the market price of a particular company's securities, securities class action litigation has often been instituted against these companies. This litigation, if instituted against us, could result in substantial costs and a diversion of our management's attention and resources.

Substantial future sales of shares of our Class A common stock could cause the market price of our Class A common stock to decline.

The market price of our Class A common stock could decline as a result of substantial sales of our Class A common stock, particularly sales by our directors, executive officers and significant stockholders, or the perception in the market that holders of a large number of shares intend to sell their shares. Additionally, the shares of Class A common stock subject to outstanding options and restricted stock unit awards under our equity incentive plans and the shares reserved for future issuance under our equity incentive plans will become eligible for sale in the public market upon issuance, subject to applicable insider trading policies.

Until no later than June 2023, the dual class structure of our common stock has the effect of concentrating voting power with those stockholders who held our capital stock prior to the completion of our initial public offering, including our directors, executive officers and their respective affiliates. This limits the ability of holders of our Class A common stock to influence corporate matters, including the election of directors, amendments of our organizational documents and any merger, consolidation, sale of all or substantially all of our assets, or other major corporate transaction requiring stockholder approval.

Our Class B common stock has 10 votes per share, and our Class A common stock has one vote per share. As of March 31, 2023, our directors, executive officers and their respective affiliates, held in the aggregate 21.2% of the voting power of our capital stock. Because of the 10-to-one voting ratio between our Class B common stock and Class A common stock, the holders of our Class B common stock collectively will be able to significantly influence certain matters submitted to our stockholders for approval until the earlier of (i) June 28, 2023 (the "Final Conversion Date"), or (ii) the date the holders of two-thirds of our Class B common stock elect to convert the Class B common stock to Class A common stock. While our dual class common stock structure remains in effect, this concentrated voting power limits your ability to influence corporate matters, including the election of directors, amendments of our organizational documents, and any merger, consolidation, sale of all or substantially all of our assets, or other major corporate transaction requiring stockholder approval. In addition, our dual class structure may prevent or discourage unsolicited acquisition proposals or offers for our capital stock that you may feel are in your best interest as one of our stockholders.

Future transfers by holders of Class B common stock will generally result in those shares converting to Class A common stock, subject to limited exceptions, such as certain transfers effected for estate planning purposes. The conversion of Class B common stock to Class A common stock will have the effect, until no later than the Final Conversion Date, of increasing the relative voting power of those holders of Class B common stock who retain their shares in the long term.

We may not realize the anticipated long-term stockholder value of our share repurchase program, and any failure to repurchase our Class A common stock after we have announced our intention to do so may negatively impact our stock price.

In February 2023, we announced that our Board of Directors authorized the repurchase of up to $1.0 billion of our Class A common stock from time to time through a share repurchase program. Under our share repurchase program, we may make repurchases of stock through a variety of methods, including open share market purchases, privately negotiated purchases, entering into one or more confirmations or other contractual arrangements with a financial institution counterparty to effectuate one or more accelerated stock repurchase contracts, forward purchase contracts or similar derivative instruments, Dutch auction tender offers, or through a combination of any of the foregoing, in accordance with applicable federal securities laws. Our share repurchase program terminates at 11:59 pm Pacific Time on December 31, 2024, does not obligate us to repurchase any specific number of shares, and may be suspended at any time at our discretion and without prior notice. The timing and amount of any repurchases, if any, will be subject to liquidity, stock price, market and economic conditions, compliance with applicable legal requirements such as Delaware surplus and solvency tests and other relevant factors. Any failure to repurchase stock after we have announced our intention to do so may negatively impact our reputation and investor confidence in us and may negatively impact our stock price.

The existence of our share repurchase program could cause our stock price to be higher than it otherwise would be and could potentially reduce the market liquidity for our stock. Although our share repurchase program is intended to enhance long-term stockholder value, there is no assurance that it will do so because the market price of our Class A common stock may decline below the levels at which we repurchase shares, and short-term stock price fluctuations could reduce the effectiveness of the program.

Repurchasing our Class A common stock reduces the amount of cash we have available to fund working capital, capital expenditures, strategic acquisitions or business opportunities, and other general corporate purposes, and we may fail to realize the anticipated long-term stockholder value of any share repurchase program.

