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

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2020

or

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

For the transition period from to

Commission file number: 001-34720

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

Delaware	**77-0521800**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification Number)**

4655 Great America Parkway, Suite 300
Santa Clara, California 95054
(Address of principal executive offices, including zip code)

(408) 245-3800
(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
Common stock, $0.001 Par Value per Share	TNAV	The NASDAQ Global Market

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

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

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

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

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

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

As of September 30, 2020, there were 47,522,790 shares of the Registrant's Common Stock outstanding.

TELENAV, INC.

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements.

TELENAV, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(in thousands, except par value)
(unaudited)

	September 30, 2020	June 30, 2020
Assets		
Current assets:		
Cash and cash equivalents	$ 28,313	$ 20,518
Short-term investments	70,505	90,315
Accounts receivable, net of allowances of $7 and $5 at September 30, 2020 and June 30, 2020, respectively	47,371	34,542
Restricted cash	2,059	1,494
Deferred costs	25,881	26,121
Prepaid expenses and other current assets	4,839	4,505
Total current assets	178,968	177,495
Property and equipment, net	3,689	4,319
Operating lease right-of-use assets	6,363	7,067
Deferred income taxes, non-current	1,318	1,515
Goodwill	14,255	14,255
Deferred costs, non-current	50,160	54,548
Other assets	41,192	34,552
Total assets	$ 295,945	$ 293,751
Liabilities and stockholders' equity		
Current liabilities:		
Trade accounts payable	$ 19,728	$ 12,291
Accrued expenses	31,833	36,210
Operating lease liabilities	2,824	2,786
Deferred revenue	37,876	37,973
Income taxes payable	223	715
Total current liabilities	92,484	89,975
Operating lease liabilities, non-current	4,654	5,191
Deferred revenue, non-current	95,654	100,970
Other long-term liabilities	664	645
Commitments and contingencies	—	—
Stockholders' equity:		
Preferred stock, $0.001 par value: 50,000 shares authorized; no shares issued or outstanding	—	—
Common stock, $0.001 par value: 600,000 shares authorized; 47,523 and 47,342 shares issued and outstanding at September 30, 2020 and June 30, 2020, respectively	47	47
Additional paid-in capital	194,912	192,170
Accumulated other comprehensive loss	(432)	(477)
Accumulated deficit	(92,038)	(94,770)
Total stockholders' equity	102,489	96,970
Total liabilities and stockholders' equity	$ 295,945	$ 293,751

See accompanying Notes to Condensed Consolidated Financial Statements.

TELENAV, INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share amounts)
(unaudited)

	Three Months Ended September 30,	
	2020	2019
Revenue:		
Product	$ 56,809	$ 55,990
Services	12,787	10,639
Total revenue	69,596	66,629
Cost of revenue:		
Product	32,530	31,989
Services	7,553	4,862
Total cost of revenue	40,083	36,851
Gross profit	29,513	29,778
Operating expenses:		
Research and development	18,986	20,663
Sales and marketing	1,996	1,946
General and administrative	6,512	7,287
Total operating expenses	27,494	29,896
Income (loss) from operations	2,019	(118)
Other income, net	714	561
Income from continuing operations before provision for income taxes	2,733	443
Provision for income taxes	14	411
Equity in net (income) of equity method investees	(616)	—
Income from continuing operations	3,335	32
Discontinued operations:		
Income from operations of Advertising business, net of tax	—	832
Loss from sale of Advertising business	—	(4,818)
Loss on discontinued operations	—	(3,986)
Net income (loss)	$ 3,335	$ (3,954)
Basic income (loss) per share:		
Income from continuing operations	$ 0.07	$ —
Loss on discontinued operations	—	(0.08)
Net income (loss)	$ 0.07	$ (0.08)
Diluted income (loss) per share:		
Income from continuing operations	$ 0.07	$ —
Loss on discontinued operations	—	(0.08)
Net income (loss)	$ 0.07	$ (0.08)
Weighted average shares used in computing income (loss) per share:		
Basic	47,227	47,780
Diluted	47,841	49,648
Stock-based compensation expense included in continuing operations above:		
Cost of revenue	$ 19	$ 16
Research and development	1,830	1,095
Sales and marketing	369	135
General and administrative	639	506
Total stock-based compensation expense	$ 2,857	$ 1,752

See accompanying Notes to Condensed Consolidated Financial Statements.

TELENAV, INC.

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(in thousands)
(unaudited)

	Three Months Ended September 30,	
	2020	**2019**
Net income (loss)	$ 3,335	$ (3,954)
Other comprehensive income (loss):		
Foreign currency translation adjustment, net of tax	360	(310)
Available-for-sale securities:		
Unrealized gain (loss) on available-for-sale securities, net of tax	(127)	59
Reclassification adjustments for loss on available-for-sale securities recognized, net of tax	(188)	(1)
Net increase (decrease) from available-for-sale securities, net of tax	(315)	58
Other comprehensive income (loss), net of tax	45	(252)
Comprehensive income (loss)	$ 3,380	$ (4,206)

See accompanying Notes to Condensed Consolidated Financial Statements.

TELENAV, INC.

CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands)
(unaudited)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
Three Months Ended September 30, 2020	Shares	Amount				
Balance at June 30, 2020	47,342	$ 47	$ 192,170	$ (477)	$ (94,770)	$ 96,970
Issuance of common stock upon exercise of stock options	14	—	67	—	—	67
Release of restricted stock units, net of shares withheld for taxes	162	—	(359)	—	—	(359)
Issuance of common stock under employee stock purchase plan	305	—	1,204	—	—	1,204
Repurchase of common stock	(300)	—	(1,027)	—	(603)	(1,630)
Stock-based compensation expense	—	—	2,857	—	—	2,857
Foreign currency translation adjustment, net of tax	—	—	—	360	—	360
Unrealized loss on available-for-sale securities, net of tax	—	—	—	(315)	—	(315)
Net income	—	—	—	—	3,335	3,335
Balance at September 30, 2020	47,523	$ 47	$ 194,912	$ (432)	$ (92,038)	$ 102,489
Three Months Ended September 30, 2019						
Balance at June 30, 2019	46,911	$ 47	$ 182,349	$ (1,477)	$ (90,279)	$ 90,640
Issuance of common stock upon exercise of stock options	1,326	1	8,340	—	—	8,341
Release of restricted stock units, net of shares withheld for taxes	329	1	(1,273)	—	—	(1,272)
Stock-based compensation expense, continuing operations	—	—	1,752	—	—	1,752
Stock-based compensation expense, discontinued operations	—	—	887	—	—	887
Foreign currency translation adjustment, net of tax	—	—	—	(310)	—	(310)
Unrealized loss on available-for-sale securities, net of tax	—	—	—	58	—	58
Net loss	—	—	—	—	(3,954)	(3,954)
Balance at September 30, 2019	48,566	$ 49	$ 192,055	$ (1,729)	$ (94,233)	$ 96,142

See accompanying Notes to Condensed Consolidated Financial Statements.

TELENAV, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)
(unaudited)

	Three Months Ended September 30,	
	2020	2019
Operating activities		
Net income (loss)	$ 3,335	$ (3,954)
Loss on discontinued operations	—	3,986
Income from continuing operations	3,335	32
Adjustments to reconcile income from continuing operations to net cash provided by (used in) operating activities:		
Stock-based compensation expense	2,857	1,752
Depreciation and amortization	760	922
Operating lease amortization, net of accretion	710	544
Accretion of net premium on short-term investments	85	12
Equity in net (income) of equity method investees	(616)	—
Other	(351)	101
Changes in operating assets and liabilities:		
Accounts receivable	(12,653)	16,355
Deferred income taxes	245	171
Deferred costs	4,694	1,979
Prepaid expenses and other current assets	205	(502)
Other assets	(513)	28
Trade accounts payable	7,431	1,738
Accrued expenses and other liabilities	(4,537)	(10,259)
Income taxes payable	(500)	(152)
Operating lease liabilities	(504)	(897)
Deferred revenue	(5,656)	10,345
Net cash provided by (used in) operating activities	(5,008)	22,169
Investing activities		
Purchases of property and equipment	(67)	(461)
Purchases of short-term investments	(2,381)	(41,418)
Purchase of long-term investments	(5,711)	(2,000)
Proceeds from sales and maturities of short-term investments	21,791	11,052
Net cash provided by (used in) investing activities	13,632	(32,827)
Financing activities		
Proceeds from exercise of stock options	67	8,306
Tax withholdings related to net share settlements of restricted stock units	(359)	(832)
Proceeds from issuance of common stock under employee stock purchase plan	1,204	—
Repurchase of common stock	(1,630)	—
Net cash provided by (used in) financing activities	(718)	7,474
Effect of exchange rate changes on cash, cash equivalents and restricted cash	454	(336)
Net increase (decrease) in cash, cash equivalents and restricted cash, continuing operations	8,360	(3,520)
Net cash used in discontinued operations	—	(3,975)
Cash, cash equivalents and restricted cash, beginning of period	22,012	29,225
Cash, cash equivalents and restricted cash, end of period	$ 30,372	$ 21,730
Supplemental disclosure of cash flow information		
Income taxes paid, net	$ 472	$ 739
Non-cash investing: Investment in inMarket Media, LLC acquired in exchange for sale of Advertising business	$ —	$ 15,600
Cash flows from discontinued operations:		
Net cash used in operating activities	$ —	$ (3,569)
Net cash used in financing activities	—	(406)
Net cash transferred from continuing operations	—	3,975
Net change in cash and cash equivalents from discontinued operations	—	—
Cash and cash equivalents of discontinued operations, beginning of period	—	—
Cash and cash equivalents of discontinued operations, end of period	$ —	$ —
Reconciliation of cash, cash equivalents and restricted cash to the condensed consolidated balance sheets		
Cash and cash equivalents	$ 28,313	$ 19,278
Restricted cash	2,059	2,452
Total cash, cash equivalents and restricted cash	$ 30,372	$ 21,730

See accompanying Notes to Condensed Consolidated Financial Statements.

TELENAV, INC.
Notes to Condensed Consolidated Financial Statements
(unaudited)

1. Summary of business and significant accounting policies

Description of business

Telenav, Inc., also referred to in this report as “we,” “our” or “us,” was incorporated in September 1999 in the State of Delaware. We are a leading provider of automotive software and services providing both in-vehicle and cloud-based solutions. We focus on navigation and location-based services (LBS), where we pioneered many innovations including the market’s first mobile cloud-based navigation service. Navigation and LBS are the primary applications for in-vehicle infotainment (IVI) systems and we are using our strengths and core competencies to address the growing demand for overall connected car services. We provide our connected-car products and services directly to automobile manufacturers, as well as tier-one suppliers. Our fiscal year ends on June 30, and in this report we refer to the fiscal year ended June 30, 2020 as “fiscal 2020” and the fiscal year ending June 30, 2021 as “fiscal 2021.”

Commencing July 1, 2019, we operate in a single segment, automotive. Through June 30, 2019, we operated in three segments - automotive, advertising and mobile navigation. In August 2019, we completed the disposition of our digital advertising operations (the "Ads Business") and have presented the results of operations for the Ads Business as discontinued operations for all prior periods presented. See Note 11. Our mobile navigation services business represented less than 5% of total revenue for the three months ended September 30, 2020 and 2019 and we expect the business to continue to decline. Our chief executive officer, or CEO, the chief operating decision maker, does not review mobile navigation revenue and cost of revenue separately. As a result, we combine the mobile navigation business with the automotive business in a single segment.

Basis of presentation

The unaudited condensed consolidated financial statements and accompanying notes have been prepared in accordance with accounting principles generally accepted in the United States of America, or GAAP. The condensed consolidated financial statements include the accounts of Telenav, Inc. and its wholly owned subsidiaries. All significant intercompany balances and transactions have been eliminated in consolidation. The financial statements include all adjustments (consisting only of normal recurring adjustments) that our management believes are necessary for a fair presentation of the periods presented. These interim financial results are not necessarily indicative of results expected for the full fiscal year or for any subsequent interim period.

Our condensed consolidated financial statements also include the financial results of Shanghai Jitu Software Development Ltd., or Jitu, located in China. Based on our contractual arrangements with the shareholders of Jitu, we have determined that Jitu is a variable interest entity, or VIE, for which we are the primary beneficiary and are required to consolidate in accordance with Accounting Standards Codification, or ASC, subtopic 810-10, or ASC 810-10, *Consolidation: Overall*. The results of Jitu did not have a material impact on our financial statements for the three months ended September 30, 2020 and 2019.

The condensed consolidated financial statements and related financial information should be read in conjunction with the audited consolidated financial statements and the related notes thereto for fiscal 2020, included in our Annual Report on Form 10-K for fiscal 2020 filed with the U.S. Securities and Exchange Commission, or SEC, on August 21, 2020, which we refer to as the Form 10-K.

Significant accounting policies

There have been no material changes to our significant accounting policies as compared to the significant accounting policies described in our Form 10-K.

Use of estimates

The preparation of financial statements in conformity with GAAP requires us to make estimates and assumptions that affect the amounts reported in the condensed consolidated financial statements and accompanying notes. Significant estimates and assumptions made by us include the determination of revenue recognition and deferred revenue, including estimating and allocating the transaction price of customer contracts, the recoverability of accounts receivable and short-term investments, the determination of the fair value of non-marketable debt and equity investments, the assessment of goodwill for impairment, the fair value of stock-based awards issued, the determination of income taxes and the recoverability of deferred tax assets. Actual results could differ from those estimates.

In March 2020, the World Health Organization declared the outbreak of the novel coronavirus first identified in China in late 2019 (COVID-19) as a pandemic, which continues to spread throughout the U.S. and the world. The COVID-19 pandemic and related adverse public health developments have caused and will continue to cause disruption to the economy and our business operations resulting from shelter-at-home orders, quarantines, self-isolations, or other restrictions on the ability of our employees to perform their jobs. For example, our automotive manufacturer partners closed manufacturing plants in response to the COVID-19 pandemic and only re-opened them in the three months ended June 30, 2020 for production in North America and Europe. The extent of the impact of the COVID-19 pandemic on our operational and financial performance will depend on future developments, including the duration and spread of the outbreak, its severity, the actions to contain the virus or treat its impact, and how quickly and to what extent normal economic and operating conditions can resume, all of which are uncertain and we cannot predict. During the three months ended September 30, 2020, this uncertainty resulted in a higher level of judgment related to our estimates and assumptions concerning short-term investments, long-lived assets, non-marketable equity and debt investments, goodwill, and variable consideration related to revenue recognition. We expect uncertainties around our key accounting estimates to continue to evolve depending on the duration and degree of impact associated with the COVID-19 pandemic. Our estimates may change as new events occur and additional information emerges, and such changes are recognized or disclosed in our condensed consolidated financial statements.

Disaggregation of revenue

In order to further depict how the nature, amount, timing and uncertainty of our revenue and cash flows are affected by economic factors, the following table depicts the disaggregation of revenue according to revenue type and pattern of recognition (in thousands):

	Three Months Ended September 30,	
	2020	**2019**
Product		
On-board automotive navigation solutions (point in time)[1]	$ 56,809	$ 55,990
Total product revenue	56,809	55,990
Services		
Brought-in automotive navigation solutions (over time)[2]	10,914	6,222
Automotive maintenance and support and other (over time)	90	1,669
Mobile navigation services (over time)	1,783	2,748
Total services revenue	12,787	10,639
Total revenue	$ 69,596	$ 66,629

[1]Includes i) royalties earned and recognized at the point in time usage occurs, ii) map updates and iii) customized software development fees.

[2]Includes royalties earned and recognized over time from the allocation of transaction price to service obligations for hybrid automotive solutions.

Contract assets

Contract assets relate to our rights to consideration for performance obligations satisfied but not billed at the reporting date. As of September 30, 2020 and June 30, 2020, we had no contract assets.

Deferred costs

Changes in the balance of total deferred costs (current and non-current) during the three months ended September 30, 2020 were as follows (in thousands):

	Deferred Costs		
	Content	Development	Total
Balance, June 30, 2020	$ 73,598	$ 7,071	$ 80,669
Content licensing costs incurred	33,136	—	33,136
Customized software development costs incurred	—	695	695
Less: cost of revenue recognized	(37,213)	(1,246)	(38,459)
Balance, September 30, 2020	$ 69,521	$ 6,520	$ 76,041

Concentrations of risk and significant customers

Revenue related to products and services provided through Ford Motor Company and affiliated entities, or Ford, comprised 45% and 52% for the three months ended September 30, 2020 and 2019, respectively. As of September 30, 2020 and June 30, 2020, receivables due from Ford were 38% and 39% of total accounts receivable, respectively.

Revenue related to products and services provided through General Motors Holdings and its affiliates, or GM, comprised 45% and 25% for the three months ended September 30, 2020 and 2019, respectively. As of September 30, 2020 and June 30, 2020, receivables due from GM were 46% and 44% of total accounts receivable, respectively.

Revenue related to products and services provided to affiliates of Grab Holdings, Inc., which, collectively with certain of its affiliates, we refer to as Grab, comprised 10% of total revenue for the three months ended September 30, 2019.

Restricted cash

As of September 30, 2020 and June 30, 2020, we had restricted cash of $2.1 million and $1.5 million, respectively, on our condensed consolidated balance sheets, comprised primarily of prepayments from a customer.

Accumulated other comprehensive loss, net of tax

The components of accumulated other comprehensive loss, net of related taxes, and activity as of September 30, 2020, were as follows (in thousands):

	Foreign Currency Translation Adjustments	Unrealized Gains (Losses) on Available-for-Sale Securities	Total
Balance, net of tax as of June 30, 2020	$ (1,834)	$ 1,357	$ (477)
Other comprehensive income (loss) before reclassifications, net of tax	360	(127)	233
Amount reclassified from accumulated other comprehensive loss, net of tax	—	(188)	(188)
Other comprehensive income (loss), net of tax	360	(315)	45
Balance, net of tax as of September 30, 2020	$ (1,474)	$ 1,042	$ (432)

The amount of income tax benefit allocated to each component of accumulated other comprehensive loss was not material for the three months ended September 30, 2020.

Recent accounting pronouncements not yet adopted

There have been no other changes in accounting pronouncements during the three months ended September 30, 2020, as compared to the recent accounting pronouncements not yet adopted described in our Form 10-K, that are of significance or potential significance to us.

2. Net income (loss) per share

Basic income (loss) per share is calculated by dividing income (loss) by the weighted-average number of common shares outstanding for the period. Diluted income (loss) per share is computed by dividing income (loss) by the weighted-average number of common shares outstanding for the period, including potential dilutive common shares assuming the dilutive effect of outstanding stock options, restricted stock units and employee stock purchase plan rights using the treasury-stock method.

The following table presents the calculation of basic and diluted net loss per share (in thousands, except per share amounts):

	Three Months Ended September 30,	
	2020	2019
Income from continuing operations	$ 3,335	$ 32
Loss on discontinued operations	—	(3,986)
Net income (loss)	$ 3,335	$ (3,954)
Shares used to compute basic income (loss) per share	47,227	47,780
Dilutive potential common shares:		
Stock options	—	527
Restricted stock units	577	1,341
Employee stock purchase plan	37	—
Shares used to compute diluted income (loss) per share	47,841	49,648
Basic income (loss) per share:		
Income from continuing operations	$ 0.07	$ —
Loss on discontinued operations	—	(0.08)
Net income (loss)	$ 0.07	$ (0.08)
Diluted income (loss) per share:		
Income from continuing operations	$ 0.07	$ —
Loss on discontinued operations	—	(0.08)
Net income (loss)	$ 0.07	$ (0.08)
Potential common stock equivalents not included in the calculation of diluted income (loss) per share as the effect would be anti-dilutive	1,856	5,026

A total of 1,495,000 and 800,000 outstanding performance-based restricted stock units as of September 30, 2020 and 2019, respectively, as described further in Note 9, were excluded from the diluted shares calculation above because they are contingently issuable and none of the performance milestones had been met.

3. Cash, cash equivalents and short-term investments

Cash and cash equivalents consist of unrestricted cash and highly liquid fixed-income investments with original maturities of three months or less at the time of purchase, including money market funds. Short-term investments consist of readily marketable debt securities with a remaining maturity of more than three months from the date of purchase. Short-term investments are classified as current assets, even though maturities may extend beyond one year, because they represent investments of cash available for operations. We classify all cash equivalents and short-term investments as “available for sale,” as these investments are free of trading restrictions. Marketable debt securities are carried at fair value, with the unrealized gains and losses, net of tax, reported as accumulated other comprehensive income (loss) and included as a separate component of stockholders’ equity. Gains and losses are recognized when realized. When we have determined that an other-than-temporary decline in fair value has occurred, the amount of the decline that is related to a credit loss is recognized in earnings. Gains and losses are determined using the specific identification method. We had no material realized gains or losses in the three months ended September 30, 2020 or 2019.

Cash, cash equivalents and short-term investments consisted of the following as of September 30, 2020 (in thousands):

Description	Amortized Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
Cash	$ 23,010	$ —	$ —	$ 23,010
Cash equivalents:				
Money market mutual funds	5,303	—	—	5,303
Total cash equivalents	5,303	—	—	5,303
Total cash and cash equivalents	28,313	—	—	28,313
Short-term investments:				
U.S. treasury securities	1,532	27	—	1,559
U.S. agency securities	3,188	44	—	3,232
Asset-backed securities	16,599	352	—	16,951
Municipal securities	6,280	83	—	6,363
Corporate bonds	41,651	750	(1)	42,400
Total short-term investments	69,250	1,256	(1)	70,505
Cash, cash equivalents and short-term investments	$ 97,563	$ 1,256	$ (1)	$ 98,818

Cash, cash equivalents and short-term investments consisted of the following as of June 30, 2020 (in thousands):

Description	Amortized Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
Cash	$ 20,323	$ —	$ —	$ 20,323
Cash equivalents:				
Money market mutual funds	195	—	—	195
Total cash equivalents	195	—	—	195
Total cash and cash equivalents	20,518	—	—	20,518
Short-term investments:				
U.S. treasury securities	3,712	41	—	3,753
U.S. agency securities	5,004	54	—	5,058
Asset-backed securities	20,392	434	—	20,826
Municipal securities	9,464	78	—	9,542
Corporate bonds	50,173	963	—	51,136
Total short-term investments	88,745	1,570	—	90,315
Cash, cash equivalents and short-term investments	$ 109,263	$ 1,570	$ —	$ 110,833

There were no available-for-sale securities that were in a material unrealized loss position as of September 30, 2020 or June 30, 2020.

The following table summarizes the cost and estimated fair value of short-term fixed income securities classified as short-term investments based on stated maturities as of September 30, 2020 (in thousands):

	Amortized Cost	Estimated Fair Value
Due within one year	$ 29,750	$ 30,096
Due between one and two years	28,791	29,479
Due between two and three years	10,709	10,930
Total	$ 69,250	$ 70,505

Declines in fair value judged to be other-than-temporary on securities available for sale are included as a component of other income, net. In order to determine whether a decline in value is other-than-temporary, we evaluate, among other factors: the duration and extent to which the fair value has been less than the carrying value and our intent and ability to retain the investment for a period of time sufficient to allow for any anticipated recovery in fair market value. As of September 30, 2020, we did not consider any of our short-term investments to be other-than-temporarily impaired.

4. Fair value of financial instruments

Cash equivalents and short-term investments

We measure certain financial instruments at fair value on a recurring basis. We utilize a hierarchy, which consists of three levels, for disclosure of the inputs used to determine the fair value of our financial instruments.

Level 1 valuations are based on quoted prices in active markets for identical assets or liabilities.

Level 2 valuations are based on inputs that are observable, either directly or indirectly, other than quoted prices included within Level 1. Such inputs used in determining fair value for Level 2 valuations include quoted prices in active markets for similar assets or liabilities, quoted prices for identical or similar assets or liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 valuations are based upon information that is unobservable and significant to the overall fair value measurement.

Where applicable, we use quoted prices in active markets for similar assets to determine fair value of Level 2 short-term investments. If quoted prices in active markets for identical assets are not available to determine fair value, we use quoted prices for similar assets and liabilities or inputs that are observable either directly or indirectly. If quoted prices for identical or similar assets are not available, we use third-party valuations utilizing underlying assets assumptions.

All of our cash equivalents and short-term investments are classified within Level 1 or Level 2. As of September 30, 2020 and June 30, 2020, we did not have any short-term investments that require Level 3 valuations. The fair values of these financial instruments were determined using the following inputs at September 30, 2020 (in thousands):

Description	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	Fair Value Measurements at September 30, 2020 Using			
Cash equivalents:				
Money market mutual funds	$ 5,303	$ 5,303	$ —	$ —
Total cash equivalents	5,303	5,303	—	—
Short-term investments:				
U.S. treasury securities	1,559	1,559	—	—
U.S. agency securities	3,232	—	3,232	—
Asset-backed securities	16,951	—	16,951	—
Municipal securities	6,363	—	6,363	—
Corporate bonds	42,400	—	42,400	—
Total short-term investments	70,505	1,559	68,946	—
Cash equivalents and short-term investments	$ 75,808	$ 6,862	$ 68,946	$ —

The fair values of our financial instruments were determined using the following inputs at June 30, 2020 (in thousands):

Description	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	Fair Value Measurements at June 30, 2020 Using			
Cash equivalents:				
Money market mutual funds	$ 195	$ 195	$ —	$ —
Total cash equivalents	195	195	—	—
Short-term investments:				
U.S. treasury securities	3,753	3,753	—	—
U.S. agency securities	5,058	—	5,058	—
Asset-backed securities	20,826	—	20,826	—
Municipal securities	9,542	—	9,542	—
Corporate bonds	51,136	—	51,136	—
Total short-term investments	90,315	3,753	86,562	—
Cash equivalents and short-term investments	$ 90,510	$ 3,948	$ 86,562	$ —

Accretion of net premium on short-term investments totaled $85,000 and $12,000 in the three months ended September 30, 2020 and 2019, respectively.

There were no transfers between Level 1 and Level 2 financial instruments in the three months ended September 30, 2020 and 2019.

We did not have any financial liabilities measured at fair value on a recurring basis as of September 30, 2020 or June 30, 2020.

Non-marketable equity investments

Our non-marketable equity securities are investments in privately held companies without readily determinable market values.

The carrying value of our non-marketable equity securities is measured at cost and adjusted to fair value for observable transactions for identical or similar investments of the same issuer or impairment (referred to as the measurement alternative). All gains and losses on non-marketable equity securities, realized and unrealized, are recognized in other income, net. Non-marketable equity securities that we remeasure are classified within Level 3 in the fair value hierarchy because we estimate the value based on valuation methods using the observable transaction price at the transaction date and other unobservable inputs including volatility, rights, and obligations of the securities we hold.

In September 2020, a company in which we held a $200,000 non-marketable equity investment was acquired in an all cash transaction, resulting in a realized gain to us of $247,000. As of September 30, 2020, the transaction proceeds were in process of being transmitted to us and accordingly, the total of $447,000 was included in prepaid expenses and other current assets in our condensed consolidated balance sheet.

In July 2020, we invested $2.5 million in exchange for Series A-3 redeemable convertible preferred shares representing a less than 20% equity ownership interest in a privately held company.

In January 2020, we completed the sale of certain intellectual property and workforce associated with the OpenTerra Platform in exchange for consideration that included a non-marketable equity interest in Grab Holdings, Inc. ordinary shares valued at $6.2 million. See Note 12.

We had no net unrealized gains from non-marketable equity securities in the three months ended September 30, 2020 and 2019.

The carrying value of our non-marketable equity securities carried at cost and adjusted under the measurement alternative, none of which required remeasurement to fair value, was $9.0 million and $6.7 million at September 30, 2020 and June 30, 2020, respectively.

Non-marketable equity investments accounted for under the equity method

In August 2019, we completed the disposition of our Ads Business in exchange for a non-marketable equity investment in inMarket Media, LLC, or inMarket, valued at $15.6 million. See Note 11. In assessing the fair value of our investment in inMarket, we made assumptions regarding estimated future cash flows, weighted average cost of capital and timing over which the cash flows will occur, amongst other factors.

An investment in a limited liability company such as inMarket that maintains a specific ownership account for each investor is deemed to be similar to an investment in a limited partnership. Accordingly, because we hold more than a 3% to 5% ownership interest in inMarket, we are required to account for our inMarket investment under the equity method of accounting and record our proportionate share of investee earnings each period.

In January 2020, we invested $4.0 million in exchange for Series B preferred units and a warrant to purchase additional preferred units in a privately held limited liability company. The warrant expires on the earlier of (i) July 5, 2021, (ii) acceptance of a purchase offer from another entity, or (iii) an initial public offering of the issuer’s common stock. The exercise price of the warrant is variable depending on the achievement of certain performance conditions by the issuer.

The warrant meets the definition of a derivative financial instrument. Accordingly, we allocated the $4.0 million cost of the investment first to the fair value of the warrant, with the residual allocated to the preferred units. The fair value of the warrant at issuance was determined to be $448,000, with the remaining $3.6 million allocated to the preferred units. In assessing the fair value of the warrant within Level 3, we utilized a Black-Scholes option pricing model incorporating assumptions regarding probability of achievement of performance conditions, underlying equity value, expected term and risk free rate. The underlying equity used in the option pricing model was determined primarily based on revenue and earnings multiples for comparable companies, amongst other factors. The warrant is accounted for separately and marked to market each reporting period, with any gain or loss reported in other income, net in our condensed consolidated statement of operations. Similar to the inMarket investment, we account for the $3.6 million investment in preferred units under the equity method of accounting because we hold more than a 3% to 5% ownership interest in the investee.

We recognized income of $616,000 and zero related to our proportionate share of investments accounted for under the equity method for the three months ended September 30, 2020 and 2019, respectively. The carrying value of our non-marketable equity investments accounted for under the equity method was $20.6 million and $20.0 million at September 30, 2020 and June 30, 2020, respectively.

The warrant mark-to-market adjustment at September 30, 2020 was a gain of $104,000. The carrying value of the warrant was $817,000 and $713,000 at September 30, 2020 and June 30, 2020, respectively.

Non-marketable debt investments

In fiscal 2020, we invested $1.5 million in the form of a convertible note receivable in a privately held company without a readily determinable market value. The note receivable matures on October 31, 2021 or upon request for payment by a majority of note holders, or otherwise upon a change of control, qualified financing event or event of default involving the privately held company. The note converts to preferred stock or common stock upon certain events as defined, including a qualified preferred stock financing round or a change in control of ownership. Interest accrues annually at 6.5% and is due in full upon maturity.

In fiscal 2020, we invested $4.0 million and in July 2020 we invested an additional $3.0 million for a total of $7.0 million in the form of convertible notes receivable in a privately held company without a readily determinable market value. The notes receivable mature upon request for payment by a majority of note holders on or after August 23, 2021, or otherwise upon a change of control, qualified financing event or event of default involving the privately held company. The notes convert to preferred stock or common stock upon certain events as defined, including a qualified preferred stock financing round or a change in control of ownership. Interest accrues annually at 6% and is due in full upon maturity.

In fiscal 2020, we invested $417,000 and in July 2020 we invested an additional $90,000 for a total of $507,000 in the form of a convertible note receivable in a privately held company without a readily determinable market value, pursuant to which we agreed to loan up to a total of $710,000. The note receivable matures on March 24, 2021 and is convertible into equity at our discretion. Interest accrues annually at 6% and is due in full upon maturity.

The convertible notes are classified as available for sale and are carried at fair value within Level 3, with any unrealized gains and losses, net of tax, reported as accumulated other comprehensive income (loss) and included as a separate component of stockholders' equity. Gains and losses are recognized when realized and reported in other income, net in our condensed consolidated statement of operations. We did not have any unrealized or realized gains or losses in the three months ended September 30, 2020 and 2019. The carrying value of our non-marketable debt investments was $9.0 million and $5.9 million at September 30, 2020 and June 30, 2020, respectively.

5. Leases

We have entered into various non-cancelable office space operating leases with original lease periods expiring between 2020 and 2024. These do not contain material variable rent payments, residual value guarantees, covenants or other restrictions.

Operating lease costs for the three months ended September 30, 2020 and 2019 were $869,000 and $817,000, respectively. The weighted-average remaining term of our operating leases was 2.9 years and the weighted-average discount rate used to measure the present value of the operating lease liabilities was 5.0% as of September 30, 2020.

Maturities of our operating lease liabilities, which do not include short-term leases, as of September 30, 2020 were as follows (in thousands):

Fiscal Year		
2021	$	2,195
2022		2,865
2023		2,329
2024		619
2025		—
Total lease payments		8,008
Less: imputed interest		(530)
Total operating lease liabilities	$	7,478

Cash payments included in the measurement of our operating lease liabilities were $500,000 and $920,000 for the three months ended September 30, 2020 and 2019, respectively.

6. Balance sheet information

Goodwill

Goodwill as of September 30, 2020 and June 30, 2020 was $14.3 million.

Intangible assets consisted of acquired developed technology, which was fully amortized as of September 30, 2020 and June 30, 2020. Amortization expense related to intangibles was $218,000 for the three months ended September 30, 2019.

Other assets

Other assets consisted of the following (in thousands):

	September 30, 2020	June 30, 2020
Deposits and other assets	$ 1,841	$ 1,225
Non-marketable equity investments	8,970	6,670
Warrant to purchase non-marketable equity investment units	817	713
Non-marketable equity investments accounted for under the equity method	20,557	20,027
Non-marketable debt investments	9,007	5,917
Total other assets	$ 41,192	$ 34,552

Accrued expenses

Accrued expenses consisted of the following (in thousands):

	September 30, 2020	June 30, 2020
Accrued compensation and benefits	$ 8,735	$ 15,117
Accrued royalties	13,091	9,701
Customer overpayments and related reserves	2,607	2,666
Other accrued expenses	7,400	8,726
Total accrued expenses	$ 31,833	$ 36,210

7. Deferred revenue and remaining performance obligations

Deferred revenue

Deferred revenue, which is a contract liability, consists primarily of payments received in advance of revenue recognition under our contracts with customers and is recognized upon transfer of control. Changes in the balance of total deferred revenue (current and non-current) during the three months ended September 30, 2020 were as follows (in thousands):

Beginning balance, June 30, 2020	$ 138,943
Revenue recognized that was included in beginning balance	(18,986)
Amount billed, net of revenue recognized that was not included in beginning balance	13,573
Ending balance, September 30, 2020	$ 133,530

The cumulative adjustment as a result of changes in the estimate of the transaction price of customer contracts during the three months ended September 30, 2020 was a net increase in revenue recognized of $591,000. In addition, the amount of revenue recognized in the three months ended September 30, 2020 from performance obligations satisfied or partially satisfied in previous periods was $591,000.

Remaining performance obligations

Transaction price allocated to the remaining performance obligations represents contracted revenue that has not yet been recognized, which includes deferred revenue and amounts that are expected to be invoiced and recognized as revenue in future periods. As of September 30, 2020, the aggregate amount of the transaction price allocated to remaining performance obligations was $61.3 million, which is expected to be recognized over a remaining period of approximately 0.2 to 6.3 years. This amount excludes the variable consideration that falls under the exemption for usage-based royalties promised in exchange for a license of intellectual property.

8. Commitments and contingencies

Guarantees and indemnifications

Our agreements with our customers generally include certain provisions for indemnifying them against liabilities if our products and services infringe a third party's intellectual property rights or for other specified matters. We have in the past received indemnification requests or notices of their intent to seek indemnification in the future from our customers with respect to specific litigation claims in which our customers have been named as defendants. The maximum amount of potential future indemnification is unlimited.

We have agreed to indemnify our directors, officers and certain other employees for certain events or occurrences, subject to certain limits, while such persons are or were serving at our request in such capacity. We may terminate the indemnification agreements with these persons upon the termination of their services with us, but termination will not affect claims for indemnification related to events occurring prior to the effective date of termination. The maximum amount of potential future indemnification is unlimited. We have a directors' and officers' insurance policy that limits our potential exposure. We believe that any financial exposure related to these indemnification agreements is not material.

Other contractual commitments

As of September 30, 2020, we had $11.8 million of future minimum non-cancelable financial commitments primarily related to license fees due to certain of our third-party content providers, regardless of usage level. These commitments are primarily due within five years.

Contingencies

From time to time, we may become involved in legal proceedings, claims and litigation arising in the ordinary course of business. When we believe a loss or a cost of indemnification is probable and which we can reasonably estimate, we accrue our estimate of the loss or cost of indemnification in our condensed consolidated financial statements. Where we cannot determine the outcome of these matters, we do not make a provision in our financial statements until the loss or cost of indemnification, if any, is probable and can be reasonably estimated or the outcome becomes known. We expense legal fees related to these matters as they are incurred.

In addition, we have received, and expect to continue to receive, demands for indemnification from our customers, which demands can be very expensive to settle or defend, and we have in the past offered to contribute to settlement amounts and incurred legal fees in connection with certain of these indemnity demands. Furthermore, in response to these demands, we may be required to assume control of and bear all costs associated with the defense of our customers in compliance with our contractual commitments.

Legal proceedings are subject to inherent uncertainties. Unfavorable outcomes could have a material adverse impact on our business, financial position, cash flows or overall trends in results of our operations.

9. Stock-based compensation

Under our 2019 Equity Incentive Plan, or the 2019 Plan, (and historically under our 2009 Equity Incentive Plan, which terminated as to new awards in October 2019), eligible employees, directors and consultants are able to participate in our future performance through awards of nonqualified stock options, incentive stock options and restricted stock units as authorized by our board of directors.

A summary of our stock option activity is as follows (in thousands except per share and contractual life amounts):

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (years)	Aggregate Intrinsic Value
Options outstanding as of June 30, 2020	1,638	$ 6.55		
Granted	—	—		
Exercised	(14)	4.92		
Canceled or expired	(9)	5.56		
Options outstanding as of September 30, 2020	1,615	$ 6.56	4.95	$ —
As of September 30, 2020:				
Options vested and expected to vest	1,603	$ 6.58	4.92	$ —
Options exercisable	1,468	$ 6.70	4.64	$ —

A summary of our restricted stock unit, or RSU, activity is as follows (in thousands except contractual life amounts):

	Number of Shares	Weighted Average Remaining Contractual Life (years)	Aggregate Intrinsic Value
RSUs outstanding as of June 30, 2020	2,476		
Granted	380		
Vested	(235)		
Canceled	(77)		
RSUs outstanding as of September 30, 2020	2,544	1.32	$ 9,157
As of September 30, 2020:			
RSUs expected to vest	2,269	1.23	$ 8,168

Performance-based RSUs

In September 2020, the Compensation Committee of our Board of Directors (the “Compensation Committee”) approved the grant under our 2019 Plan of performance-based RSUs covering a target of 195,000 shares of common stock under individual grants to certain of our executive officers, which we refer to as the 2021 PSU Awards. The 2021 PSU Awards are subject to four performance milestones, each requiring achievement of a specified trailing average closing stock price for a 30-trading day period on or before the four-year anniversary of the 2021 PSU Awards’ grant date. In the event our Board of Directors approves entering a transaction which, if consummated, would constitute a “change in control” of the Company as defined in the 2019 Plan, the performance milestones are increased with respect to shares not already eligible to vest under the 2021 PSU Awards, and the performance period is extended to the five-year anniversary of the 2021 PSU Awards’ grant date. Achieving each individual stock price performance milestone will result in one quarter of the shares subject to the 2021 PSU Awards becoming eligible to vest. If a stock price performance milestone is achieved, then the shares that became eligible to vest will vest in four equal quarterly installments as of the ensuing March 1, June 1, September 1 and December 1 following the date of certification of the date the performance milestone was achieved, in each case subject to the respective executive’s continued service with the Company through the applicable vesting date. Vesting under the 2021 PSU Awards may be accelerated under certain conditions involving a change in control of our Company, including as provided under respective change in control agreements entered between us and the executive. The maximum number of shares subject to the 2021 PSU Awards that may vest is 195,000. No shares had vested as of September 30, 2020 under the 2021 PSU Awards.

In February 2020, the Compensation Committee approved the grant under our 2019 Plan of performance-based RSUs covering a target of 500,000 shares of common stock under individual grants to certain of our executive officers, which we refer to as the 2020 PSU Awards. The 2020 PSU Awards are subject to four performance milestones, each requiring achievement of a specified trailing average closing stock price for a 30-trading day period on or before the three-year anniversary of the 2020

PSU Awards' grant date. In the event our Board of Directors approves entering a transaction which, if consummated, would constitute a "change in control" of the Company as defined in the 2019 Plan, the performance milestones are increased with respect to shares not already eligible to vest under the 2020 PSU Award, and the performance period is extended to the four-year anniversary of the 2020 PSU Awards' grant date. Achieving each individual stock price performance milestone will result in one quarter of the shares subject to the 2020 PSU Award becoming eligible to vest. If a stock price performance milestone is achieved, then the shares that became eligible to vest will vest in four equal quarterly installments as of the ensuing March 10, June 10, September 10 and December 10 following the date of certification of the date the performance milestone was achieved, in each case subject to the respective executive's continued service with the Company through the applicable vesting date. Vesting under the 2020 PSU Award may be accelerated under certain conditions involving a change in control of our Company, including as provided under respective change in control agreements entered between us and the executive. The maximum number of shares subject to the 2020 PSU Award that may vest is 500,000. No shares had vested as of September 30, 2020 under the 2020 PSU Awards.