If securities or industry analysts change their recommendations regarding our Class A common stock adversely, the trading price of our Class A common stock and trading volume could decline.

The trading market for our Class A common stock is influenced by the research and reports that securities or industry analysts may publish about us, our business, our market or our competitors. If any of the analysts who cover us change their recommendation regarding our Class A common stock adversely, or provide more favorable relative recommendations about our competitors, the trading price of our Class A common stock would likely decline. If any analyst who covers us were to cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause the trading price of our Class A common stock or trading volume to decline.

Anti-takeover provisions contained in our amended and restated certificate of incorporation and second amended and restated bylaws, as well as provisions of Delaware law, could impair a takeover attempt.

Our amended and restated certificate of incorporation, second amended and restated bylaws and Delaware law contain provisions which could have the effect of rendering more difficult, delaying, or preventing an acquisition deemed undesirable by our Board of Directors. Among other things, our amended and restated certificate of incorporation and second amended and restated bylaws include provisions:

- authorizing “blank check” preferred stock, which could be issued by our Board of Directors without stockholder approval and may contain voting, liquidation, dividend and other rights superior to our Class A and Class B common stock;
- limiting the liability of, and providing indemnification to, our directors and officers;
- limiting the ability of our stockholders to call and bring business before special meetings;
- providing for a dual class common stock structure in which holders of our Class B common stock have until no later than the Final Conversion Date the ability to significantly influence the outcome of matters requiring stockholder approval, even if they own significantly less than a majority of the outstanding shares of our Class A and Class B common stock, including the election of directors and significant corporate transactions, such as a merger or other sale of our company or its assets;
- providing that our Board of Directors is classified into three classes of directors with staggered three-year terms;
- prohibit stockholder action by written consent, which requires all stockholder actions to be taken at a meeting of our stockholders;
- requiring advance notice of stockholder proposals for business to be conducted at meetings of our stockholders and for nominations of candidates for election to our Board of Directors;
- controlling the procedures for the conduct and scheduling of Board of Directors and stockholder meetings; and
- providing for advance notice procedures that stockholders must comply with in order to nominate candidates to our Board of Directors or to propose matters to be acted upon at a meeting of stockholders, which may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer’s own slate of directors or otherwise attempting to obtain control of us.

These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our management.

As a Delaware corporation, we are also subject to provisions of Delaware law, including Section 203 of the Delaware General Corporation Law, which prevents certain stockholders holding more than 15% of our outstanding common stock from engaging in certain business combinations without approval of the holders of at least two-thirds of our outstanding common stock not held by such 15% or greater stockholder.

Any provision of our amended and restated certificate of incorporation, second amended and restated bylaws or Delaware law that has the effect of delaying, preventing or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock and could also affect the price that some investors are willing to pay for our Class A common stock.

Our second amended and restated bylaws provides that the Court of Chancery of the State of Delaware is the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our second amended and restated bylaws provides that the Court of Chancery of the State of Delaware is the exclusive forum for the following types of actions or proceedings under Delaware statutory or common law:

- any derivative action or proceeding brought on our behalf;
- any action asserting a breach of fiduciary duty owed by our directors, officers, employees or our stockholders;
- any action asserting a claim against us arising under the Delaware General Corporation Law; and
- any action asserting a claim against us that is governed by the internal-affairs doctrine (the "Delaware Forum Provision").

The Delaware Forum Provision would not apply to suits brought to enforce a duty or liability created by the Exchange Act or any other claim under the Securities Act, for which the United States District Court for the Northern District of California has sole and exclusive jurisdiction (the "Federal Forum Provision"), as we are based in the State of California. In addition, our second amended and restated bylaws provide that any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock is deemed to have notice of and consented to the Delaware Forum Provision and the Federal Forum Provision; provided, however, that stockholders cannot and will not be deemed to have waived our compliance with the U.S. federal securities laws and the rules and regulations thereunder.

The Delaware Forum Provision and the Federal Forum Provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or employees, which may discourage lawsuits against us and our directors, officers and employees. If a court were to find the Delaware Forum Provision and the Federal Forum Provision in our second amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving the dispute in other jurisdictions, which could seriously harm our business.

We do not expect to declare any dividends in the foreseeable future.

We have never paid dividends and we do not anticipate declaring any cash dividends to holders of our common stock in the foreseeable future. Consequently, investors may need to rely on sales of their Class A common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investment. Investors seeking cash dividends should not purchase our Class A common stock.

General Risks

Our business is subject to the risks of pandemics, earthquakes, fire, floods and other natural catastrophic events, and to interruption by man-made problems such as power disruptions, computer viruses, data security breaches, terrorism or war.

Our business operations are subject to interruption by natural disasters, flooding, fire, power shortages, public health epidemics or pandemics such as COVID-19, terrorism, political unrest, cyber-attacks, geopolitical instability, war, the effects of climate change and other events beyond our control. For example, our corporate headquarters are located in the San Francisco Bay Area, a region known for seismic activity. A significant natural disaster, such as an earthquake, fire or flood, occurring at our headquarters, at one of our other facilities or where a business partner is located could adversely affect our business, results of operations and financial condition. Further, if a natural disaster or man-made problem were to affect our service providers, this could adversely affect the ability of our customers to use our products and platform. Natural disasters, public health epidemics or pandemics, such as the COVID-19 pandemic, and geopolitical events, such as the war in Ukraine, could cause disruptions in our or our customers' businesses, national economies or the world economy as a whole.

We also rely on our network and third-party infrastructure and enterprise applications and internal technology systems for our engineering, sales and marketing, and operations activities. Although we maintain incident management and disaster response plans, in the event of a major disruption caused by a natural disaster or man-made problem, we may be unable to continue our operations and may endure system interruptions, reputational harm, delays in our development activities, lengthy interruptions in service, breaches of data security and loss of critical data, any of which could adversely affect our business, results of operations and financial condition.

In addition, computer malware, viruses and computer hacking, fraudulent use attempts and phishing attacks have become more prevalent in our industry, have occurred on our platform in the past and may occur on our platform in the future. Though it is difficult to determine what, if any, harm may directly result from any specific interruption or attack, any failure to maintain performance, reliability, security, integrity and availability of our products and technical infrastructure to the satisfaction of our customers may harm our reputation and our ability to retain existing customers and attract new customers. In addition, global climate change could result in certain types of natural disasters occurring more frequently or with more intense effects. Any such events may result in users being subject to service disruptions or outages, and we may not be able to recover our technical infrastructure in a timely manner to maintain or resume operations, which may adversely affect our financial results.

Our reputation and/or business could be negatively impacted by ESG matters and/or our reporting of such matters.

There is an increasing focus from regulators, certain investors, and other stakeholders concerning ESG matters, both in the United States and internationally. We communicate certain ESG-related initiatives, goals, and/or commitments regarding environmental matters, diversity, responsible sourcing and social investments, and other matters in our annual ESG Report, on our website, in our filings with the SEC, and elsewhere. These initiatives, goals, or commitments could be difficult to achieve and costly to implement. We could fail to achieve, or be perceived to fail to achieve, our ESG-related initiatives, goals, or commitments. In addition, we could be criticized for the timing, scope or nature of these initiatives, goals, or commitments, or for any revisions to them. To the extent that our required and voluntary disclosures about ESG matters increase, we could be criticized for the accuracy, adequacy, or completeness of such disclosures. Our actual or perceived failure to achieve our ESG-related initiatives, goals, or commitments could negatively impact our reputation, result in ESG-focused investors not purchasing and holding our stock, or otherwise materially harm our business.

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

Unregistered Sales of Equity Securities

During the three months ended March 31, 2023, we issued 22,102 shares of our unregistered Class A common stock to an independent donor advised fund to further our Twilio.org philanthropic goals. The shares were “restricted securities” for purposes of Rule 144 under the Securities Act, and had an aggregate fair market value on the date of donation of $1.6 million. The foregoing transaction did not involve any underwriters, any underwriting discounts or commissions, or any public offering. We believe the offer, sale and issuance of the above shares were exempt from registration under the Securities Act by virtue of Section 4(a)(2) of the Securities Act because the issuance of the shares did not involve a public offering.