In September 2019, the Compensation Committee approved the grant under our 2009 Equity Incentive Plan of performance-based RSUs covering a target of 560,000 shares of common stock under individual grants to several of our executive officers, which we refer to as the 2019 PSU Awards. The 2019 PSU Awards are subject to four performance milestones, each requiring achievement of a specified trailing average closing stock price for a 30 trading day period on or before the three-year anniversary of the 2019 PSU Awards' grant date. Achieving each individual stock price performance milestone will result in one quarter of the shares subject to the 2019 PSU Award becoming eligible to vest. If a stock price performance milestone is achieved, then one half of the shares that became eligible to vest under the 2019 PSU Award upon achievement of that stock price performance milestone will vest on the later of November 1, 2020, or the date that the Compensation Committee certifies achievement of the milestone, and the remaining one half of the shares that became eligible to vest will vest on the one-year anniversary of the date the performance milestone was achieved, in each case subject to the respective executive's continued service with the Company through the applicable vesting date. The 2019 PSU Award milestones are subject to change upon a change in control, as defined in the agreement. The maximum number of shares subject to the 2019 PSU Award that may vest is 560,000. No shares had vested as of September 30, 2020 under the 2019 PSU Awards.

In October 2018, the Compensation Committee approved the grant under our 2009 Equity Incentive Plan of performance-based RSUs covering a target of 240,000 shares of common stock to Dr. HP Jin, our CEO, which we refer to as the CEO PSU Award. The CEO PSU Award is subject to four performance milestones, each requiring achievement of a specified trailing average closing stock price for a 30 trading day period on or before the three-year anniversary of the CEO PSU Award's grant date. Achieving each individual stock price performance milestone will result in one quarter of the shares subject to the CEO PSU Award becoming eligible to vest. If a stock price performance milestone is achieved, then one half of the shares that became eligible to vest under the CEO PSU Award upon achievement of that stock price performance milestone will vest on the later of November 1, 2019, or the date that the Compensation Committee certifies achievement of the milestone, and the remaining one half of the shares that became eligible to vest will vest on the one-year anniversary of the date the performance milestone was achieved, in each case subject to Dr. Jin's continued service with the Company through the applicable vesting date. The CEO PSU Award milestones are subject to change upon a change in control, as defined in the agreement. The maximum number of shares subject to the CEO PSU Award that may vest is 240,000. No shares had vested as of September 30, 2020 under the CEO PSU Award.

Since achievement of the awards is dependent on a market condition, stock-based compensation expense associated with these awards is recognized regardless of whether the market condition is satisfied, provided that the requisite service period has been met. We utilized the Monte Carlo valuation method to determine the fair value and derived service periods of each of the stock price performance milestones. Total stock-based compensation expense associated with all PSU Awards, included in the stock-based compensation expense table below, was $1.1 million for the three months ended September 30, 2020 and not material for the three months ended September 30, 2019.

As of September 30, 2020, no performance-based RSU awards had been earned or canceled, and 1,495,000 shares subject to performance-based RSU awards remained outstanding.

Shares available for grant

In November 2019, our stockholders approved the 2019 Plan, pursuant to which 5,700,000 shares were initially reserved for future grants and up to an additional 5,800,000 shares are reserved to the extent shares subject to grants under the previous 2009 Equity Incentive Plan, or 2009 Plan, were outstanding as of November 20, 2019 but later expire or otherwise terminate without having been exercised in full (in which case the shares subject to such grants will be returned to the 2019 Plan and available for future issuance). The 2019 Plan became effective on November 20, 2019 and will automatically terminate 10 years from its date of adoption by our Board of Directors. A summary of our shares available for grant activity is as follows (in thousands):

	Number of Shares
Shares available for grant as of June 30, 2020	5,280
Shares added from 5,800,000 reserved share pool available[1]	84
Granted	(575)
RSUs withheld for taxes in net share settlements	5
Canceled or expired	2
Shares available for grant as of September 30, 2020	4,796

[1] Additional shares are available up to a maximum of 5,800,000 shares only to the extent shares subject to grants under the 2009 Plan were outstanding as of November 20, 2019 but later expire or otherwise terminate without having been exercised in full.

Employee Stock Purchase Plan

In November 2019, the Company's stockholders approved the 2019 Employee Stock Purchase Plan, or ESPP, which became effective on November 20, 2019. A total of 2,500,000 shares were authorized for issuance to participating employees upon adoption of the ESPP. The ESPP provides for 12-month offering periods beginning March 1 and September 1 of each year, and each offering period will consist of two six-month purchase periods. The initial offering period commenced on March 1, 2020 and will end on March 1, 2021. On each purchase date, eligible employees will purchase the shares at a price per share equal to 85% of the lesser of (i) the fair market value of our stock on the enrollment date of the offering period or (ii) the fair market value of our stock on the exercise date.

During the three months ended September 30, 2020, the Company's employees purchased 304,964 shares of its common stock under the ESPP. The shares were purchased at a weighted-average purchase price of $3.94 per share, with total proceeds to the Company of $1.2 million.

As of September 30, 2020, there was $1.6 million of unrecognized stock-based compensation expense related to the ESPP that is expected to be recognized over an average vesting period of 0.64 years.

Stock-based compensation expense

The following table summarizes the stock-based compensation expense for continuing operations recorded for stock options, RSUs, including performance-based RSUs, and ESPP purchase rights (in thousands):

	Three Months Ended September 30,	
	2020	2019
Stock option awards	$ 108	$ 308
RSU awards	2,351	1,444
ESPP	398	—
Total stock-based compensation expense	$ 2,857	$ 1,752

We use valuation pricing models to determine the fair value of stock-based awards. The determination of the fair value of stock-based payment awards on the date of grant is affected by the stock price as well as assumptions regarding a number of complex and subjective variables. These variables include expected stock price volatility over the term of the awards, actual and projected employee stock option exercise behaviors, risk-free interest rates and expected dividends.

No stock option awards were granted during the three months ended September 30, 2020 and 2019.

The weighted average assumptions used to value ESPP purchase rights during the initial offering period beginning March 1, 2020 and subsequent offering period beginning September 1, 2020 were as follows:

Expected volatility	88 %
Expected term (in years)	0.65
Risk-free interest rate	0.38 %
Dividend yield	— %

10. Income taxes

For interim reporting purposes, we calculate an annual estimated tax rate and apply that rate to actual results to estimate our taxes. In cases when we cannot reliably estimate an annual estimated tax rate, actual tax expense or the "cutoff method" is utilized as the estimate.

The effective tax rate for the periods presented is the result of the mix of forecasted fiscal year income earned or loss incurred in various tax jurisdictions that apply a broad range of income tax rates. Our provision for income taxes for continuing operations was $14,000 in the three months ended September 30, 2020 compared to $411,000 in the three months ended September 30, 2019 and was comprised primarily of foreign withholding taxes and income taxes in foreign jurisdictions. Our effective tax provision rate of 0% of income from continuing operations for the three months ended September 30, 2020 was less than the tax amount computed at the U.S. federal statutory income tax rate due primarily to the release of the valuation allowance. Our effective tax provision rate of 93% of income from continuing operations for the three months ended September 30, 2019 was greater than the tax amount computed at the U.S. federal statutory income tax rate due primarily to losses for which no benefit will be recognized since the tax assets are not likely to be realized due to the lack of current and forecasted future income.

We record liabilities related to unrecognized tax benefits in accordance with authoritative guidance on accounting for uncertain tax positions. As of September 30, 2020 and June 30, 2020, our cumulative unrecognized tax benefits were $5.5 million and $5.4 million, respectively. Included in the balance of unrecognized tax benefits at September 30, 2020 and June 30, 2020 was $100,000 that if recognized would affect the effective tax rate.

We recognize interest and penalties related to unrecognized tax benefits as part of our provision for federal, state and foreign income taxes. We accrued zero for the payment of interest and penalties at September 30, 2020 and June 30, 2020.

We file income tax returns with the Internal Revenue Service, or IRS, California and various states and foreign tax jurisdictions in which we have filing obligations. The statute of limitations remains open from fiscal 2017 for federal tax purposes, from fiscal 2016 in state jurisdictions and from fiscal 2015 in foreign jurisdictions. Fiscal years outside the normal statute of limitation remain open to audit by tax authorities due to tax attributes generated in those early years which have been carried forward and may be audited in subsequent years when utilized.

Due to operating losses in previous years and continued earnings volatility, we maintain a valuation allowance on the majority of our deferred tax assets. Our valuation allowance at June 30, 2020 was $46.8 million. In evaluating our ability to recover our deferred tax assets each quarter, we consider all available positive and negative evidence, including current and previous operating results, ability to carryback losses for a tax refund, and forecasts of future operating results.

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act, or CARES Act, was enacted in response to the COVID-19 pandemic. The CARES Act, among other things, permits net operating loss (NOL) carryovers and carrybacks to offset 100% of taxable income for taxable years beginning before 2021. In addition, the CARES Act allows NOLs incurred in 2018, 2019, and 2020 to be carried back to each of the five preceding taxable years to generate a refund of previously paid income taxes. Due to the Company's history of losses and previous carrybacks, we will not receive any tax benefit from the NOL carryback provisions of the CARES Act.

11. Sale of Ads Business

On August 16, 2019, we completed the disposition of our Ads Business to inMarket, which we refer to as the inMarket Transaction. In consideration, inMarket issued to us limited liability company units of inMarket representing a 14.5%-member interest in inMarket at the time of the closing of the inMarket Transaction. We also received a perpetual, non-exclusive, irrevocable, royalty-free license under software and other intellectual property rights being assigned to inMarket as part of the inMarket Transaction, as set forth in the Asset Purchase Agreement, dated August 8, 2019, by and among us, Thinknear, Inc., our wholly owned subsidiary, and inMarket, as amended. Pursuant to the terms of a Transition Services Agreement, we also agreed to provide inMarket with transition services for a period of time generally not to exceed eight months following the closing of the inMarket Transaction.

The historical financial results attributable to the Ads Business are presented as discontinued operations in our condensed consolidated statements of operations for all periods presented. A reconciliation of the major line items comprising loss from operations of the Ads Business included as part of discontinued operations to the amount presented separately in our condensed consolidated statement of operations for the three months ended September 30, 2019 is presented in the following table:

	Three Months Ended September 30, 2019
Revenue - services	$ 3,614
Cost of revenue - services	1,335
Gross profit	2,279
Operating expenses:	
Research and development	697
Sales and marketing	750
General and administrative	—
Total operating expenses	1,447
Provision for (benefit from) income taxes	—
Income from operations of Ads Business	$ 832

Our 14.5%-member interest in inMarket was valued at $15.6 million at the closing of the inMarket Transaction and is recorded in other assets on our condensed consolidated balance sheet at September 30, 2020 and June 30, 2020. See Note 4. Our loss from the sale of the Ads Business of $4.8 million included $1.9 million comprising severance for Ads Business employees who were not offered employment with inMarket and acceleration of stock-based awards vesting for certain Ads Business executives who were not offered employment with inMarket, and $363,000 comprising legal fees and third-party consulting fees associated with the inMarket Transaction.

12. Sale of intellectual property and workforce

In August 2019, we entered into certain agreements with affiliates of Grab, including: (i) a services agreement pursuant to which we agreed to provide certain services to Grab through certain of our employees designated to work on our OpenTerra Platform; (ii) a license agreement pursuant to which we granted to Grab a perpetual license to certain intellectual property associated with the OpenTerra Platform; and (iii) an asset purchase agreement pursuant to which we sold certain intellectual property associated with the OpenTerra Platform to Grab and facilitated offers for employment or consulting arrangements by Grab of certain of our OpenTerra employees.

In January 2020, Grab completed the acquisition of assets pursuant to which we sold certain intellectual property associated with the OpenTerra Platform to Grab and facilitated the making of offers for employment or consulting arrangements by Grab to certain of our OpenTerra employees in exchange for a non-marketable equity interest in Grab Holdings, Inc. ordinary shares. We also received a perpetual, royalty-free license under the OpenTerra intellectual property rights assigned to Grab. Grab's acquired workforce consisted of 59 of our employees.

We recorded a $6.2 million non-marketable equity investment in Grab Holdings, Inc. (see Note 4) and an $800,000 capitalized software asset representing the perpetual license received, and we recognized an immaterial gain on the sale. The non-marketable equity investment and capitalized software are recorded in Other assets and Property and equipment net, respectively, on our condensed consolidated balance sheet.

13. Subsequent event

On November 2, 2020, we entered into an Agreement and Plan of Merger (the “Merger Agreement”) with V99, a Delaware corporation (“V99”), led by HP Jin, President, Chief Executive Officer and Chair of our Board of Directors, and Telenav99, Inc., a Delaware corporation and wholly owned subsidiary of V99 (“Merger Sub”), providing for the merger of Merger Sub with and into Telenav (the “Merger”), with Telenav surviving the Merger as a wholly owned subsidiary of V99. The Merger Agreement provides that, at the effective time of the Merger, each share of common stock, par value $0.001 per share, of Telenav (“Company Common Stock”) issued and outstanding immediately prior to such (other than shares held in treasury, shares held by Dr. Jin, Mr. Chen, Digital Mobile Venture Limited and their affiliates (the “Purchaser Group”) and dissenting shares) will be cancelled and extinguished, and automatically converted into the right to receive cash in an amount equal to $4.80, without interest thereon (the “Merger Consideration”). The Merger Agreement also provides for the cancellation of out-of-the-money options; the conversion of in-the-money options to the right to receive the Merger Consideration less the applicable exercise price and withholding taxes; the conversion of unvested restricted stock units into the right to receive the Merger Consideration less applicable withholding taxes; and the cash out of vested restricted stock units for the Merger Consideration less applicable withholding taxes.

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

You should read the following discussion and analysis together with our condensed consolidated financial statements and the notes to those statements included elsewhere in this Form 10-Q. This Form 10-Q contains forward-looking statements that we based on our beliefs and assumptions and on information currently available to us. The forward-looking statements are contained principally in the sections entitled "Risk Factors" and this Management's Discussion and Analysis of Financial Condition and Results of Operations. Forward-looking statements include information concerning our possible or assumed future results of operations, accounting for and future sources of revenue, expectations regarding expenses, business strategies, financing plans, competitive position, industry environment, potential growth opportunities, retention and expansion of existing customer relationships and the effects of competition. Forward-looking statements include statements that are not historical facts and can be identified by terms such as "anticipates," "believes," "could," "seeks," "estimates," "expects," "intends," "may," "plans," "potential," "predicts," "projects," "should," "will," "would" or similar expressions and the negatives of those terms.

Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. We discuss these risks in greater detail in "Risk Factors" and elsewhere in this Form 10-Q. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

Forward-looking statements represent our beliefs and assumptions only as of the date of this Form 10-Q. Except as required by law, we assume no obligation to update these forward-looking statements, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future. You should read this Form 10-Q completely and with the understanding that our actual future results may be materially different from what we expect.

Investors and others should note that we announce material financial information to our investors using our investor relations website (http://investor.telenav.com), SEC filings, press releases, public conference calls and webcasts. We use these channels to communicate with our investors and the public about our company, our products and services and other issues. It is possible that the information we post on our investor relations website could be deemed to be material information. Therefore, we encourage investors, the media, and others interested in our company to review the information we post on our investor relations website.

In this Form 10-Q, "we," "us," "our," the "Company" and "Telenav" refer to Telenav, Inc. and its subsidiaries. We operate on a fiscal year ending June 30 and refer to the fiscal year ended June 30, 2020 as "fiscal 2020" and the fiscal year ending June 30, 2021 as "fiscal 2021."

Overview

Telenav is a leading provider of automotive software and services providing both in-vehicle and cloud-based solutions. Over the past twenty years our focus has been on navigation and LBS, where we pioneered many innovations including the market's first mobile cloud-based navigation service. As a leader in hybrid navigation, Telenav counts among its customers three of the top five automobile manufacturers, or OEMs, by revenue and sales — Ford, GM and Toyota. Navigation and LBS are the primary applications for IVI systems and we are using our strengths and core competencies to address the growing demand for overall connected car services.

In addition to navigation and LBS, our connected car platform, VIVID, enables us to deliver IVI software solutions and services that are growing in importance as consumers increasingly include digital technologies as a factor in their automobile purchase decision. OEMs are also looking to software and connected services to build alternative and recurring revenue models beyond the sale of the vehicle. VIVID will provide OEMs a platform and a set of IVI applications to deliver an integrated and brand-specific, cloud-connected digital experience to their customers in a fast and cost-efficient manner.

Our VIVID Nav application delivers hybrid navigation, which can provide in-vehicle navigation that is cloud connected for real-time traffic and up-to-date destinations search, but which can also function when not cloud connected, such as when driving in areas with bad cell coverage.

We offer five variations of our VIVID Infotainment and navigation software products and services to our OEM and tier-one automobile supplier customers, or tier ones, for distribution with their vehicles and systems. First, we offer on-board navigation systems that are built into vehicles with all key elements of the system residing in the vehicle as a self-contained application along with the related software and content. Our on-board navigation products do not require access to the Internet or wireless networks to function. However, they can utilize satellite or radio transmission to provide, for example, real-time traffic information. Second, we offer advanced navigation solutions that contain on-board functionality and also add cloud functionality, such as cloud search, cloud routing, map updates and “live” data. We refer to these solutions as hybrid navigation. Third, we offer mobile phone-based navigation solutions that project interactive map and navigation instructions to the vehicle's video screen and audio system, which we refer to as brought-in navigation. Fourth, we offer a VIVID Nav Software Development Kit, or SDK, that enables our customers to add mapping and location capabilities to their cloud, mobile and on-board automotive applications. Finally, we offer VIVID Infotainment, our connected car infotainment system that has navigation, commerce, voice, media, car controls and phone integration, which can be delivered as a turnkey solution or as an SDK.

We generate product revenue from the delivery of customized software and royalties from the distribution of this customized software in certain automotive navigation applications, map updates to the software and customized software development. For example, Ford currently utilizes our on-board automotive navigation product in its Ford SYNC® platform and pays us a royalty fee on SYNC 3 on-board solutions as our software is installed in the vehicle. Ford also pays us for periodic map updates. We also derive product revenue from GM's on-board navigation solutions and the on-board component of its hybrid navigation solutions. For its hybrid navigation solutions, GM pays us a product royalty fee as the SD card is shipped for installation in vehicles. This royalty includes a fee for the initial connected service to be provided once the vehicle is sold.

We generate services revenue primarily from brought-in automotive navigation solutions and the cloud functionality included in our hybrid automotive solutions. For example, we earn a fee for each new vehicle owner who downloads and activates the associated mobile application featuring GM's branded mobile and web-based applications, whereby we provide enhanced search capabilities for contracted service periods. We also earn a fee for each new Toyota Motor Corporation, or Toyota, and Lexus vehicle sold and enabled to connect with our Scout GPS Link mobile application, similarly provided over a contracted service period. For its hybrid navigation solutions, GM will pay us an additional service fee for connected solution subscriptions for each end user that elects to renew the OnStar Connected Navigation or Connected Navigation subscription with GM.

Through August 2019, we also generated revenue from advertising network services through the delivery of advertising impressions based on the specific terms of the advertising contract. In August 2019, we sold the Ads Business to inMarket Media, LLC, which we refer to as inMarket (see Note 11 to our condensed consolidated financial statements). For the three months ended September 30, 2020 and for all prior comparative periods, we reported the operating results of the Ads Business and the loss on its sale as discontinued operations in our condensed consolidated financial statements.

We reported revenue, cost of revenue and gross profit results in three business segments through June 30, 2019: automotive, advertising and mobile navigation. Commencing July 1, 2019, we operate in a single segment, automotive. Our CEO, who is the chief operating decision maker, does not review mobile navigation results, which represented less than 5% of both total revenue, and cost of revenue. As a result, we combine the mobile navigation services business with the automotive business in a single segment.