Issuer Purchases of Equity Securities

The following table summarizes the share repurchase activity for the three months ended March 31, 2023:

	Total Number of Shares Purchased[1]	Average Price Paid Per Share[2]	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs[1]	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs[1]
	(In thousands)		(In thousands)	(In millions)
January 1 - 31, 2023	—	$ —	—	$ 1,000
February 1 - 28, 2023	152	$ 65.61	152	$ 990
March 1 - 31, 2023	1,750	$ 65.72	1,750	$ 875
	1,902		1,902	

[1] In February 2023, our Board of Directors authorized a share repurchase program to repurchase up to $1.0 billion in aggregate value of our Class A common stock. Repurchases under the program can be made through open market transactions, privately negotiated transactions and other means in compliance with applicable federal securities laws, including through Rule 10b5-1 plans. We have discretion in determining the conditions under which shares may be repurchased from time to time. The program is set to expire on December 31, 2024. Refer to Note 14 — Stockholders' Equity in Part I, Item 1, of this Quarterly Report on Form 10-Q for additional information related to share repurchases.

[2] Average price paid per share includes costs associated with the repurchases.

Item 5. ***Other Information***

Not applicable.

Item 6. *Exhibits*

The documents listed in the Exhibit Index of this Quarterly Report on Form 10-Q are incorporated by reference or are filed with this Quarterly Report on Form 10-Q, in each case as indicated therein.

EXHIBIT INDEX

Exhibit Number	Description	Incorporated by Reference				
		Form	**File No.**	**Exhibit**	**Filing Date**	
10.1+	Form of Cash-Based Award Agreement	8-K	001-37806	10.1	February 22, 2023	
10.2+	Form of Amended CEO Severance Plan	8-K	001-37806	10.2	February 22, 2023	
10.3+	Form of Senior Executive Severance Plan	8-K	001-37806	10.3	February 22, 2023	
10.4+	Offer Letter with Aidan Viggiano, dated February 10, 2023	10-K	001-37806	10.14	February 27, 2023	
10.5+	Letter Agreement with Eyal Manor, dated February 2, 2023	10-K	001-37806	10.15	February 27, 2023	
10.6+	Non-Employee Directors' Deferred Compensation Program, and forms thereunder				Filed herewith	
31.1	Certification of the Chief Executive Officer pursuant to Exchange Act Rules 13a-14(a) or 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				Filed herewith	
31.2	Certification of the Chief Financial Officer pursuant to Exchange Act Rules 13a-14(a) or 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				Filed herewith	
32.1*	Certification of the Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002				Furnished herewith	
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				Filed herewith	
101.SCH	Inline XBRL Taxonomy Extension Schema Document				Filed herewith	
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document				Filed herewith	
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document				Filed herewith	
101.LAB	XBRL Taxonomy Extension Label Linkbase Document				Filed herewith	
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document				Filed herewith	
104	Cover Page with Interactive Data File (formatted as Inline XBRL with applicable taxonomy extension information contained in Exhibits 101)					

+ Indicates management control of a compensatory plan, contract or agreement.
* 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 Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Twilio Inc.

May 9, 2023	/s/ JEFF LAWSON Jeff Lawson *Director and Chief Executive Officer (Principal Executive Officer)*
May 9, 2023	/s/ AIDAN VIGGIANO Aidan Viggiano *Chief Financial Officer (Principal Accounting and Financial Officer)*

RULES AND CONDITIONS
FOR THE TWILIO INC.
NON-EMPLOYEE DIRECTORS' DEFERRED COMPENSATION PROGRAM (THE "PROGRAM")

The following rules and conditions have been adopted by the Board of Directors of Twilio Inc. (the "Company") to govern the deferral of Restricted Stock Units by Non-Employee Directors pursuant to the Twilio Inc. 2016 Stock Option and Incentive Plan (the "Stock Plan") and the Twilio Inc. Amended and Restated Non-Employee Director Compensation Policy (the "Policy"). Capitalized terms used but not defined herein shall have the meaning given such terms in the Stock Plan.