For a discussion of trends, uncertainties and other factors that could impact our business, financial condition and operating results, see the section entitled "Risk Factors" in Part II, Item 1A, which is incorporated herein by reference.

Recent Developments

On October 2, 2020, V99, a Delaware corporation (“V99”), led by HP Jin, President, Chief Executive Officer and Chair of our Board of Directors, submitted a proposal to acquire all of the Company’s outstanding shares of Common Stock for $4.32 per share in cash in a “go private” transaction to be structured as a reverse triangular merger (the “Proposed Transaction”). On October 5, 2020, Samuel Chen, also a member of our Board of Directors, filed a Schedule 13D in which Mr. Chen disclosed that he has orally expressed to Dr. Jin that Mr. Chen currently intends to provide funding for the Proposed Transaction (directly or indirectly, including through Digital Mobile Venture Limited) on economic terms to be agreed, and to provide Dr. Jin access to Mr. Chen’s network of potential financing sources.

Our Board of Directors has formed a Special Committee consisting of independent directors Wes Cummins, Douglas Miller and Randy Ortiz (the “Special Committee”). The Special Committee has retained independent financial and legal advisors to evaluate and consider the Proposed Transaction. Consistent with its fiduciary duties, and in consultation with its independent advisors, the Special Committee will carefully review the proposal and will consider all potential strategic alternatives to maximize shareholder value. The Company cannot provide any assurances regarding the terms and details of any transaction, that the Special Committee will accept a proposal made by V99 regarding the Proposed Transaction, that the Company will execute definitive documentation relating to any such transaction, or that the Company will consummate a transaction in accordance with that documentation, if at all.

On November 2, 2020, we entered into an Agreement and Plan of Merger (the "Merger Agreement") with V99 and Telenav99, Inc., a Delaware corporation and wholly owned subsidiary of V99 ("Merger Sub"), providing for the merger of Merger Sub with and into Telenav (the "Merger"), with Telenav surviving the Merger as a wholly owned subsidiary of V99. The Merger Agreement provides that, at the effective time of the Merger, each share of common stock, par value $0.001 per share, of Telenav ("Company Common Stock") issued and outstanding immediately prior to such (other than shares held in treasury, shares held by Dr. Jin, Mr. Chen and their affiliates, including Digital Mobile Venture Limited, and certain of their related parties, including trusts in which any of the foregoing are a beneficiary (the "Purchaser Group") and dissenting shares) will be cancelled and extinguished, and automatically converted into the right to receive cash in an amount equal to $4.80, without interest thereon (the "Merger Consideration"). The Merger Agreement also provides for the cancellation of out-of-the-money options; the conversion of in-the-money options to the right to receive the Merger Consideration less the applicable exercise price and withholding taxes; the conversion of unvested restricted stock units into the right to receive the Merger Consideration less applicable withholding taxes, subject to the satisfaction of time-based vesting and other terms that applied to such unvested restricted stock units and subject to any other written agreements with the holders thereof; and the cash out of vested restricted stock units for the Merger Consideration less applicable withholding taxes.

The completion of the Merger is subject to certain conditions, including, but not limited to, the: (i) approval of a majority of the outstanding shares of our capital stock (the "Company Stockholder Approval"); (ii) the approval of a majority of shares not beneficially owned by any member of the Purchaser Group ("Majority of the Minority Approval"); (iii) the expiration or termination of any waiting periods applicable to the consummation of the Merger under the Hart-Scott-Rodino Antitrust Improvements Act of 1976; and (iv) the absence of any law or order restraining, enjoining or otherwise prohibiting the Merger.

In connection with the signing of the Merger Agreement, Dr. Jin and Mr. Chen and Digital Mobile Venture Limited (the "Financing Sources") entered into a commitment letter with V99 (the "Commitment Letter"), pursuant to which the Financing Sources have committed, jointly and severally, to provide debt financing in an amount sufficient to pay (a) the aggregate of all Merger Consideration payable in connection with the transaction, all fees and expenses associated with the transactions contemplated by the Merger Agreement, and all amounts necessary to repay or prepay any of our indebtedness required to be repaid or prepaid at the closing of the Merger (the "Commitment Amount") or (b) the Parent Termination Fee (as defined below), if applicable. The funding of the Commitment Amount is subject only to the satisfaction by us or waiver by V99 of the closing conditions in the Merger Agreement applicable to us. Subject to the terms and conditions of the Commitment Letter, we have certain third-party beneficiary rights to enforce the terms of the Commitment Letter.

We made customary representations and warranties in the Merger Agreement and have agreed to customary covenants, including those regarding the operation of our business and that of our subsidiaries prior to the effective time of the Merger. The parties have also agreed to use their reasonable best efforts to consummate the Merger.

We also have the right to a 30-day "go-shop" period beginning on November 2, 2020 and continuing until 11:59 p.m. Pacific time on December 2, 2020 to solicit alternative acquisition proposals from third parties and to provide information to, and participate in discussions and engage in negotiations with, third parties regarding any alternative acquisition proposals. However, after such go-shop period and prior to receipt of the later of Company Stockholder Approval and Majority of the Minority Approval, we will be subject to customary "no-shop" restrictions on our ability to engage in such actions, subject to a customary "fiduciary out" provision that allows us, under certain specified circumstances, to provide information to, and participate in discussions and engage in negotiations with, third parties with respect to an alternative acquisition proposal if the Board of Directors or the Special Committee determines in good faith (after consultation with its financial advisor and outside legal counsel) that such alternative acquisition proposal constitutes or is reasonably likely to constitute or lead to a Superior Proposal (as defined in the Merger Agreement), and the Board of Directors or Special Committee determines in good faith, after consultation with outside legal counsel, that the failure to take such action would be reasonably likely to be inconsistent with the directors' fiduciary duties pursuant to applicable law.

The Merger Agreement contains certain termination rights for us and V99. Upon termination of the Merger Agreement under specified circumstances, we will be required to pay V99 a termination fee. If the Merger Agreement is terminated by us in order to enter a definitive agreement with respect to a Superior Proposal or by V99 if we have effected a Change in Recommendation, then the termination fee payable by us to V99 will be $3.5 million (provided, that such termination fee will be $2.0 million if the Merger Agreement is terminated in connection with a Superior Proposal by a third party that made an alternative acquisition proposal prior to the expiration of the "go-shop" period). We will also have to pay a $3.5 million termination fee to V99 if the Merger Agreement is terminated by V99 under certain circumstances, and prior to such termination, a proposal to acquire at least 50% of our stock or assets is publicly announced or disclosed, and within one year of such termination, we consummate or enter into a definitive agreement for such a transaction, and such transaction is subsequently consummated. V99 will be required to pay us a termination fee of $3.5 million in certain circumstances, including if we terminate the Merger Agreement following V99's material breach of its obligation to have at least $6.0 million in its bank account, we terminate because all mutual closing conditions have been satisfied or waived, all of the conditions to V99's obligation to close have been satisfied or waived, and we notify V99 that all of the conditions to our obligations to close have been satisfied or waived, and that we stand ready, willing and able to consummate the Merger, and V99 fails to close within two business days of such notice, or either party terminates the Merger Agreement if a governmental entity has enacted a law or order permanently restraining, enjoining or otherwise prohibiting the Merger, and at the time of termination, all conditions to V99's obligations to consummate the Merger, other than certain specified conditions, have been satisfied or waived.

In connection and concurrently with the execution of the Merger Agreement, members of the Purchaser Group (the "Support Agreement Stockholders") entered into a voting and support agreement (the "Support Agreement") with us. Pursuant to the Support Agreement, the Support Agreement Stockholders have agreed to, among other things, vote all shares of our Common Stock owned by them in accordance with the publicly disclosed recommendation to our stockholders by action of the Board of Directors, the Special Committee or any other duly constituted committee of the Board of Directors (a "Public Board Recommendation"), irrespective of whether such Public Board Recommendation is to vote: (i) in favor of the adoption of the Merger Agreement and the approval of the Merger and the transactions contemplated thereby or against an extraordinary corporate transaction or proposal provided that certain specified circumstances are met, (ii) subject to specified exceptions, in favor of an Accepted Superior Proposal (as defined below) if, in the event that the Merger Agreement is terminated, the Board of Directors or Special Committee has delivered a Change in Recommendation Notice (as defined in the Merger Agreement) to V99 no later than December 16, 2020 with respect to a Superior Proposal received from an Excluded Party (as defined in the Merger Agreement) (including any amendment to such Superior Proposal made in response to a Parent Proposal during any Notice Period) (an "Accepted Superior Proposal"), or (iii) in favor of or against any other matter determined by action of the Board of Directors, the Special Committee or any other duly constituted committee of the Board of Directors, in good faith, to be necessary or appropriate in connection with the Merger Agreement and the Merger or any Accepted Superior Proposal, in each case if recommended to our stockholders by a Public Board Recommendation.

Impact of coronavirus (COVID-19) pandemic

In March 2020, the World Health Organization declared the outbreak of the novel coronavirus first identified in China in late 2019 (COVID-19) as a pandemic, which continues to spread throughout the U.S. and the world. In response, businesses and governments, including businesses and the federal and state governments in the U.S., have implemented numerous measures to contain the virus, including travel bans and restrictions, quarantines, shelter-in-place orders, and business limitations and shutdowns. These measures have impacted and will continue to impact our workforce and operations, and those of our customers and vendors. As such, we expect the impact to our business and results of operations to be significant, and to continue for some period.

Our top priority is the health and safety of our employees and their families, as well as our automobile manufacturer customers and tier-one partners. Despite the challenges we and our suppliers and partners face, we believe we will be able to continue to deliver our personalized navigation and connected car software products and services to our customers and partners, without compromising our employees' safety. Like many companies, we have put in place work-from-home procedures, which we expect to continue to maintain. We believe our employees have the necessary tools and technology to remain connected and productive while working from home offices around the world. We believe these cumulative efforts should allow us to continue to deliver our products and services.

However, the COVID-19 outbreak has caused and will continue to cause disruption to our business operations that may impact our ability to develop and design our products in a timely manner or meet required milestones or customer commitments. In addition, public health problems resulting from COVID-19 and precautionary measures instituted by governments and businesses worldwide to mitigate its spread have contributed to a general, significant and continuing downturn in the global economy. The shutdowns announced late in our quarter ended March 31, 2020 of manufacturing operations by Ford, GM and other automobile manufacturer partners did not have a substantial impact to our financial results for the three months ended March 31, 2020. However, COVID-19 did have a significant and direct impact on the demand for our products and on our operating results in the three months ended June 30, 2020. While we saw a significant manufacturing rebound from our OEM partners that minimized the negative impact on our operating results for the three months ended September 30, 2020, we expect COVID-19 to continue to have an impact in the remainder of fiscal 2021. In addition, COVID-19 could have an impact on the companies in which we have strategic investments, which could also negatively affect our financial results. The extent of the impact of the COVID-19 pandemic on our operational and financial performance will depend on future developments, including the duration and spread of the outbreak, its severity, the actions to contain the virus or treat its impact, and how quickly and to what extent normal economic and operating conditions can resume, all of which are uncertain and we cannot predict.

Our revenue and prospects for continued business directly depend upon the volume of new vehicles being produced by Ford, GM, Toyota and others, whose businesses and operating activities have been directly affected by the COVID-19 outbreak, related adverse public health developments and prospects for a global recession. The shutdowns and recent reopenings of manufacturing operations by Ford, GM and our other automobile manufacturer partners will decrease our revenue, operating results, financial condition and cash flows until our automobile manufacturer partners resume full production. In addition, a sustained economic recession will negatively impact demand for new vehicles, even when full production resumes. Should these conditions continue, they would also negatively impact our ability to maintain cash balances to support our operations and future investments. For example, in the three months ended September 30, 2020, we used $5.0 million of cash in operating activities. While we maintain what we believe are sufficient cash balances to support our operations, we believe such periods of cash usage in our operations could continue for the near-to-mid-term, and until our automobile manufacturer partners resume full production.

In light of the COVID-19 pandemic and likely continuing economic recession, demand forecasts from our automobile manufacturer partners are likely to be revised and may not be reliable indicators of actual future production. Our outlook remains uncertain in the immediate to short term as we cannot predict when that resumption of production may occur, at what level our partners may resume production and how long they may be able to sustain such production levels. It is likely that for an extended period the production rate will be substantially below maximum production or levels which preceded the initial COVID-19 shutdown. As a result, it may be difficult for us to forecast our revenue and to adjust costs appropriately if customer demand forecasts are inaccurate.

In the short-to-medium-term, we may benefit from cost savings, including reduced growth in employee compensation costs primarily due to slower hiring, reductions in travel and employee-related expenses as our sales and marketing activities shift from an in-person to an online format and other factors associated with our work-from-home procedures. We anticipate a small increase in overall aging of accounts receivable; however, we do not expect to be negatively impacted by a material increase in our allowance for doubtful accounts. Although we expect to manage our operating expenses closely, we expect to experience periods of negative cash burn, both due to operations and as we continue to use our cash to make investments in companies where we believe they present opportunities for synergies across our product offering or to expand our technology and in-car commerce ecosystem and to continue to develop our products for future automobile model years.

Over the longer term, once manufacturing production has fully resumed, we believe there may be new opportunities with our existing OEM partners to increase the lifetime value of our existing programs. However, there are many uncertainties, and we expect to see continued impact from the COVID-19 pandemic in future periods. In addition to the aforementioned uncertainties in the auto industry, changes in how we and companies worldwide conduct business, including but not limited to restrictions on travel and in-person meetings, may cause increasing disruption in the timing and results of our product development and sales and marketing initiatives. We will continue to evaluate the nature and extent of the impact of COVID-19 to our business.

See “Risk Factors" in Part II, Item 1A for further discussion of the potential impact of COVID-19 and its related public health measures on our business.

Key operating and financial performance metrics

We monitor the key operating and financial performance metrics set forth in the tables below to help us evaluate growth trends, establish budgets, measure the effectiveness of our sales and marketing efforts and assess our operational efficiencies. Certain of these measures such as billings, changes in deferred revenue and deferred costs, adjusted earnings before interest, taxes, depreciation and amortization, or adjusted EBITDA and free cash flow are not measures we calculated in accordance with U.S. generally accepted accounting principles, or GAAP, and you should not consider them as an alternative to any measure of financial performance we calculated and presented in accordance with GAAP. In addition, these non-GAAP measures may not be comparable to similarly titled measures of other companies because other companies may not calculate them in the same manner that we do.

Our key operating and financial performance metrics are as follows (in thousands, except percentages and per share amounts):

	Three Months Ended September 30,	
	2020	2019
Revenue	$ 69,596	$ 66,629
Revenue from Ford as a percentage of total revenue	45 %	52 %
Revenue from GM as a percentage of total revenue	45 %	25 %
Billings (Non-GAAP)	$ 64,183	$ 76,875
Billings to Ford as a percentage of total billings (Non-GAAP)	44 %	39 %
Billings to GM as a percentage of total billings (Non-GAAP)	47 %	26 %
Increase (decrease) in deferred revenue	$ (5,413)	$ 10,246
Decrease in deferred costs	$ (4,628)	$ (2,007)
Gross profit	$ 29,513	$ 29,778
Gross margin	42 %	45 %
Income from continuing operations	$ 3,335	$ 32
Net income (loss)	$ 3,335	$ (3,954)
Diluted income from continuing operations per share	$ 0.07	$ —
Diluted net income (loss) per share	$ 0.07	$ (0.08)
Adjusted EBITDA (Non-GAAP)	$ 5,636	$ 2,556
Net cash provided by (used in) operating activities	$ (5,008)	$ 22,169
Free cash flow (Non-GAAP)	$ (5,075)	$ 21,708

Gross margin is our gross profit, or total revenue less cost of revenue, which we express as a percentage of our total revenue. Our gross margin has been and will continue to be impacted by the increasing percentage of our revenue base we derive from automotive navigation solutions, which generally have higher associated third-party content costs than our mobile navigation offerings provided through wireless carriers.

Billings equals revenue we recognize plus the change in deferred revenue from the beginning to the end of the applicable period. We have also provided a breakdown of the calculation of the change in deferred revenue, which we add to revenue in calculating our non-GAAP billings metric. In connection with our presentation of the change in deferred revenue, we have provided a similar presentation of the change in the related deferred costs. We include in such deferred costs primarily costs associated with third-party content and certain development costs associated with our customized software solutions whereby we earn customized engineering fees. As we enter into more hybrid and brought-in navigation programs, deferred revenue and deferred costs become larger components of our operating results, so we believe these metrics are useful in evaluating cash flows.

We consider billings to be a useful metric for management and investors because billings drive revenue and deferred revenue, which is an important indicator of our business. There are a number of limitations related to the use of billings versus revenue calculated in accordance with GAAP. First, we include in billings amounts that we have not yet recognized as revenue. For example, we cannot fully recognize billings related to certain brought-in solutions as revenue in a given period due to requirements for ongoing map updates and provisioning of services such as hosting, monitoring, customer support and, for certain customers, additional period content and associated technology costs. Second, we may calculate billings in a manner that is different from peer companies that report similar financial measures, making comparisons between companies more difficult. When we use this measure, we attempt to compensate for these limitations by providing specific information regarding billings and how they relate to revenue calculated in accordance with GAAP.

We measure adjusted EBITDA, a non-GAAP financial measure, as our GAAP net loss adjusted for discontinued operations and from which we exclude the impact of stock-based compensation expense, depreciation and amortization, other income (expense), net, provision (benefit) for income taxes, and other applicable items such as legal settlements and contingencies. Stock-based compensation expense relates to equity incentive awards which we grant to our employees, directors, and consultants. Legal settlements and contingencies represent settlements, offers we made to settle, or loss accruals relating to litigation or other disputes in which we are a party or the indemnitor of a party.

Adjusted EBITDA, while generally a measure of profitability, can also represent a loss. Adjusted EBITDA is a key measure we use to understand and evaluate our core operating performance and trends, to prepare and approve our annual budget and to develop short- and long-term operational plans. In particular, we believe that the exclusion of the expenses we eliminate in calculating adjusted EBITDA can provide a useful measure for period-to-period comparisons of our core business. Accordingly, we believe that adjusted EBITDA generally provides useful information to investors and others in understanding and evaluating our operating results in the same manner as we do.

Free cash flow is a non-GAAP financial measure we define as net cash provided by (used in) operating activities less purchases of property and equipment. We consider free cash flow to be a liquidity measure that provides useful information to management and investors about the amount of cash (used in) generated by our business after purchases of property and equipment.

These non-GAAP measures have limitations as analytical tools and you should not consider them in isolation or as substitutes for our financial results as reported under GAAP. Some of these limitations are:

- we expect to incur additional costs in the future due to requirements to provide ongoing provisioning of services such as hosting, monitoring and customer support; accordingly, deferred costs do not reflect all costs associated with billings;
- we may have to replace in the future assets being depreciated and amortized, and adjusted EBITDA does not reflect cash capital expenditure requirements for such replacements or for new capital expenditures;
- adjusted EBITDA does not reflect the potentially dilutive impact of equity-based compensation;
- adjusted EBITDA does not reflect the use of cash for net share settlements of RSUs;
- adjusted EBITDA does not reflect tax payments that historically have represented a reduction in cash available to us or tax benefits that may arise as a result of generating net losses; and
- other companies may calculate adjusted EBITDA, free cash flow or similarly titled measures differently, which reduces the usefulness of these measures as a comparison.

Because of these and other limitations, you should consider billings, adjusted EBITDA and free cash flow alongside other GAAP-based financial performance measures.

We reconcile the most directly comparable GAAP financial measure to each non-GAAP financial metric used. We present the following table reconciliations of revenue to billings, deferred revenue to the change in deferred revenue, deferred costs to the change in deferred costs, net loss to adjusted EBITDA, and net loss and net cash flow used in operating activities to free cash flow for each of the periods indicated (dollars in thousands):

Reconciliation of Revenue to Billings

	Three Months Ended September 30,	
	2020	**2019**
Revenue	$ 69,596	$ 66,629
Adjustments:		
Change in deferred revenue	(5,413)	10,246
Billings	$ 64,183	$ 76,875

Reconciliation of Deferred Revenue to Change in Deferred Revenue
Reconciliation of Deferred Costs to Change in Deferred Costs

	Three Months Ended September 30,	
	2020	2019
Deferred revenue, end of period	$ 133,530	$ 145,381
Deferred revenue, beginning of period	138,943	135,135
Change in deferred revenue	$ (5,413)	$ 10,246
Deferred costs, end of period	$ 76,041	$ 77,795
Deferred costs, beginning of period	80,669	79,802
Change in deferred costs[1]	$ (4,628)	$ (2,007)

[1] Deferred costs primarily include costs associated with third-party content and in connection with certain customized software solutions, the costs incurred to develop those solutions. We expect to incur additional costs in the future due to requirements to provide ongoing map updates and provisioning of services such as hosting, monitoring, customer support and, for certain customers, additional period content and associated technology costs.

Reconciliation of Revenue to Billings - Ford and GM

	Three Months Ended September 30,	
	2020	2019
Revenue from Ford	$ 31,495	$ 34,912
Adjustments:		
Change in deferred revenue attributed to Ford	(2,981)	(4,782)
Billings to Ford	$ 28,514	$ 30,130
Billings to Ford as a percentage of total billings	44 %	39 %
Revenue from GM	$ 31,659	$ 16,362
Adjustments:		
Change in deferred revenue attributed to GM	(1,460)	3,272
Billings to GM	$ 30,199	$ 19,634
Billings to GM as a percentage of total billings	47 %	26 %

Reconciliation of Net Income (Loss) to Adjusted EBITDA

	Three Months Ended September 30,	
	2020	2019
Net income (loss)	$ 3,335	$ (3,954)
Loss on discontinued operations	—	3,986
Income from continuing operations	3,335	32
Adjustments:		
Stock-based compensation expense	2,857	1,752
Depreciation and amortization expense	760	922
Other income, net	(714)	(561)
Provision for income taxes	14	411
Equity in net (income) loss of equity method investees	(616)	—
Adjusted EBITDA	$ 5,636	$ 2,556

Reconciliation of Net Income (Loss) to Free Cash Flow

	Three Months Ended September 30,	
	2020	2019
Net income (loss)	$ 3,335	$ (3,954)
Loss on discontinued operations	—	3,986
Income from continuing operations	3,335	32
Adjustments to reconcile income from continuing operations to net cash provided by (used in) operating activities:		
Change in deferred revenue [(1)]	(5,656)	10,345
Change in deferred costs [(2)]	4,694	1,979
Changes in other operating assets and liabilities	(10,826)	6,482
Other adjustments [(3)]	3,445	3,331
Net cash provided by (used in) operating activities	(5,008)	22,169
Less: Purchases of property and equipment	(67)	(461)
Free cash flow	$ (5,075)	$ 21,708

[(1)] Consists of product royalties, customized software development fees, service fees and subscription fees.
[(2)] Consists primarily of third-party content costs and customized software development expenses.
[(3)] Consist primarily of depreciation and amortization, stock-based compensation expense and other non-cash items.

Key components of our results of operations

Sources of revenue

Overview. We classify our revenue as either product or services revenue. Product revenue consists primarily of revenue we receive from the delivery of customized software and royalties from the distribution of this customized software in certain automotive navigation applications, map updates to the software and customized software development. Services revenue consists primarily of revenue we derive from our brought-in automotive navigation services and the cloud functionality included in our hybrid automotive solutions.

Commencing July 1, 2019, we operate in a single segment, automotive. Our CEO, who is the chief operating decision maker, does not review mobile navigation revenue and cost of revenue separately. As a result, we combine the mobile navigation services business with the automotive business in a single segment.

In the three months ended September 30, 2020 and 2019, revenue from Ford represented 45% and 52% of our total revenue, respectively, and revenue from GM comprised 45% and 25% of total revenue, respectively.

We include a general summary of the terms of our contracts with Ford and GM in "Management's Discussion and Analysis of Results of Operations —Key components of our results of operations" in our Annual Report on Form 10-K for fiscal 2020, filed with the SEC on August 21, 2020 (our "Form 10-K").

Product revenue. Our automotive product revenue is generated primarily from on-board and hybrid automotive navigation solutions provided to Ford and GM. Our on-board solutions consist of software, memory card, map and point of interest, or POI, data loaded in the vehicle that provides voice-guided turn by turn navigation displayed on the vehicle screen. Our hybrid navigation solutions contain on-board software functionality and also add cloud functionality such as cloud search, cloud routing, map updates and "live" data.

We generally earn royalties for on-board navigation solutions at various points in time, depending upon the individual customer agreement. We earn each royalty upon either the re-imaging of the software on each individual memory card or the time at which each vehicle is produced.

We recognize revenue from on-board automotive navigation solutions upon transfer of control of the customized software and any associated integrated content together forming a distinct performance obligation. Transfer of control generally occurs at a point in time upon acceptance. We recognize any royalties for the use of distinct software combined with integrated content, with an allocation of the transaction price based on the relative standalone selling price, or SSP, of map updates, specified upgrades, and other services as applicable, at the later of when we earn the royalties or when we transfer control of the related performance obligation.

For hybrid automotive solutions, we generally recognize as product revenue the transaction price we allocated to the on-board component as described above, and we generally recognize as services revenue the transaction price allocated to the included cloud functionality based on SSP. Since the on-board software is still the predominant item in the hybrid solution, the royalties recognition guidance applies as it does for on-board navigation solutions described above. Our brought-in automotive navigation solutions as described below are subject to variable consideration and constraint guidance.

In August 2019, we entered into certain agreements with affiliates of Grab Holdings, Inc., which, collectively with certain of its affiliates, we refer to as Grab, including a services agreement, a license agreement and an asset purchase agreement. These agreements together comprise the "Grab Transaction" (see Note 12 to our condensed consolidated financial statements). During fiscal 2020, we recognized product revenue over time under the Grab Transaction as the software development occurred and Grab obtained control as the software was modified and enhanced. We recognized services revenue for implementation services as they were performed, and we recognize software support and maintenance over the term of the obligation. The asset sale to Grab was completed on January 1, 2020.

Services revenue. We derive services revenue primarily from our brought-in automotive navigation solutions and, to a lesser extent, from the cloud functionality that is a component of our hybrid automotive navigation solutions as discussed above. Royalties for brought-in navigation solutions are earned upon vehicle sales reporting or upon initial usage by the end user.

Since these contracts typically contain a substantial amount of variable consideration that we are required to estimate and include in the transaction price, we include in the transaction price only variable consideration such that it is probable that a risk of significant revenue reversal will not occur when the uncertainty associated with the variable consideration is subsequently resolved. We estimate total variable consideration to be received at contract inception and we update this estimate at each reporting date. We utilize the expected value method and consider expected unit volume combined with a risk-based probability based on factors including, but not limited to: model year cycles, customer history, technology life cycles, nature of competition and other contract-specific factors. Because customers of our brought-in automotive navigation solutions simultaneously receive and consume the benefit from our performance, we recognize revenue ratably over the period the services obligation is expected to be fulfilled, generally 8 to 12 years, as this provides a faithful depiction of the transfer of control.

We include a general summary of the nature of our product and service offerings and how we earn fees through Ford, GM, Toyota and Xevo, Inc., a tier-one supplier to Toyota, in “Management’s Discussion and Analysis of Results of Operations —Key components of our results of operations” in our Form 10-K.

We generate mobile navigation revenue from our partnerships with wireless carriers who sell our navigation services to their subscribers either as a standalone service or in a bundle with other data or services. We include mobile navigation revenue, which represents less than 5% of total revenue, with automotive revenue for all periods presented.

Revenue concentrations. We generated 87% and 74% of our revenue in the United States in the three months ended September 30, 2020 and 2019, respectively. With respect to revenue we receive from automobile manufacturers and tier ones for sales of vehicles in other countries, we classify the majority of that revenue as being generated in the United States, because we provide deliverables to and receive compensation from the manufacturer’s or tier one’s United States’ entity. It is possible that this classification may change in the future, as existing and new customers may elect to contract through subsidiaries.

Cost of revenue

We classify our cost of revenue as either cost of product revenue or cost of services revenue. Cost of product revenue consists primarily of the cost of third-party content we incur in providing our on-board automotive navigation solutions, memory cards and recognition of deferred software development costs. Cost of services revenue consists primarily of the costs associated with third-party content we incur in providing our brought-in automotive navigation solutions, data center operations and outsourced hosting services, software maintenance, customer support, the amortization of capitalized software, recognition of deferred customized software development costs, stock-based compensation and amortization of acquired developed technology.

We capitalize and defer recognition of certain third-party, royalty-based content costs associated with the fulfillment of future automotive product and services obligations, and we recognize these deferred content costs as cost of revenue as we transfer control of the related performance obligation. We recognize the deferred revenue and related deferred costs as we transfer control of the related performance obligation. As such, we will also incur ongoing costs of revenue for network operations, hosting and data center, customer service support, and other related costs over time.

We also capitalize and defer recognition of certain costs, primarily payroll and related compensation and benefits expense, of customized software we develop for customers. We begin deferring development costs when they relate directly to a contract or specific anticipated contract and we incur such costs to satisfy performance obligations in the future, provided we expect to recover such costs. We recognize these deferred software development costs as cost of revenue upon transfer of control of the associated performance obligation.

Operating expenses

We generally classify our operating expenses into three categories: research and development, sales and marketing and general and administrative. Our operating expenses consist primarily of personnel costs, which include salaries, bonuses, payroll taxes, employee benefit costs and stock-based compensation expense. Other expenses include third-party contractor and temporary staffing services, legal, audit, tax consulting and other professional service fees, facilities-related costs including rent expense and marketing program costs. We allocate stock-based compensation expense resulting from the amortization of the fair value of stock-based awards granted based on the department in which the award holder works. We allocate overhead, such as rent and depreciation, to each expense category based on headcount. In addition, when we incur legal settlements, make offers to settle contingencies or accrue losses relating to litigation or other disputes in which we are a party, or the indemnitor of a party, we classify such operating expense amounts separately as legal settlements and contingencies.

Research and development. Research and development expenses consist primarily of personnel costs for our development and product management employees and related costs of outside consultants and temporary staffing. We have focused our research and development efforts on improving the ease of use and functionality of our existing products and services, as well as developing new products and services. In addition to our U.S. employee base, a significant number of our research and development employees are located in our development centers in China and Romania; as a result, a portion of our research and development expense is subject to changes in foreign exchange rates, notably the Chinese Renminbi, or RMB, the Romanian Leu, or RON, and the Euro.

Sales and marketing. Sales and marketing expenses consist primarily of personnel costs for our sales and marketing staff and the cost of marketing programs, advertising and promotional activities. Our sales and marketing activities include the costs of our business development efforts. Our automobile manufacturer partners and tier ones also provide primary marketing for our on-board and brought-in navigation services.

General and administrative. General and administrative expenses consist primarily of personnel costs for our executive, finance, legal, human resources and administrative personnel, legal, audit and tax consulting and other professional services and corporate expenses.

Legal settlements and contingencies. Legal settlements and contingencies represent settlements, offers made to settle, or loss accruals relating to litigation or other disputes in which we are a party or the indemnitor of a party.

Other

Other income (expense), net. Other income (expense), net consists primarily of interest we earn on our cash and cash equivalents and short-term investments, gain or loss on investments, unrealized gains or losses on non-marketable equity investments and foreign currency gains or losses.

Provision for income taxes. Our provision for income taxes primarily consists of corporate income taxes related to profits earned in foreign jurisdictions, foreign withholding taxes, and changes to our tax reserves. Our effective tax rate could fluctuate significantly from period to period, particularly in those periods in which we incur losses, due to our inability to benefit from net operating losses since we are not likely to realize the tax assets due to the lack of current and forecasted future income. For interim reporting purposes, we calculate an annual estimated tax rate and apply that rate to actual results to estimate our taxes. In cases when we cannot reliably estimate an annual estimated tax rate, we utilize the actual tax expense as the estimate. Furthermore, on a quarterly basis our tax rates can fluctuate due to changes in our tax reserves resulting from the settlement of tax audits or the expiration of the statute of limitations. Our effective tax rate could also fluctuate due to a change in our earnings or loss projections, changes in the valuation of our deferred tax assets or liabilities, release of or increase in the valuation allowance placed on deferred tax assets, or changes in tax laws, regulations, or accounting principles, as well as the expiration and retroactive reinstatement of tax holidays.

Equity in net income of equity method investees. Equity in net income of equity method investees includes our proportionate share of equity in our non-marketable equity investments.

Critical accounting policies and estimates

We prepare our condensed consolidated financial statements in accordance with GAAP. In many cases, the accounting treatment of a particular transaction is specifically dictated by GAAP and does not require our judgment in its application. In other cases, we exercise judgment in selecting among available alternative accounting policies that allow different accounting treatment for similar transactions. The preparation of condensed consolidated financial statements also requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, costs and expenses and related disclosures. We base our estimates on historical experience and various other assumptions that we believe are reasonable under the circumstances. In many instances, we could reasonably use different accounting estimates, and in some instances changes in the accounting estimates are reasonably likely to occur from period to period. Accordingly, actual results could differ significantly from the estimates made by our management. To the extent that there are differences between our estimates and actual results, our future financial condition, results of operations and cash flows will be affected.

There have been no material changes in our critical accounting policies and estimates during the three months ended September 30, 2020 as compared to the critical accounting policies and estimates disclosed in Part II, Item 7 of our Form 10-K, except as described in Note 1 to our condensed consolidated financial statements, “Summary of business and significant accounting policies.”

Recent Accounting Pronouncements

For information with respect to recent accounting pronouncements and the impact of these pronouncements on our condensed consolidated financial statements, see Note 1 to our condensed consolidated financial statements, “Summary of business and significant accounting policies.”

Results of operations

We set forth in the following tables our results of operations for the three months ended September 30, 2020 and 2019, as well as a percentage that each line item represents of our total revenue for those periods. We use the additional key metrics presented above in addition to the financial measures reflected in the condensed consolidated statements of operations data to help us evaluate growth trends, establish budgets and measure the effectiveness of our sales and marketing efforts. The period to period comparison of financial results is not necessarily indicative of financial results to be achieved in future periods.

Consolidated Statements of Operations Data	Three Months Ended September 30, 2020	Three Months Ended September 30, 2019
	(in thousands)	
Revenue:		
Product	$ 56,809	$ 55,990
Services	12,787	10,639
Total revenue	69,596	66,629
Cost of revenue:		
Product	32,530	31,989
Services	7,553	4,862
Total cost of revenue	40,083	36,851
Gross profit	29,513	29,778
Operating expenses:		
Research and development	18,986	20,663
Sales and marketing	1,996	1,946
General and administrative	6,512	7,287
Total operating expenses	27,494	29,896
Income (loss) from operations	2,019	(118)
Other income, net	714	561
Income from continuing operations before provision for income taxes	2,733	443
Provision for income taxes	14	411
Equity in net (income) of equity method investees	(616)	—
Income from continuing operations	3,335	32
Loss on discontinued operations	—	(3,986)
Net income (loss)	$ 3,335	$ (3,954)
	(as a percentage of revenue)	
Revenue:		
Product	82 %	84 %
Services	18 %	16 %
Total revenue	100 %	100 %
Cost of revenue:		
Product	47 %	48 %
Services	11 %	7 %
Total cost of revenue	58 %	55 %
Gross profit	42 %	45 %
Operating expenses:		
Research and development	27 %	31 %
Sales and marketing	3 %	3 %
General and administrative	9 %	11 %
Total operating expenses	39 %	45 %
Income (loss) from operations	3 %	— %
Other income, net	1 %	1 %
Income from continuing operations before provision for income taxes	4 %	1 %
Provision for income taxes	— %	1 %
Equity in net (income) of equity method investees	(1)%	— %
Income from continuing operations	5 %	— %
Loss on discontinued operations	— %	(6)%
Net income (loss)	5 %	(6)%

Comparison of the three months ended September 30, 2020 and 2019

Revenue, cost of revenue and gross profit.

Revenue. *Our p*roduct revenue increased 1% to $56.8 million in the three months ended September 30, 2020 from $56.0 million in the three months ended September 30, 2019. The increase in product revenue for the comparable three months was due primarily to an increase in royalty revenue of $7.0 million resulting from an overall higher volume of automotive navigation units, partially offset by decreases in map update revenue of $3.3 million due to timing of map update deliveries and customized software development revenue of $3.0 million due to the absence of Grab revenue in the current period. Services revenue increased 20% to $12.8 million in the three months ended September 30, 2020 from $10.6 million in the three months ended September 30, 2019. The increase in services revenue for the comparable three months was due primarily to increased revenue from our brought-in automotive solutions.

Cost of revenue. Our cost of product revenue increased 2% to $32.5 million in the three months ended September 30, 2020 from $32.0 million in the three months ended September 30, 2019. The increase in the comparable three months was due primarily to increased third-party content costs associated with increased automotive navigation unit volume, partially offset by decreased costs associated with lower map update revenue. Our cost of services revenue increased 55% to $7.6 million in the three months ended September 30, 2020 from $4.9 million in the three months ended September 30, 2019. The increase in the comparable three months was due primarily to an increase in content costs associated with increased revenue from brought-in solutions.

Gross profit. Our gross profit decreased 1% to $29.5 million in the three months ended September 30, 2020 from $29.8 million in the three months ended September 30, 2019. Our gross margin decreased to 42% in the three months ended September 30, 2020 from 45% in the three months ended September 30, 2019. The decrease in gross margin for the comparable three months was due primarily to the decrease in customized software development revenue, which earned a significantly higher gross margin in the three months ended September 30, 2019, partially offset by the decrease in map update revenue, which carries a higher relative cost and lower gross margin.

Revenue concentrations. In the three months ended September 30, 2020 and 2019, revenue from Ford represented 45% and 52% of our total revenue, respectively, and revenue from GM comprised 45% and 25% of our total revenue, respectively. In the three months ended September 30, 2019, revenue from Grab represented 10% of our total revenue.

We primarily sell our services in the United States. In the three months ended September 30, 2020 and 2019, revenue derived from U.S. sources represented 87% and 74% of our total revenue, respectively.

Operating expenses

Research and development. Our research and development expenses decreased 8% to $19.0 million in the three months ended September 30, 2020 from $20.7 million in the three months ended September 30, 2019. The decrease in the comparable three months was due primarily to decreases in outside consulting services of $1.4 million, travel-related expenses of $0.6 million and payroll and related compensation and benefits expense of $0.3 million. Payroll and related compensation and benefits expense for the three months ended September 30, 2020 included $0.5 million of severance expense related to a reduction in headcount of 13 employees. The decreases in the comparable period were partially offset by increases of $0.5 million and $0.5 million as a result of lower capitalized deferred development costs and lower use of personnel for software maintenance that is reclassified to cost of revenue, respectively, in the three months ended September 30, 2020. As a percentage of revenue, research and development expenses decreased to 27% in the three months ended September 30, 2020 from 31% in the three months ended September 30, 2019. We believe that as we deliver our contracted customer requirements for our automotive customers and establish relationships with new automobile manufacturers and tier ones, revenue from those research and development efforts will lag the related expenses.

Sales and marketing. Our sales and marketing expenses increased 2.6% to $2.0 million in the three months ended September 30, 2020 from $1.9 million in the three months ended September 30, 2019. The increase in the comparable three months was due primarily to an increase in payroll and related compensation and benefits expense of $0.3 million, partially offset by a decrease in marketing and travel-related expenses of $0.2 million. As a percentage of revenue, sales and marketing expenses were 3% in each of the three months ended September 30, 2020 and 2019.

General and administrative. Our general and administrative expenses decreased 11% to $6.5 million in the three months ended September 30, 2020 from $7.3 million in the three months ended September 30, 2019. The decrease in the comparable three months was due primarily to a decrease in outside consulting services of $1.1 million, partially offset by an increase in business and allocated expenses of $0.3 million. As a percentage of revenue, general and administrative expenses decreased to 9% in the three months ended September 30, 2020 from 11% in the three months ended September 30, 2019.

Other

Other income, net. Our other income, net increased to $0.7 million in the three months ended September 30, 2020 compared to $0.6 million in the three months ended September 30, 2019. The change in the comparable three months reflects an increase in investment income, partially offset by increased foreign currency transaction losses.

Provision for income taxes. For interim reporting purposes, we calculate an annual estimated tax rate and apply that rate to actual results to estimate our taxes. In cases when we cannot reliably estimate an annual estimated tax rate, actual tax expense or the "cutoff method" is utilized as the estimate.

Our provision for income taxes was $14,000 in the three months ended September 30, 2020 compared to $0.4 million in the three months ended September 30, 2019. Our provision for income taxes of $14,000 and $0.4 million in the three months ended September 30, 2020 and 2019, respectively, was comprised primarily of foreign withholding taxes and income taxes in foreign jurisdictions. Our effective tax provision rate of 0% of income from continuing operations for the three months ended September 30, 2020 was less than the tax amount computed at the U.S. federal statutory income tax rate due primarily to the release of the valuation allowance. Our effective tax provision rate of 93% of income from continuing operations for the three months ended September 30, 2019 was greater than the tax amount computed at the U.S. federal statutory income tax rate due primarily to losses for which no benefit will be recognized since the tax assets are not likely to be realized due to the lack of current and forecasted future income.