1. <u>Election to Defer the Equity Retainer</u>. A Non-Employee Director may elect in advance to defer the receipt of the initial and/or annual Restricted Stock Unit Grant made to such Non-Employee Director pursuant to the Policy under the Stock Plan (such grant, the "Equity Retainer"). To make such an election, except with respect to a newly elected or appointed Non- Employee Director, the Non-Employee Director must execute and deliver to the Company a deferral election form before the end of the calendar year preceding the calendar year in which the applicable Equity Retainer is scheduled to be granted. A newly elected or appointed Non- Employee Director, may, upon (but no later than 30 days after) becoming a Non-Employee Director, file a deferral election with respect to the initial Equity Retainer and/or to Equity Retainers that are awarded subsequent to the election. An election shall remain in effect from year to year until revoked in writing by the Non-Employee Director, but any revocation shall become effective only with respect to Equity Retainers that are granted in calendar years beginning after receipt and acceptance by the Company of a written revocation. All elections (including revocation thereof) must be made during an open window period while the Non- Employee Director is not in possession of any material non-public information relating to the Company.

2. <u>Deferred Account</u>. Upon the vesting of any Equity Retainer awarded to any Non- Employee Director who has elected to defer his or her Equity Retainer(s) pursuant to this Program, any shares of Stock that would otherwise have been issued to the Non-Employee Director upon such vesting shall be converted to deferred stock units on a one-to-one basis and credited to the Non-Employee Director's deferred account ("Account").

3. <u>Dividend Equivalent Amounts</u>. If dividends (other than dividends payable only in shares of Stock) are paid with respect to Stock, each Account shall be credited with a number of whole and fractional stock units determined by multiplying the dividend value per share by the stock unit balance of the Account on the record date and dividing the result by the Fair Market Value of a share of Stock on the dividend payment date.

4. <u>Period of Deferral</u>. The deferred stock units in each Account shall be deferred until, and the period of deferral shall cease upon, the earliest of (a) 90 days after a Non- Employee Director ceases to serve as a member of the Board of Directors of the Company and incurs a "separation from service" within the meaning of Section 409A of the Internal Revenue Code of 1986, as amended, and the regulations promulgated thereunder ("Section 409A"), (b) the consummation of a Sale Event (as defined in the Stock Plan) so long as such Sale Event constitutes a "change in the ownership or effective control of the

Company, or in the ownership of a substantial portion of the assets of the Company" within the meaning of Section 409A (a "Change in Control") or (dc) 90 days after the date of a Non-Employee Director's death.

5. Designation of Beneficiary. A Non-Employee Director may designate one or more beneficiaries to receive payments from his or her Account in the event of his or her death. A designation of beneficiary may apply to a specified percentage of a Non-Employee Director's entire interest in his or her Account. Such designation, or any change therein, must be in writing and shall be effective upon receipt by the Company. If there is no effective designation of beneficiary, or if no beneficiary survives the Non-Employee Director, the estate of the Non- Employee Director shall be deemed to be the beneficiary. All payments to a beneficiary or estate shall be made in a lump sum in shares of Stock, with any fractional share paid in cash.

6. Payment. All amounts credited to a Non-Employee Director's Account shall be paid in shares of Stock to the Non-Employee Director, or his or her designated beneficiary (or beneficiaries) or estate, in a single lump sum as soon as practicable (but in no event later than 30 days deferral) after the end of the first applicable period of deferral specified in Section 4 (above) occurs; provided, however, that fractional shares shall be paid in cash.

7. Adjustments. In the event of a stock dividend, stock split or similar change in capitalization affecting the Stock, the Company shall make appropriate adjustments in the number of stock units credited to the Non-Employee Directors' Accounts.

8. Non-transferability of Rights. During a Non-Employee Director's lifetime, any payment under this Program shall be made only to the Non-Employee Director. No sum or other interest under this deferred compensation arrangement shall be subject in any manner to anticipation, alienation, sale, transfer, assignment, pledge, encumbrance or charge, and any attempt by a Non-Employee Director or any beneficiary under this Program to do so shall be void. No interest under this deferred compensation arrangement shall in any manner be liable for or subject to the debts, contracts, liabilities, engagements or torts of a Non-Employee Director or beneficiary entitled thereto. Notwithstanding the foregoing, the Company may make payments to an individual other than a Non-Employee Director to the extent required by a domestic relations order.