We anticipate that our foreign tax withholding obligations will continue into the future and that we will not be able to benefit from an offsetting deduction in the United States for an extended period of time given our existing net operating loss carryforwards.

We record liabilities related to uncertain tax positions in accordance with authoritative guidance on accounting for uncertainty in income taxes. As of September 30, 2020 and June 30, 2020, our cumulative unrecognized tax benefits were $5.5 million and $5.4 million, respectively. Included in the balance of unrecognized tax benefits at September 30, 2020 and June 30, 2020 was $0.1 million that if recognized would affect the effective tax rate.

We recognize interest and penalties related to unrecognized tax benefits as part of our provision for income taxes. We accrued zero for the payment of interest and penalties at September 30, 2020 and June 30, 2020.

We file income tax returns with the Internal Revenue Service, or IRS, California, various states and foreign tax jurisdictions in which we have filing obligations. The statute of limitations remains open from fiscal 2017 for federal tax purposes, from fiscal 2016 in state jurisdictions, and from fiscal 2015 in foreign jurisdictions. Fiscal years outside the normal statute of limitations remain open to audit by tax authorities due to tax attributes generated in those early years which have been carried forward and may be audited in subsequent years when utilized.

Due to operating losses in previous years and continued earnings volatility, we maintain a valuation allowance on the majority of our foreign deferred tax assets. Our valuation allowance at June 30, 2020 was $46.8 million. In evaluating our ability to recover our deferred tax assets each quarter, we consider all available positive and negative evidence, including current and previous operating results, ability to carryback losses for a tax refund, and forecasts of future operating results.

Equity in net income of equity method investees. Equity in net income of equity method investees for three months ended September 30, 2020 includes our proportionate share of equity in our non-marketable equity investments.

Loss on discontinued operations.

Our loss on discontinued operations of $4.0 million in the three months ended September 30, 2019 consisted of a $0.8 million loss from operations of our Ads Business and a loss of $4.8 million from the sale of our Ads Business in August 2019. Our loss from the sale of the Ads Business of $4.8 million included $1.9 million comprising severance for Ads Business employees who were not offered employment with inMarket and acceleration of stock-based awards vesting for certain Ads Business executives who were not offered employment with inMarket, and $0.4 million comprising legal fees and third-party consulting fees associated with the inMarket Transaction.

Liquidity and capital resources

The following table sets forth the major sources and uses of cash, cash equivalents and restricted cash for continuing operations for each of the periods set forth below (in thousands):

	Three Months Ended September 30,	
	2020	2019
Net cash provided by (used in) operating activities	$ (5,008)	$ 22,169
Net cash provided by (used in) investing activities	13,632	(32,827)
Net cash provided by (used in) financing activities	(718)	7,474
Effect of exchange rate changes on cash, cash equivalents and restricted cash	454	(336)
Net increase (decrease) in cash, cash equivalents and restricted cash, continuing operations	$ 8,360	$ (3,520)

At September 30, 2020, we had cash, cash equivalents and short-term investments of $98.8 million, which primarily consisted of corporate bonds, asset-backed securities, municipal securities, U.S. agency securities and U.S. treasury securities held. Our cash, cash equivalents and short-term investments are held and managed by financial institutions that are required to adhere to our investment policy.

Our accounts receivable are heavily concentrated in a small number of customers. As of September 30, 2020, our accounts receivable balance was $47.4 million, of which Ford and GM represented 38% and 46%, respectively.

Our future capital requirements will depend on many factors, including our ability to continue to increase our billings and control our expenses in fiscal 2021 and beyond, whether and when we return to profitability on a quarterly basis particularly in light of automobile manufacturing plant closures and the economic recession resulting from the COVID-19 pandemic, the timing and extent of expenditures to support development efforts, the extent of our research and development and sales and marketing activities and the size of our related headcount, the introduction of our new and enhanced service and product offerings and the timing and scale of the introduction of vehicles including our navigation products relative to when we are required to develop the product. We believe our cash, cash equivalents and short-term investments will be sufficient to satisfy our financial obligations through at least the next 12 months. However, while we generated cash from operations in fiscal 2020 and 2019, we may use cash in operating activities in fiscal 2021 if there are further automobile manufacturing plant closures or weak demand for new vehicles, or if revenue or collections are lower than we anticipate or we incur greater than expected cost of revenue or operating expenses. Our revenue and operating results could be lower than we anticipate if, among other reasons, our customers, on two of which we substantially depend for a large portion of our billings and revenue, limit or terminate our relationships with them, if those OEMs are unable to keep open automobile manufacturing plants or demand for new vehicles is weak due to COVID-19 related recessionary trends, we fail to successfully compete in our highly competitive market or our revenue falls more than we anticipate or does not grow as we expect or we are required to record losses related to our ownership interest in inMarket and other equity investments. In the future, we may acquire businesses or technologies or license technologies from third parties, and we may decide to raise additional capital through debt or equity financing to the extent we believe this is necessary to successfully complete these acquisitions or license these technologies. However, additional financing may not be available to us on favorable terms, if at all, at the time we make such determinations, which could have a material adverse effect on our business, operating results, financial condition and liquidity and cash position.

Net cash provided by (used in) operating activities. Net cash provided by (used in) operating activities was $(5.0) million and $22.2 million in the three months ended September 30, 2020 and 2019, respectively. Cash provided by or used in operating activities is affected by anticipated growth in our automotive business and increases in our operating costs, which are primarily driven by headcount related costs and royalty payments for portions of the content provided in our products. In the three months ended September 30, 2020, cash used in operating activities was primarily the result of net income of $3.3 million and non-cash charges for stock-based compensation of $2.9 million, depreciation and amortization of $0.8 million and operating lease amortization net of accretion, of $0.7 million, which were more than offset by non-cash equity in net income of equity method investees of $0.6 million and $11.8 million from changes in our operating assets and liabilities.

In the three months ended September 30, 2019, cash provided by operating activities was primarily the result of a net loss of $4.0 million, adjusted for loss from discontinued operations of $4.0 million, and non-cash charges for stock-based compensation of $1.8 million and depreciation and amortization of $0.9 million, as well as $18.8 million from changes in our operating assets and liabilities.

Net cash provided by (used in) investing activities. Our investing activities provided (used) $13.6 million and $(32.8) million during the three months ended September 30, 2020 and 2019, respectively. Cash flows from investing activities have historically been affected by purchases, sales and maturities of short-term investments, purchases of property and equipment, internal software development costs, and acquisitions. In the three months ended September 30, 2020, cash provided by investing activities was principally the result of proceeds from sales and maturities of short-term investments, net of purchases, of $19.4 million, partially offset by purchases of long-term investments of $5.7 million.

In the three months ended September 30, 2019, cash used in investing activities was principally the result of purchases of short-term investments, net of proceeds from sales and maturities, of $30.4 million and purchases of long-term investments of $2.0 million.

Net cash provided by (used in) financing activities. During the three months ended September 30, 2020 and 2019, our financing activities provided (used) cash of $(0.7) million and $7.5 million, respectively. In the three months ended September 30, 2020, we used cash for the repurchase of our common stock of $1.6 million and the utilization of $0.4 million for payment of tax withholdings related to net share settlements of RSUs, which was partially offset by the receipt of $1.2 million provided from the purchase of shares under our ESPP.

In the three months ended September 30, 2019, we received cash of $8.3 million provided from the exercise of stock options, which was partially offset by the utilization of $0.8 million for payment of tax withholdings related to net share settlements of RSUs.

Contractual obligations, commitments and contingencies

As of September 30, 2020, we had $19.8 million of future minimum non-cancelable financial commitments primarily related to office space under operating leases and license fees due to certain of our third-party content providers, regardless of usage level. These commitments are primarily due within four years.

Item 3. Quantitative and Qualitative Disclosures about Market Risk.

Except for the broad effects of COVID-19 as a result of its negative impact on the global economy and financial markets, there have been no material changes in market risk from the information provided in our Form 10-K.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our CEO and our Chief Financial Officer, or CFO, evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2020. The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company’s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Based on the evaluation of our disclosure controls and procedures as of September 30, 2020, our CEO and CFO concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act) that occurred during the three months ended September 30, 2020 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on the Effectiveness of Controls

Control systems, no matter how well conceived and operated, are designed to provide a reasonable, but not an absolute, level of assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. 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, have been detected. Because of the inherent limitations in any control system, misstatements due to error or fraud may occur and not be detected.

COVID-19

We have not experienced any material impact to our internal controls over financial reporting despite the fact that most of our employees are working remotely due to the COVID-19 pandemic. We are continually monitoring and assessing the COVID-19 situation on our internal controls to minimize the impact on their design and operating effectiveness.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings.

From time to time, we may be subject to legal proceedings and claims in the ordinary course of our business. For example, we have received, and may in the future continue to receive, claims from third parties asserting infringement of their intellectual property rights. In addition, litigation may be necessary to defend ourselves and our customers by determining the scope, enforceability and validity of third-party proprietary rights or to establish our proprietary rights. From time to time, we also may be subject to claims from our third-party content providers that we owe them additional royalties and interest, which claims may result in litigation if we and the third-party content provider are unable to resolve the matter. We cannot assure you with respect to the outcome of any current or future litigation brought against us or pursuant to which we have indemnification obligations and the outcome could have a material adverse impact on our business, operating results and financial condition.

In addition, we have received, and expect to continue to receive, demands for indemnification from our customers and OEM partners, which demands can be very expensive to settle or defend, and we have in the past offered to contribute to settlement amounts and incurred legal fees in connection with certain of these indemnity demands. In response to these demands we may be required to assume control of and bear all costs associated with the defense of our customers in compliance with our contractual commitments.

Large future indemnity payments and associated legal fees and expenses with respect to pending and future litigation, could materially harm our business, operating results and financial condition and create uncertainty regarding our business, any of which could also cause the price of our common stock to decline.

Item 1A. Risk Factors.

We operate in a rapidly changing environment that involves numerous uncertainties and risks. The following risks and uncertainties may have a material and adverse effect on our business, financial condition or results of operations. In addition, the impact of COVID-19 and any worsening of the economic environment may exacerbate the risks described below, any of which could have a material impact on us. This situation is changing rapidly and additional impacts may arise that we are not aware of currently. You should consider these risks and uncertainties carefully, together with all of the other information included or incorporated by reference in this Form 10-Q. If any of the risks or uncertainties we face were to occur, our business, financial condition, operating results, and prospects could be materially harmed. In that event, the price of our common stock could decline, and you may lose all or part of your investment.

Risks related to our proposed acquisition by V99

We entered into a merger agreement with V99, which is led by HP Jin, our Co-Founder, President and Chief Executive Officer, to acquire all of our outstanding shares, and uncertainty regarding the Merger and/or announcements related to a transaction will impact our business, financial condition, results of operations, and the market price of our common stock.

On October 2, 2020, we received a non-binding proposal from V99, which is led by HP Jin, our Co-Founder, President and Chief Executive Officer, to acquire all outstanding shares of Telenav common stock (other than those shares held by Dr. Jin, Samuel Chen or any of their related parties) for $4.32 per share in cash in a “going private” transaction. Upon receipt of the proposal, our Board of Directors formed the Special Committee, which consists entirely of independent, disinterested directors to evaluate the Proposed Transaction and strategic alternatives with the assistance of its advisors. We do not plan to disclose developments or provide updates on the progress or status of any potential transaction until the Special Committee deems further disclosure is appropriate or required. Speculation or announcements regarding any developments related to the Proposed Transaction and perceived uncertainties related to our future could cause our stock price to fluctuate significantly.

On November 2, 2020, we entered into the Merger Agreement with V99 and Merger Sub, providing for the merger of Merger Sub with and into Telenav, with Telenav surviving the Merger as a wholly owned subsidiary of V99. The Merger Agreement provides that, at the effective time of the Merger, each share of Company Common Stock issued and outstanding immediately prior to such (other than shares held in treasury, shares held by the Purchaser Group and dissenting shares) will be cancelled and extinguished, and automatically converted into the right to receive cash in an amount equal to the Merger Consideration. The Merger Agreement also provides for the cancellation of out-of-the-money option; the conversion of in-the-money options to the right to receive the Merger Consideration less the applicable exercise price and withholding taxes; the conversion of unvested restricted stock units into the right to receive the Merger Consideration less applicable withholding taxes, subject to the satisfaction of time-based vesting and other terms that applied to such unvested restricted stock units and subject to any other written agreements with the holders thereof; and the cash out of vested restricted stock units for the Merger Consideration less applicable withholding taxes.

Because the Merger is subject to conditions including the Company Stockholder Approval, the Majority of Minority Approval, and regulatory filing waiting periods, we cannot be certain that those conditions will be satisfied and the Merger will close. In addition, the closing of the Merger is subject to V99’s ability to obtain financing and we cannot be sure that such financing will be available on reasonable terms, if at all. If V99 fails to complete the Merger due to its failure to obtain financing, our remedy will be limited to a break-up fee of $3.5 million if the Merger Agreement is terminated as a result.

Although we also have the right to a 30-day “go-shop” period beginning on November 2, 2020 and continuing until 11:59 p.m. Pacific time on December 2, 2020 to solicit alternative acquisition proposals from third parties, we may not receive any proposals including those that would be a Superior Proposal. If an alternative acquisition proposal is received after the “go shop” period or is not from an Excluded Party and the Special Committee changes its recommendation after a specified date, Dr. Jin and the remaining Purchaser Group parties are not obligated to vote in favor of the Superior Proposal, even though the Special Committee may recommend that our stockholders approve the alternative transaction. This limitation on the Purchaser Group’s obligation to vote in favor of Superior Proposals may discourage other persons from making an offer and negotiating a better offer with us.

Other potential bidders may also be concerned that Dr. Jin and other members of management would not be in favor of an alternative proposal, despite the obligations of Dr. Jin and the remaining Purchaser Group members to support a Superior Proposal in certain circumstances. Those other potential bidders may be concerned that Dr. Jin and other members of management may not remain with us after the closing of an acquisition of us by another party, which may discourage those potential bidders from making a competing offer.

A “going private” transaction, such as the Merger, or any other potential strategic alternative transaction, exposes us and our Board of Directors and Special Committee to heightened risk of litigation, which may delay the closing of the Merger or result in significant costs and expenses to us, which may impair our ability to complete the Merger or our results of operations.

Failure to complete, or delays in completing, the merger with V99 could materially and adversely affect our results of operations and stock price.

On November 2, 2020, we entered into a Merger Agreement with V99, which contemplates the acquisition by V99 of us in a merger of Merger Sub and us, with us being the surviving corporation. Consummation of the Merger is subject to the conditions described therein, including the Majority of the Minority Approval. We cannot assure you that we will be able to successfully consummate the Transaction as currently contemplated under the Merger Agreement or at all. Risks related to the failure of the proposed Merger to be consummated include the following:

- we will remain liable for significant transaction costs, including legal, accounting, financial advisory and other costs relating to the Merger, some of which will be payable regardless of whether the Merger is consummated;
- under some circumstances, we may have to pay a termination fee to V99 in the amount of $3.5 million or $2.0 million, depending on the circumstance;
- the attention of our management and employees may be diverted from day-to-day operations during the period up to the completion of the Merger;
- our business may be disrupted by customer uncertainty over when or if the Merger will be completed;
- under the Merger Agreement, we are subject to certain restrictions on the conduct of our business prior to completing the Merger, which restrictions could adversely affect our ability to conduct business as we otherwise would have done if we were not subject to these restrictions; and
- our ability to retain current key employees or attract new employees may be harmed by uncertainties associated with the proposed Merger.

The occurrence of any of these events individually or in combination could materially and adversely affect our results of operations and stock price.

The announcement and pendency of the Merger could cause disruptions in our business, which could have an adverse effect on our business and financial results, and consequently on the combined company.

We have operated and, until the consummation of the Merger, will continue to operate, independently. Uncertainty about the effect of the Merger on customers and employees may have an adverse effect on us and consequently on the combined company. In response to the announcement of the Merger Agreement, our existing or prospective customers or suppliers may:

- delay, defer or ease purchasing products or services from or providing products or services to us;
- delay or defer other decisions concerning us; or
- create uncertainty among current and prospective customers about our financial resources after the Merger as we will not have short-term access to public capital markets; or
- otherwise seek to change the terms on which they do business with us.

Any such delays or changes to terms could seriously harm our business. In addition, as a result of the Merger, current and prospective employees could experience uncertainty about their future with us. These uncertainties may impair the ability of each company to retain, recruit or motivate key personnel.

The following risk factors assume that we are and remain a stand-alone company except as otherwise noted.

Risks related to the continuing effects of COVID-19

We face significant risks related to the COVID-19 pandemic and related economic recession, which we expect to continue, and which could significantly disrupt our operations and have a material adverse effect on our results of operations and financial condition.

Our business will be adversely impacted by the continuing effects of the COVID-19 pandemic and related economic recession resulting from a cessation or significant reduction of business activities, which could continue for an extended period.

The COVID-19 pandemic and related adverse public health developments have caused and will continue to cause disruption to our business operations resulting from shelter-at-home orders, quarantines, self-isolations, or other movement restrictions on the ability of our employees to perform their jobs that may impact our ability to develop and design our products in a timely manner or meet required milestones or customer commitments. For example, our automotive manufacturer partners closed manufacturing plants in response to the COVID-19 pandemic and only re-opened them in the three months ended June 30, 2020 for production in North America and Europe. Because we receive revenue when new vehicles are manufactured, our revenue was negatively affected by the cessation of manufacturing operations, and will continue to be until operations resume full capacity. Recent increases in the number of new COVID-19 cases may result in additional plant shut-downs or increased social distancing measures that further reduce OEM manufacturing operations, including below our current forecasts. In addition, public health problems resulting from the COVID-19 pandemic and precautionary measures instituted by governments and businesses to mitigate its spread, including travel restrictions and quarantines, have contributed to a general, significant and continuing downturn in the global economy, which has had a direct impact on the demand for our products and on our operating results. The COVID-19 pandemic has also caused significant volatility in financial markets, including the market price of our stock and has raised the prospect of an extended global recession. We anticipate that the economic recession resulting from the COVID-19 pandemic and related unemployment will substantially weaken demand for new vehicles and, as a result, our revenue may be substantially negatively affected.

Our revenue and prospects for continued business directly depend upon the volume of new vehicles being produced by our automobile manufacture partners and program development for new vehicles by prospective customers. The COVID-19 pandemic, related adverse public health developments and prospects for a global recession have directly impacted the businesses of our automobile manufacturer partners, such as GM, Ford and Toyota, including resulting from shelter-in-place orders and restrictions on employees’ ability to work, office and factory closures, disruptions to ports and other shipping infrastructure, border closures and other travel or health-related restrictions. The previous shutdowns and gradual resumption of manufacturing operations by Ford, GM and our other automobile manufacturer partners, and continued periods of reduced operating levels, will decrease our revenue, operating results, financial condition and cash flows until the automobile manufacturer partners resume full production levels. As these conditions continue, they will also negatively impact our ability to maintain cash balances to support our operations and future investments. For example, in the three months ended June 30, 2020 and September 30, 2020, our cash used in operating activities was $14.4 million and $5.0 million, respectively.

In addition, we cannot assure that any decrease in our revenue while these shutdowns or reduced vehicle production continue will be offset by increased revenue in subsequent periods as our OEM partners resume vehicle production, as we expect high levels of unemployment and the resulting recession to further weaken demand for new vehicles. Should these conditions continue, they would also negatively impact our ability to maintain cash balances to support our operations and future investments. We cannot predict when that may occur, and at what level our automobile manufacturer customers produce vehicles if further plant closures occur or additional social distancing measures are required. It is likely that for an extended period the production rate will be substantially below maximum production or levels which preceded the COVID-19 shutdown. While we maintain what we believe are sufficient cash balances to support our operations, we believe such periods of cash usage in our operations could continue for the near-to-mid-term, and until our automobile manufacturer partners resume full production.

We rely on production forecasts from our automobile manufacturer partners to forecast our revenue for future periods and make decisions regarding the expenses we incur. We anticipate that our automobile manufacturer partner forecasts may be revised substantially and may be less reliable for longer periods. As a result, we may not be able to provide guidance for future periods with any level of certainty and we may be unable to adjust our spending in a timely manner if production forecasts upon which we base our revenue forecasts are not as reliable as they have been historically.

Changes in our operations in response to the COVID-19 pandemic or resulting employee illnesses may also result in inefficiencies or delays, including in sales and product development efforts and additional costs related to business continuity initiatives, that we may not be able fully to mitigate, whether through succession planning, improved management, employees working remotely or teleconferencing technologies. In addition, a substantial part of our workforce is outside of the United States in jurisdictions where our ability to terminate or furlough employees without pay may be limited or subject to complex and costly processes. Therefore, if we determine that we need to reduce costs by terminating or furloughing personnel in these jurisdictions, our ability to do so in a timely and cost-effective manner may be limited.

Although the magnitude of the impact of the COVID-19 pandemic on our business and operations remains uncertain, the continued spread and/or a prolonged economic downturn will likely reduce demand for our products and services. In addition, as a result of the COVID-19 pandemic, we have seen automobile OEMs cancel or delay programs that would have included our products and services. While we cannot reasonably estimate the full extent and impact of the pandemic, we currently believe it will in the short-run and may over the longer term materially and adversely affect our consolidated business, results of operations and financial condition.

Risks related to our industry and concentration of our OEM customer base

We are dependent on a few OEM partners — principally Ford and GM — for a substantial portion of our billings and revenue, and our business, financial condition and results of operations will be significantly harmed if our billings and revenue from Ford and GM decline or if they transition to competitive offerings. The transition of OEMs to Android-based operating systems could increase the risk of OEMs, such as Ford and GM, transitioning away from our products and services and a decline in our billings and revenue as a result.

Ford represented approximately 45% and 52% of our revenue and approximately 44% and 39% of our billings in the three months ended September 30, 2020 and 2019, respectively. GM represented approximately 45% and 25% of our revenue and approximately 47% and 26% of our billings in the three months ended September 30, 2020 and 2019, respectively. Ford represented approximately 44%, 62% and 76% of our revenue and 44%, 54% and 74% of our billings in fiscal 2020, 2019 and 2018, respectively. GM represented approximately 34%, 20% and less than 10% of our revenue and 33%, 21% and less than 10% of our billings in fiscal 2020, 2019 and 2018, respectively.

We expect that Ford, GM and other automobile manufacturers and tier ones will account, at least in the near-term, for an increasing percentage of our revenue and billings. However, our total revenue and billings could decline if Ford or GM determine to offer on their vehicles third-party platforms or solutions in place of ours. For example, Ford offers Apple's CarPlay and Google's Android Auto on its vehicles in North America equipped with its SYNC 3 platform. GM also offers Apple's CarPlay and announced on September 5, 2019 that it intended to utilize Google Auto Services, or GAS, solutions and Google's Android Auto on certain models beginning with GM's model year 2022, which may reduce the number of new GM models and vehicles in which our products and services are provided over the remaining term of our agreements with GM. If Ford were similarly to announce a broader transition toward a competitive platform or offering such as specifically GAS, but also Amazon, Apple or others, this would significantly impact our revenue in future years. Our existing contract with Ford to develop navigation products and services on Ford's SYNC 4 platform extends to new vehicles through 2022 for distribution to the North American markets. We anticipate that Ford could begin to transition its operating system to Android and away from the QNX operating system on which we currently provide navigation products and services for Ford. This could begin as early as Ford's model year 2023. However, we do not have visibility of the timing or scope of such a transition, the models that would be affected or the scope of any products or services we might provide to Ford's customers through an Android-based operating system. We believe our Android-based navigation products and services will be competitive with alternatives Ford may consider for inclusion in an Android-based operating system. However, we may not be able to mitigate the effect of any lost billings and reduced revenue, and our business, financial condition, results of operations and prospects could be materially adversely affected, our stock price could be volatile, and it may be difficult for us to achieve and maintain profitability.

We incurred losses in each period from fiscal 2015 through our first quarter of fiscal 2020. Although we were profitable for part of fiscal 2020, we may incur additional losses in fiscal 2021, and we cannot predict when, or if, we will return to consistent profitability.

As a percentage of revenue, our net income was 5% and our net loss was 6% in the three months ended September 30, 2020 and 2019, respectively.

We may incur additional net operating losses during fiscal 2021, as we face many uncertainties and we expect to see continued impact from the COVID-19 pandemic.

Our revenue, like most, if not all, automotive-related businesses, depends upon the volume of new vehicles being produced. The previous shutdowns due to the COVID-19 pandemic and gradual resumption of manufacturing operations by Ford, GM and other automobile manufacturer partners will negatively impact our revenue and operating results, perhaps significantly, while they continue and until they resume full production. Additional shut-downs or social distancing measures as a result of recent spikes in COVID-19 cases may also result in decreases in vehicle production. The high levels of unemployment and recession resulting from the COVID-19 pandemic are also likely to result in weak demand for new vehicles, which would negatively affect our revenue and operating results for a sustained period.

We also expect that we may incur net operating losses due to the costs we expect to incur prior to generating revenue in connection with new automotive navigation products and services that will not be integrated into production vehicles for several years, if at all. The time required to develop, test and deploy products between the time we secure the award of a new contract with any automobile manufacturer or tier one, and the timing of revenue thereunder, as well as a substantial required upfront investment in research and development resources prior to entering into contracts with automobile manufacturers and tier ones, will continue to contribute to these losses. We also expect to continue to experience pressure on pricing in our negotiations with automobile manufacturers and tier ones as we enter into negotiations for contract renewals or new products where we are competing with larger suppliers that are competing on price, rather than features, or for vehicles where customers are price sensitive regarding navigation solutions or where the automobile manufacturer is offering or is considering brought-in solutions such as Apple’s CarPlay or Google’s Android Auto.

Our efforts to develop new services and products and attract new customers require investments in anticipation of longer-term revenue. For example, the design cycle for automotive navigation products and services is typically 18 to 24 months, and in order to win designs and achieve revenue from this growth area, we typically have to make investments two to four years before we anticipate receiving revenue, if any. This is the case for our current relationships with GM and Ford. In addition, the revenue we may receive at initial launch may not be significant depending on the automobile manufacturer’s or tier one’s launch timing schedule across vehicle models and regions. For example, although our hybrid product with GM launched in February 2017, it only launched in select vehicle models and we do not have any control over when and whether it launches in other GM models. In addition, GM announced in September 2019 that effective in 2021 (model year 2022), it will begin offering vehicles with GAS. The relationship GM announced with GAS may reduce the number of new GM models and vehicles in which our products and services are provided over the remaining term of our agreements with GM. Our contract with Ford covers a broad range of products and services, including navigation solutions for Ford in North America for new vehicles through 2022. Garmin announced in January 2020 a relationship with Ford to integrate Garmin’s navigation technology into Ford’s next-generation SYNC communications and entertainment system. The relationship Garmin announced with Ford and any transition to a different platform adopted by Ford may reduce the number of new Ford models and vehicles in which our products and services are provided. In addition, we anticipate that as early as model year 2023 Ford could begin to transition to an Android-based operating system and away from the QNX-based operating system on which we currently provide navigation products and services to Ford.

We are required to recognize certain automotive revenue over time if there are contractual service periods or other obligations to fulfill, such as specified contractual deliverables. Certain contractual service periods or other obligations currently extend up to eight years. We also intend to make additional investments in systems and continue to expand our operations to support diversification of our business. As a result of these factors, we believe we may incur a net loss during fiscal 2021, and we cannot predict when, or if, we will return to consistent profitability or the growth that we anticipate.

The success of our automotive navigation products may be affected by the number of vehicle models offered with our navigation solutions, as well as overall demand for new vehicles.

Our ability to succeed long term in the automotive industry depends on our ability to expand the number of models offered with our navigation solutions by our current automobile manufacturer customers. We are also dependent upon our ability to attract new automobile manufacturers and tier ones. For automobile manufacturers with whom we have established relationships, such as Ford and GM, our success depends on continued production and sale of new vehicles offered with, and adoption by end users of, our products when our product is not a standard feature. Our on-board and hybrid solutions may not satisfy automobile manufacturers’ or end customers’ expectations for those solutions. If automobile manufacturers and tier ones do not believe that our services meet their customers’ needs, our products and services may not be designed into future model year vehicles. As we move forward, our existing automobile manufacturers and tier ones may not include our solutions in future year vehicles or territories, which would negatively affect our revenue from these products. Production and sale of new vehicles are subject to delay due to forces outside of our control, such as natural disasters, pandemics, parts shortages and work stoppages, as well as general economic conditions. For example, in March 2020, Ford and GM ceased production in the United States and Europe due to the COVID-19 pandemic and related shelter-in-place orders. A recent spike in COVID-19 cases may result in additional shut-downs or social distancing measures that could decrease new vehicle production. In addition, we have seen automobile OEMs cancel or delay programs that we expected would include our products and services.

If we fail to comply with our automobile manufacturer and tier-one contracts, our business, financial condition and results of operations could suffer.

Our contracts with our automobile manufacturer and tier-one customers include increasingly specialized, complex and strict performance requirements. We have experienced and may continue to experience increased challenges in achieving certain milestones under our contracts with our automobile manufacturer and tier-one customers, such as Ford and GM, our largest OEM customers, as well as other tier-one customers, and may not be able to demonstrate those milestones on a timely basis or otherwise as required under our agreements. This could cause our automobile manufacturers, such as Ford and GM, and other tier-one customers to reduce their level of business with us or to utilize third-party platforms or solutions in place of ours in future model years. In addition, our automobile manufacturer and tier-one customers regularly evaluate our capabilities against those of our competitors and may even engage one or more of our competitors as a dual source supplier. Any failure by us to timely perform under our automobile manufacturer and tier-one contracts could at any time result in the termination of those contracts, the awarding of work to one or more of our competitors, or other adverse actions. Further, any negative publicity related to our automobile manufacturer or tier-one contracts or any proceedings surrounding them, regardless of its accuracy, may damage our business by affecting our ability to compete for new contracts. If one of our automobile manufacturers or tier-one contracts is terminated, or if our ability to compete for new contracts is adversely affected, our business, reputation, financial condition and results of operations could suffer.

We may not be successful at adapting our business model for the Chinese automotive navigation market, which may reduce our revenue per vehicle.

Demonstrating growth in the Chinese market is an important component of our global growth strategy. While we have significant research and development facilities in China, we have a limited business presence and, so far, have not been successful in expanding our automotive entry in the Chinese market. The COVID-19 pandemic also disrupted significantly our operations in China and delayed various initiatives with existing and potential OEM partners. Although business activities in China have resumed, we may not be able to retain the interest of and further our relationships with existing and potential OEM partners due to the recessionary economic effects of the COVID-19 pandemic. The automotive software market in China is also highly competitive. This competition comes from large international automotive software providers as well as strong domestic providers. The Chinese navigation software market is seeing transition towards new business models by third-party navigation product vendors, such as substantially lower per-unit license fees that are intended to be offset by opportunities to monetize navigation usage in additional ways that may include, but not be limited to, advertising, usage-based insurance and utilizing data to create high-definition maps. Global platform navigation products tend to fare poorly in China. For example, our revenue from Ford China declined materially in fiscal 2018, 2019 and 2020, and we expect it to continue to decline in the absence of a new, localized product. We may need to change or modify our license fee model in China in order to compete effectively. Our inability to do so may have a material impact on our ability to continue to participate in the Chinese market. Even if we adopt new license fee models for China-based automobile manufacturers, we may not recognize revenue from those new models sufficient to compensate us for the costs of supporting those automobile manufacturers in the short-term, if at all. In addition, many of the same business model, pricing and licensing changes, could also impact us in additional markets including, but not limited to, North America and Europe.

We may not be successful in generating material revenue from automobile manufacturers and tier ones other than Ford and GM. As a result, our business, financial condition and results of operations will be harmed if we are unable to diversify our automotive revenue.

Although we have attempted to mitigate our dependence on Ford and GM by establishing relationships with other automobile manufacturers and tier ones, these relationships may not produce significant revenue if the products are launched in limited models or face competition from third parties. Even if we are able to diversify our automotive navigation business through new relationships, customers may not elect to purchase automobile manufacturer and tier-one navigation offerings that include our software and/or services, which may be for reasons unrelated to performance of our software or services. Even if we win new awards, once those programs go into production, consumers may not widely adopt our navigation offerings or may criticize the performance or quality of the navigation software and our reputation may be harmed. If customer purchase rates are less than we anticipate, or if our relationships with one or more of these other automobile manufacturers and tier ones are terminated or not renewed or extended, we may be unable to effectively diversify our automotive navigation revenue and our business, financial condition and results of operations may be harmed.

We may be unable to enter into agreements to provide automotive navigation products if we do not offer navigation products that serve geographies throughout the world or automobile manufacturers and tier ones are uncomfortable with our ability to support markets outside of the United States. Our automobile manufacturer and tier-one customers may choose to partner with providers of location services with extensive international operations. We may be at a disadvantage in attracting such customers due to our business being concentrated in the United States, and we may not be successful in other geographies if customers are uncomfortable with the look and feel of our solutions. If we are unable to attract or retain such automobile manufacturer and tier-one customers, our revenue and operating results will be negatively affected.

We may incur substantial costs when engaging with a new automotive navigation customer and may not realize substantial revenue from that new customer in the short-term, if at all.

The design and sales cycle for on-board or brought-in automotive navigation services and products is long and requires significant up-front and ongoing research, engineering and other development investments to secure and support those relationships. As a result, we may not be able to achieve significant revenue growth with new customers from the automotive navigation business in a short period of time, or at all. In addition, these lengthy cycles make it difficult to predict if and when we will generate revenue from new customers or when, if at all, we may recoup the up-front and ongoing investments we make in order to secure and support such business. For example, design wins for vehicles may be awarded 12 to 36 months prior to the anticipated commercial launch of the vehicle.

In 2014, we entered into a contract with GM to provide worldwide hybrid navigation solutions beginning in model year 2017 and continuing through model year 2025, and our hybrid product launched in its first GM models, the Cadillac CTS and CTS-V, in February 2017. In May 2017, additional vehicles through model year 2025 were added to this products and services agreement, and in January 2020 the agreement was extended to provide services to subscribers until June 30, 2031. In April 2020, we also entered into a related agreement with GM wherein we agreed to provide certain service-based deliverables and further enhance the customized software for additional consideration, which we currently understand GM will use in certain of its model year 2021 and later vehicles. As part of the agreement, we also resolved an open matter with GM relating to potential future adjustments by GM to its demand or purchase forecasts. However, our contract with GM does not assure us of minimum order quantities, overall or during any period. For example, on September 5, 2019, GM announced that it intended to utilize GAS solutions on certain models beginning with model year 2022. The relationship GM announced with GAS may reduce the number of new GM models and vehicles in which our products and services are provided over the remaining term of our agreements with GM. We cannot assure you that our products will be in a wide variety of geographic markets in which GM sells vehicles in or across a variety of models and brands, or that we will continue to receive material revenue from these products and services.

Our contract with Ford covers a broad range of products and services that we provide to Ford. Effective as of June 16, 2020, we entered into an amendment to our contract with Ford that extends the term of the agreement to December 31, 2033 for each jurisdiction in which we currently provide our products to Ford. On December 14, 2017, Ford also selected us to provide its next-generation navigation solution in North America, subject to certain conditions. The terms of this next-generation navigation solution were embodied in an amendment executed in December 2018 that sets forth the terms and conditions for the Ford SYNC 4 deliverables for new vehicles through 2022. The parties entered into an amendment effective June 16, 2020 extending our service and warranty obligations under the agreement to December 31, 2029 for North America production. We were not awarded the contracts for Europe, South America and Australia and New Zealand, and Garmin recently announced in 2020 a relationship with Ford to integrate Garmin's navigation technology into Ford's next-generation SYNC communications and entertainment system. The relationship Garmin announced with Ford and any transition by Ford to other platforms such as Android may reduce the number of new Ford models and vehicles in which our products and services are provided. In addition, we anticipate that, beginning as early as model year 2023, Ford could begin to transition to an Android-based operating system and away from the QNX-based operating system on which we currently provide navigation products and services to Ford. The loss of any contracts awarded, or our failure to be awarded contracts for certain geographies, may adversely impact our business, financial condition and results of operations. If Ford were similarly to announce a broader transition toward a competitive platform or offering such as GAS, this would significantly impact our revenue in future years.

We have a partnership with Toyota for Toyota and Lexus vehicles and a separate partnership with Xevo, a tier-one supplier to Toyota, for another navigation solution for Toyota and Lexus vehicles. While we saw expansion of our latest version of Scout GPS Link solution across more Toyota and Lexus models through fiscal 2019, we expect Toyota to limit or reduce the number of models or vehicles on which Scout GPS Link is offered by Toyota and Lexus, beginning in model year 2021, due in part to the offering of alternative brought-in solutions such as Apple's CarPlay, which Toyota recently announced it is offering across certain Toyota models, and the expanded offering of Google's Android Auto solution across more automobile manufacturers. In addition, during the fourth quarter of 2019, Telenav entered into an amended agreement with Xevo, under which we received a one-time $17.0 million cash pre-payment in exchange for removing a contractual minimum unit commitment that otherwise would have resulted in a payment to us in 2027. We recorded the receivable as deferred revenue in the fourth quarter of fiscal 2019 and we are recognizing it as revenue over future periods. We currently expect that our contract with Xevo relating to the implementation of our solutions in Toyota and Lexus vehicles will remain in place through 2026. We cannot assure you that we will receive significant revenue from the solutions for Toyota in the long-term. While we continue to invest in our existing and new relationships with automobile manufacturers, if our products do not meet the consumer's expectations, automobile manufacturer customers may not continue to offer our solutions.

We also may not price our solutions in such a way that is profitable for us and enables us to recoup the development expenses we incurred to provide such solutions in the time we expect or at all. Development schedules for automotive navigation products are difficult to predict, and there can be no assurance that we will achieve timely delivery of these products to our customers. To the extent that we charge service fees beyond an initial fee at the time the vehicle is purchased, we may not be successful in gaining traction with customers to provide services and charge ongoing monthly or annual fees outside of the traditional on-board navigation service model.

Our ability to build demand for our automotive navigation products and services is also dependent upon our ability to provide the products and services in a cost-effective manner, which may require us to renegotiate map and POI content relationships to address the specific demands of our automotive navigation products and services. If we are unable to improve our margins, we may not be able to operate our automotive navigation business profitably. If we fail to achieve revenue growth in any of our automotive navigation solutions (whether on-board, brought-in or other), we may be unable to achieve the benefits of revenue diversification. In addition, our map and content suppliers, HERE North America, LLC, or HERE, and TomTom North America, Inc., or TomTom, are also becoming competitors through the offering of their own automotive navigation services.

Risks related to our operations, how we do business and our position in our market

Our quarterly revenue and operating results have fluctuated in the past and may fluctuate in the future due to a number of factors. As a result, we may fail to meet or exceed the expectations of securities analysts or investors, which could cause our stock price to decline.