9. Company's Obligations to Be Unfunded and Unsecured. The Accounts maintained under this Program shall at all times be entirely unfunded, and no provision shall at any time be made with respect to segregating assets of the Company (including Stock) for payment of any amounts hereunder. No Non-Employee Director or other person shall have any interest in any particular assets of the Company (including Stock) by reason of the right to receive payment under this Program, and any Non-Employee Director or other person shall have only the rights of a general unsecured creditor of the Company with respect to any rights under this Program.

10. Section 409A. This Program is intended to be a compliant deferred compensation plan under Section 409A and shall be administered in accordance with the requirements of Section 409A.

11. Incorporation of Plan. This Program shall be subject to the terms and conditions of the Stock Plan and the Policy. Capitalized terms in this document shall have the meaning specified in the Stock Plan, unless a different meaning is specified herein.

Adopted as of July 13, 2017 (the “Effective Date”)

Exhibit B

Form of Non-Employee Director Restricted Stock Unit Award Agreement

RESTRICTED STOCK UNIT AWARD AGREEMENT (DEFERRED) FOR NON-EMPLOYEE DIRECTORS UNDER THE TWILIO INC. 2016 STOCK OPTION AND INCENTIVE PLAN

Name of Grantee:

No. of Restricted Stock Units:

Grant Date:

Pursuant to the Twilio Inc. 2016 Stock Option and Incentive Plan as amended through the date hereof (the “Plan”), Twilio Inc. (the “Company”) hereby grants an award of the number of Restricted Stock Units listed above (an “Award”) to the Grantee named above. Each Restricted Stock Unit shall relate to one share of Class A Common Stock, par value $0.001 per share (the “Stock”) of the Company. Reference is also made to the Rules and Conditions for the Twilio Inc. Non-Employee Directors’ Deferred Compensation Program (the “Program”) and the Grantee’s deferral election thereunder.

1. Restrictions on Transfer of Award. This Award may not be sold, transferred, pledged, assigned or otherwise encumbered or disposed of by the Grantee, and any shares of Stock issuable with respect to the Award may not be sold, transferred, pledged, assigned or otherwise encumbered or disposed of until (i) the Restricted Stock Units have vested as provided in Paragraph 2 of this Agreement and (ii) shares of Stock have been issued to the Grantee in accordance with the terms of the Plan, this Agreement, and the Program.

2. Vesting of Restricted Stock Units. The restrictions and conditions of Paragraph 1 of this Agreement shall lapse [INITIAL RETAINER: in three equal annual installments, with the first installment vesting 13 months after the Grantee initially joins the Board, the second installment vesting 24 months after the Grantee initially joins the Board and the third installment vesting 36 months after the Grantee initially joins the Board;[1] provided, the Grantee remains in service as a member of the Board on each such date] [ANNUAL RETAINER: in full with respect to all of the Restricted Stock Units on the earlier of (i) the one-year anniversary of the Grant Date or (ii) the date of the Company’s next annual meeting of stockholders following the Grant Date; provided, the Grantee remains in service as a member of the Board on such date].

The Administrator may at any time accelerate the vesting schedule specified in this Paragraph 2. In the event of a Sale Event, the Restricted Stock Units shall become 100% vested.

[1] Note: the requirement for the first tranche to vest in 13 months (12 months after deferral election deadline) – which is a 409A requirement for the deferral election of an annual grant.

3. Termination of Service. Unless the Board of Directors determines otherwise, if the Grantee’s service with the Company and its Subsidiaries terminates for any reason (including death or disability) prior to the satisfaction of the vesting conditions set forth in Paragraph 2 above, any Restricted Stock Units that have not vested as of such date shall automatically and without notice terminate and be forfeited, and neither the Grantee nor any of his or her successors, heirs, assigns, or personal representatives will thereafter have any further rights or interests in such unvested Restricted Stock Units.

4. Issuance of Shares of Stock. The Company shall issue to the Grantee the number of shares of Stock equal to the aggregate number of Restricted Stock Units that have vested pursuant to Paragraph 2 of this Agreement on such date as specified in the Program in accordance with the terms and conditions of the Program and the Grantee shall thereafter have all the rights of a stockholder of the Company with respect to such shares.

5. Incorporation of Plan and Program. Notwithstanding anything herein to the contrary, this Agreement shall be subject to and governed by all the terms and conditions of the Plan and the Program, including the powers of the Administrator set forth in Section 2(b) of the Plan. Capitalized terms in this Agreement shall have the meaning specified in the Plan and the Program, unless a different meaning is specified herein.

6. Section 409A of the Code. This Agreement is intended to be a compliant deferred compensation plan under Section 409A and shall be administered and interpreted in accordance with the requirements of Section 409A. If the Grantee is a specified employee (as defined in Section 409A of the Code) at the time of his or her separation from service and the Restricted Stock Units are settled on account of such separation from service, then the settlement shall be delayed for six months or until the Grantee’s death, if earlier, to the extent required to avoid adverse taxation under Section 409A of the Code.

7. No Obligation to Continue as a Director. Neither the Plan nor this Award confers upon the Grantee any rights with respect to continuance as a Director.

8. Integration. This Agreement and the Program (including any elections thereunder) constitute the entire agreement between the parties with respect to this Award and supersedes all prior agreements and discussions between the parties concerning such subject matter.

9. Data Privacy Consent. In order to administer the Plan and this Agreement and to implement or structure future equity grants, the Company, its subsidiaries and affiliates and certain agents thereof (together, the “Relevant Companies”) may process any and all personal or professional data, including but not limited to Social Security or other identification number, home address and telephone number, date of birth and other information that is necessary or desirable for the administration of the Plan and/or this Agreement (the “Relevant Information”). By entering into this Agreement, the Grantee (i) authorizes the Company to collect, process, register and transfer to the Relevant Companies all Relevant Information; (ii) waives any privacy rights the Grantee may have with respect to the Relevant Information; (iii) authorizes the Relevant Companies to store and transmit such information in electronic form; and (iv) authorizes the transfer of the Relevant Information to any jurisdiction in which the Relevant Companies consider appropriate. The Grantee shall have access to, and the right to change, the Relevant Information. Relevant Information will only be used in accordance with applicable law.

10. Notices. Notices hereunder shall be mailed or delivered to the Company at its principal place of business and shall be mailed or delivered to the Grantee at the address on file with the Company or, in either case, at such other address as one party may subsequently furnish to the other party in writing.

Twilio Inc.

By:
Title:

The foregoing Agreement is hereby accepted and the terms and conditions thereof hereby agreed to by the undersigned. Electronic acceptance of this Agreement pursuant to the Company's instructions to the Grantee (including through an online acceptance process) is acceptable.

Dated:

Grantee's Signature

Grantee's name and address:

Exhibit 31.1

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

I, Jeff Lawson, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Twilio 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(s) 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(s) 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 the 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.

Date: May 9, 2023

/s/ JEFF LAWSON

Jeff Lawson
Chief Executive Officer (Principal Executive Officer)

Exhibit 31.2

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

I, Aidan Viggiano, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Twilio 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(s) 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(s) 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 the 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.

Date: May 9, 2023

/s/ AIDAN VIGGIANO

Aidan Viggiano

Chief Financial Officer (Principal Accounting and Financial Officer)

Exhibit 32.1

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, (the “Exchange Act”) and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, Jeff Lawson, Chief Executive Officer of Twilio Inc. (the “Company”), and Aidan Viggiano, Chief Financial Officer of the Company, each hereby certifies that, to the best of their knowledge:

1. The Company’s Quarterly Report on Form 10-Q for the quarter ended March 31, 2023, to which this Certification is attached as Exhibit 32.1 (the “Periodic Report”), fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and

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

Date: May 9, 2023

/s/ JEFF LAWSON
Jeff Lawson
Chief Executive Officer (Principal Executive Officer)

/s/ AIDAN VIGGIANO
Aidan Viggiano
Chief Financial Officer (Principal Accounting and Financial Officer)