Our quarterly revenue and operating results may vary significantly in the future. Therefore, you should not rely on the results achieved in any one quarter as an indication of future performance and period-to-period comparisons of our revenue and operating results may not be meaningful. Our quarterly results of operations may fluctuate as a result of a variety of factors, including, but not limited to, those listed below, many of which are outside of our control:

- the prior decisions by GM, Ford and other OEM manufacturers, to suspend vehicle production, uncertainty about the pace of resumed production, and the production levels they may return to in the foreseeable future resulting from weakened demand resulting from the economic recession associated with the COVID-19 pandemic;
- the ability of automobile manufacturers to sell automobiles equipped with our products;
- GM’s decision, announced on September 5, 2019, to utilize the GAS offering and any similar decisions of other automobile manufacturers and partners, such as Ford, to utilize other third-party offerings, such as offerings provided by GAS, Amazon, Apple and others, in future model years;
- our expectation that Ford could begin as early as model year 2023 to transition its navigation products and services to an Android-based operating system;
- competitive in-car platforms and products, such as Apple’s CarPlay and Google’s auto initiatives, which are currently offered in North America on Ford vehicles equipped with its SYNC 3 platform and most GM models;
- our ability to define and implement effective review controls over unusual or non-recurring and significant transactions, and timely identify and assess the accounting implications of terms in such unusual or non-recurring agreements;
- the decision by Toyota to expand Apple’s CarPlay compatibility to certain of its 2019 model year and beyond Toyota and Lexus vehicles;
- Ford’s announced intentions to modify its North America and European passenger car portfolio whereby it has begun phasing out certain car models;
- GM’s announced intentions to end production of certain passenger vehicles in North America;
- work stoppage affecting our automobile manufacturer customers and their partners, such as the labor stoppage announced by GM workers in September 2019, which reduced our revenue during the stoppage period and for some time thereafter;
- the seasonality and unpredictability of new vehicle production, including tooling and assembly changes and plant shutdowns, including due to disruptions at facilities of suppliers of essential components;

- the potential disruption as a result of the departure of the United Kingdom from the European Union on automotive supply chains and potential plant closures in the United Kingdom;
- changes made to existing contractual obligations with a customer that may affect the nature and timing of revenue recognition, such as the adoption of our map update solution for Ford's customers in multiple geographies and its impact on the timing of our revenue recognition;
- competitive pressures on automotive navigation pricing from low cost suppliers and for vehicles where consumers are extremely price sensitive;
- the introduction and success of in-car integration, such as Google's in-car integration of Android Auto with Google Maps;
- investments by HERE or TomTom in high definition maps that may be leveraged to displace our products and services in new vehicle models;
- the seasonality of new vehicle model introductions and consumer buying patterns, as well as the effects of economic uncertainty on vehicle purchases;
- an outbreak of a contagious disease, similar to the COVID-19 outbreak, which may cause us or our customers to temporarily suspend our or their operations in the affected city or country, including China;
- the impact of tariffs and other trade negotiations on vehicle sales prices and supply chains;
- the impact on vehicle sales resulting from tariffs on imported vehicles and parts and disruption to automobile manufacturer supply chains resulting therefrom;
- the effectiveness of our entry into new business areas;
- the loss of our relationship, a change in our revenue model, a change in pricing, or a reduction in geographic scope with any particular customer;
- poor reviews of automotive service offerings into which our navigation solutions are integrated resulting in limited uptake of navigation options by car buyers;
- warranty claims based on the performance of our products and the potential impact on our reputation with navigation users and automobile manufacturers and tier ones;
- the sale of vehicle brands by automobile manufacturers to an automobile manufacturer with which we do not have an existing relationship;
- the timing and quality of information we receive from our customers and the impact of customer audits of their reporting to us;
- the inability of our automobile manufacturer customers to attract new vehicle buyers and new subscribers for connected services;
- the timing of customized software development and other deliverables such as map updates;
- the amount and timing of operating costs and capital expenditures related to the expansion of our operations and infrastructure through acquisitions or organic growth;
- the timing of expenses related to the development, acquisition or divestiture of technologies, products or businesses;
- the cost and potential outcomes of existing and future litigation;
- the timing and success of new product or service introductions by us or our competitors and customer reviews of those products or services;
- the timing and success of marketing expenditures for our products and services;
- the extent of any interruption in our services;

- potential foreign currency exchange gains and losses associated with expenses and sales denominated in currencies other than the U.S. dollar;
- general economic, industry and market conditions, including any change in U.S. interest rates, that impact expenditures for new vehicles, smartphones and mobile location services in the United States and other countries where we sell our services and products;
- changes in interest rates and our mix of investments, which would impact our return on our investments in cash and marketable securities;
- potential gains or losses on non-marketable equity investments accounted for under the equity method
- changes in our effective tax rates; and
- the impact of new accounting pronouncements.

Fluctuations in our quarterly operating results might lead analysts and investors to change their models for valuing our common stock. As a result, our stock price could decline significantly and we could face costly securities class action lawsuits or other unanticipated issues.

Our automotive revenue and earnings could fluctuate due to the complexities of revenue recognition and capitalization of expenses related to customized products.

We adopted ASC 606, *Revenue from Contracts with Customers*, effective July 1, 2018, utilizing the full retrospective transition method. Under this accounting methodology: royalty amounts earned are bifurcated when there exist various underlying obligations; revenue is recognized upon fulfillment of the underlying obligation; and such obligations related to earned royalties generally can include an on-board navigation component recognized as revenue once delivered and accepted, a connected services component recognized to revenue over the applicable service period, and a map update component recognized as revenue upon periodic delivery. Due to the complexities of revenue recognition, we may be required to recognize certain revenue over extended periods. For example, because customers of our brought-in automotive navigation solutions simultaneously receive and consume the benefit from our performance, we recognize revenue ratably over the period we expect to fulfill the services obligation, which is generally 8 to 12 years, as we believe this provides a faithful depiction of the transfer of control.

Revenue recognition could also be impacted by future amendments to automobile manufacturer and tier-one agreements could also impact our recognition of revenue, such as by providing our map update solution in other regions, changes in procurement patterns, shipping terms and title transfer. As our solutions encompass greater value-added services, there is potential for changes in the timing of our recognition of revenue. Investors and securities analysts may not understand the subtleties of these revenue recognition requirements, and the trading prices of our common stock may be negatively affected.

In addition, our revenue recognition under our automobile manufacturer and tier-one agreements is becoming increasingly more complex with the evolution of our value-added products and services, such as our hybrid navigation solutions. The agreements for these solutions can extend over several years and require multiple deliverables. Given the length of our contractual obligations, which often extend beyond the manufacture and sale of the vehicle when the royalty is determined and paid, we may have significant post-production obligations to provide brought-in navigation services or map updates over an extended period of time. These extended obligations can result in a delay in our recognition of revenue, or the need for us to defer and recognize revenue over the period that we are required to provide these post-production obligations or other services.

In conjunction with the adoption of ASC 606, development costs subject to ASC 340-40 incurred to fulfill future obligations under certain actual or anticipated contracts for automotive solutions are capitalized, provided they are expected to be recovered, and then recognized as the related performance obligations are transferred. For on-board automotive solutions, such costs represent the customized portion of software development, which will be recognized upon acceptance of the software since acceptance is generally required for control of the software to transfer. As a result, our recognition of deferred costs may be lumpy and not tied to the production of the vehicles in which the software is installed. For brought-in automotive solutions, such costs will be amortized over the period the services obligation is expected to be fulfilled because software development does not represent a distinct performance obligation in the case of brought-in automotive solutions.

We may also incur significant expense to develop products for automobile manufacturers, such as under our worldwide connected navigation services agreement with GM, prior to receiving any significant revenue related to the sale of vehicles with our navigation services. As our offerings in automotive navigation expand, we may not correctly anticipate the financial accounting treatment for the various products.

We rely on our customers for timely and accurate vehicle and subscriber sales information. A failure or disruption in the provisioning of this data to us would materially and adversely affect our ability to manage our business effectively.

We rely on our automobile manufacturers and tier-one customers to provide us with reports on the number of vehicles they sell with our on-board, brought-in and hybrid navigation products and services included, depending on the nature of our contractual relationship, and to remit royalties for those sales to us. To a lesser degree, we also rely on our wireless carrier customers to bill subscribers and collect monthly fees for our mobile navigation services, either directly or through third-party service providers. The risk of inaccurate reports may increase as our customers expand internationally and increase the number of manufacturing locations. For example, in the three months ended March 31, 2017 and September 30, 2017, Ford determined that it had misreported the production of vehicles to us in certain factories. If our customers or their third-party service providers provide us with inaccurate data or experience errors or outages in their own billing and provisioning systems when performing these services, our revenue may be less than anticipated or may be subject to adjustment with the customer. In the past, we have experienced errors in reporting from automobile manufacturers and wireless carriers. If we are unable to identify and resolve discrepancies in a timely manner, our revenue may vary more than anticipated from period to period, which could harm our business, operating results and financial condition.

We recently implemented a new enterprise resource planning system and are also implementing project and human resources management systems. If these new systems prove ineffective, we may be unable to timely or accurately prepare financial reports, or invoice and collect from our customers.

We substantially completed the transition to our new ERP system for North America as of the beginning of the third quarter of fiscal 2020. This system is critical for accurately maintaining books and records and preparing our consolidated financial statements. We are also implementing project management and human resources management systems. While we have invested significant amounts, including for additional personnel and third-party consultants, to implement these systems, we cannot be assured that we will not experience difficulties following the transitions. Any errors in these systems could adversely affect our operations, including our ability to accurately report our financial results in a timely manner, file our quarterly or annual reports with the SEC and invoice and collect from our customers, each of which may harm our operations and reduce investor confidence. Data integrity problems or other issues may be discovered even though the transitions are complete which, if not corrected, could impact our business, reputation, reporting, disclosures or results of operations. If we encounter unforeseen difficulties with our new systems, there will be additional demands on our management team and our business, operations, and results of operations could be adversely affected.

We may be required to recognize a significant charge to earnings if our goodwill becomes impaired.

We have recorded goodwill related to our prior acquisitions and may do so in connection with any potential future acquisitions. We do not amortize goodwill with indefinite lives, but we review such assets for impairment annually or on an interim basis whenever events or changes in circumstances indicate that we may not recover the carrying value of these assets. Factors that may indicate that the carrying value of our goodwill may not be recoverable include a persistent decline in our stock price and market capitalization, reduced future cash flow estimates and slower growth rates in our industry. We may be required to record a significant charge in our financial statements during the period in which any impairment of our goodwill is determined, which would adversely impact our results of operations.

We performed that annual goodwill impairment test as of April 1, 2020 and we determined that no impairment was indicated. In fiscal 2019 we recognized a $2.6 million impairment of the goodwill associated with our advertising business segment, which is now reported as discontinued operations, and in fiscal 2018 we recognized a $2.7 million goodwill impairment associated with our mobile navigation business.

We may make similar determinations regarding the impairment of goodwill in the future, which could have a material and adverse effect on our profitability.

We rely on our management team and need specialized personnel to grow our business, and the loss of one or more key employees or our inability to attract and retain qualified personnel could harm our business.

Our success and future growth depend on the skills, working relationships and continued services of our management team. We have experienced significant turnover in our management team since the beginning of fiscal 2019.

Our future success also depends on our ability to attract, retain and motivate highly skilled personnel in the United States and internationally. All of our U.S. employees work for us on an at will basis. Competition for highly skilled personnel is intense, particularly in the software industry and for persons with experience with GPS, auto navigation, data analytics and location services. The high degree of competition for personnel we experience has resulted in and may also continue to result in the incurrence of significantly higher compensation costs to attract, hire and retain employees. We have from time to time experienced, and we expect to continue to experience, difficulty in attracting, hiring and retaining highly skilled employees with appropriate qualifications. Many of the companies with which we compete for experienced personnel have greater resources than we have. If we hire employees from competitors, their former employers may attempt to assert that these employees or we have breached the former employees' legal obligations to the former employer, resulting in a diversion of our time and resources. In addition, existing employees often consider the value of the stock awards they receive in connection with their employment. If our stock price performs poorly, it may adversely affect our ability to retain highly skilled employees. Our inability to attract and retain the necessary personnel could adversely affect our business and future growth prospects.

Warranty claims, product liability claims, product recalls and regulatory liability claims could subject us to significant costs and adversely affect our financial results.

We warrant our automotive navigation products to be free from defects in materials, workmanship and design for periods ranging from three months to seven years. If our navigation services or products contain defects, there are errors in the maps supplied by third-party map providers or if our end users do not heed our warnings about the proper use of these products, collisions or accidents could occur resulting in property damage, personal injury or death. If any of these events occurs, we could be subject to significant liability for personal injury and property damage and under certain circumstances could be subject to a judgment for punitive damages. In addition, if any of our designed products are defective or are alleged to be defective, we may be required to participate in a recall campaign. These recall and warranty costs could be exacerbated to the extent they relate to global platforms or we are unable to deliver software updates over the air. Furthermore, recall actions could adversely affect our reputation or market acceptance of our products, particularly if those recall actions cause consumers to question the safety or reliability of our products. Warranty claims, a successful product liability claim or a requirement that we participate in a product recall campaign may adversely affect our results of operations and financial condition.

We accrue costs related to warranty claims when they are probable of being incurred and reasonably estimable. Our warranty costs have historically not been material. From time to time, we experience incidents where it may be necessary for us to expend resources to investigate and remedy a potential warranty claim.

We maintain limited insurance against accident-related risks involving our products. However, we cannot assure you that this insurance would be sufficient to cover the cost of damages to others or will continue to be available at commercially reasonable rates. In addition, our errors and omissions insurance policy excludes coverage for certain consumer protection regulatory claims, including any future claims brought under the Telephone Consumer Protection Act. We may also be named as a defendant in litigation by consumers individually or on behalf of a class if their handsets or automobiles suffer problems from software downloads from our customers. If we are unable to obtain indemnification from our customers for any damages or legal fees we may incur in connection with such complaints, our financial position may be adversely impacted. In addition, insurance coverage generally will not cover awards of punitive damages and may not cover the cost of associated legal fees and defense costs. If we are unable to maintain sufficient insurance to cover product liability or regulatory liability costs, or if we experience losses not covered by our insurance, our business, financial condition and results of operations could be adversely affected.

Indemnity provisions in various agreements potentially expose us to substantial liability for intellectual property infringement, damages caused by defective software and other losses.

Our agreements with our customers include indemnification provisions. We agree to indemnify them for losses suffered or incurred in connection with our navigation services or products, including as a result of intellectual property infringement, damages caused by defects, viruses, worms and other malicious software in our services or products. The term of these indemnity provisions is generally perpetual, and the maximum potential amount of future payments we could be required to make under these indemnification provisions is generally substantial and may be unlimited. In addition, some of these agreements permit our indemnitees to terminate their agreements with us if they determine that the use of our navigation services or products infringes third-party intellectual property rights.

We have received, and expect to receive in the future, demands for indemnification under these agreements. These demands can be very expensive to settle or defend, and we have in the past incurred substantial legal fees and settlement costs in connection with certain of these indemnity demands. Furthermore, we have been notified by several customers that they have been named as defendants in certain patent infringement cases for which they may seek indemnification from us. Large future indemnity payments and associated legal fees and expenses, including potential indemnity payments and legal fees and expenses relating to the current or future notifications, could materially harm our business, operating results and financial condition.

We may in the future agree to defend and indemnify our customers in connection with the pending notifications or future demands, irrespective of whether we believe that we have an obligation to indemnify them or whether we believe that our services and products infringe the asserted intellectual property rights. Alternatively, we may reject certain of our customers' indemnity demands, which may lead to disputes with our customers and may negatively impact our relationships with them or result in litigation against us. Our customers may also claim that our rejection of their indemnity demands constitutes a material breach of our agreements with them, allowing them to terminate such agreements. Certain customers may terminate their agreements with us in the event an infringement claim is made against us and they reasonably determine that there is a possibility our technology or services infringed upon a third party's rights. If, as a result of indemnity demands, we make substantial payments, our relationships with our customers are negatively impacted or if any of our customer agreements is terminated, our business, operating results and financial condition could be materially adversely affected.

Our effective tax rate may fluctuate, which could increase our anticipated income tax expense or reduce our anticipated income tax benefit in the future.

Our effective tax rate could be adversely affected by several factors, many of which are outside of our control. Our effective tax rate may be affected by the proportion of our revenues and income (loss) before taxes in the various domestic and international jurisdictions in which we operate. Our revenue and operating results are difficult to predict and may fluctuate substantially from quarter to quarter. We are also subject to changing tax laws, regulations and interpretations in multiple jurisdictions in which we operate, as well as the requirements of certain tax and other accounting body rulings. Since we must estimate our annual effective tax rate each quarter based on a combination of actual results and forecasted results of subsequent quarters, any significant change in our actual quarterly or forecasted annual results may adversely impact the effective tax rate for the period. Our estimated annual effective tax rate may fluctuate for a variety of reasons, including:

- changes in forecasted annual operating income or loss by jurisdiction;
- changes in relative proportions of revenue and income or loss before taxes in the various jurisdictions in which we operate;
- requests by customers to bill their foreign subsidiaries and related entities, which may subject us to income tax withholding requirements on sales made in such jurisdictions;
- changes to the valuation allowance on net deferred tax assets;
- changes to actual or forecasted permanent differences between book and tax reporting, including the tax effects of purchase accounting for acquisitions and non-recurring charges which may cause fluctuations between reporting periods;
- impact from any future tax settlements with state, federal or foreign tax authorities;
- impact from increases or decreases in tax reserves due to new assessments of risk, the expiration of the statute of limitations or the completion of government audits;
- impact from changes in tax laws, regulations and interpretations in the jurisdictions in which we operate, as well as the expiration and retroactive reinstatement of tax holidays;
- impact from withholding tax requirements in various non-U.S. jurisdictions and our ability to recoup those withholdings, which may depend on how much revenue we have in a particular jurisdiction to offset the related expenses;
- changes in customer arrangements where the customer's domicile may impose withholding tax on our revenue that we previously were not subject to;
- impact from acquisitions and related integration activities or divestitures; or
- impact from new FASB requirements.

Although we believe our estimates are reasonable, the ultimate tax outcome may differ from the amounts recorded in our financial statements and may materially affect our financial results in future periods. In fiscal 2014, we recorded and continue to maintain a valuation allowance on the majority of our deferred tax assets, net of liabilities since the assets are not more likely than not to be realized based upon our assessment of all positive and negative evidence. Realization of deferred tax assets is dependent upon future taxable earnings, the timing of which is uncertain. Due to operating losses in previous years, we continue to maintain a full valuation allowance on deferred tax assets in the United States. Due to operating losses in previous years and expected losses in future years in the United Kingdom, we continue to maintain a full valuation allowance for our foreign deferred tax assets in the United Kingdom. In the event we cannot realize the value of our deferred tax assets in certain foreign jurisdictions based upon our ability to generate future income in those jurisdictions, our effective tax rate will be negatively impacted.

Changes in accounting principles, or interpretations thereof, could have a significant impact on our financial position and results of operations.

We prepare our consolidated financial statements in accordance with GAAP. These principles are subject to interpretation by the SEC and various bodies formed to interpret and create appropriate accounting principles. A change in these principles can have a significant effect on our reported results and may even retroactively affect previously reported transactions. Additionally, the adoption of new or revised accounting principles may require that we make significant changes to our systems, processes and controls.

It is not clear if or when other potential changes in accounting principles may become effective, whether we have the proper systems and controls in place to accommodate such changes and the impact that any such changes may have on our financial position and results of operations.

Our ability to use our net operating losses and credits to offset future taxable income may be subject to certain limitations.

As of June 30, 2020, we had federal and state net operating loss carryforwards, or NOLs, of $167.8 million and $11.1 million, respectively, due to current and prior period losses, and we had federal and state research and development tax credit carryforwards of $8.1 million and $12.9 million, respectively. In general, under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, a corporation that undergoes an “ownership change” (generally defined as a greater than 50-percentage-point cumulative change (by value) is subject to limitations on its ability to utilize its pre-change NOLs and credits to offset post-change taxable income. 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. Our existing NOLs and credits may be subject to limitations arising from previous ownership changes, and if we undergo an ownership change in the future, our ability or that of the acquiror to utilize NOLs and credits could be further limited by Section 382 of the Code.

The CARES Act includes several significant business tax provisions to provide liquidity to businesses affected by the economic impact of COVID-19. Specifically, the CARES Act repeals the 80% limitation on the use of net operating losses for tax years beginning after December 31, 2017 and for tax years beginning before January 1, 2021.

The inability to utilize in the future our NOLs, in part or at all, could lower the value of our company to a potential acquiror in a transaction involving our company.

Risks related to our technology, including how we collect, manage and protect information, including third-party data

Our business practices with respect to data could give rise to liabilities or reputational harm as a result of governmental regulation, legal requirements or industry standards relating to consumer privacy and data protection.

Our automotive navigation services depend on our ability to collect, store and use such information as we deliver personalized navigation. Federal, state and international laws and regulations govern the collection, use, retention, sharing and security of data that we collect across our navigation platform. We strive to comply with all applicable laws, regulations, policies and legal obligations relating to privacy and data protection. However, it is possible that these requirements may be interpreted and applied in a manner that is inconsistent with our business practices or service offerings. Any failure, or perceived failure, by us to comply with such laws could result in proceedings or actions against us by governmental entities, consumers or others. Such proceedings or actions could hurt our reputation, force us to spend significant amounts to defend ourselves, distract our management, increase our costs of doing business, adversely affect the demand for our services and ultimately result in the imposition of monetary liability or changes to our business practices or service offerings. We may also be contractually liable to indemnify and hold harmless our users from the costs or consequences of inadvertent or unauthorized disclosure of data that we store or handle as part of providing our services.

We rely on a proprietary provisioning and reporting system for our navigation products and services to track end user activation, deactivation and usage data, and any material failures in this system could harm our revenue, affect our costs and impair our ability to manage our business effectively.

Our provisioning and reporting system that authenticates end users and tracks the number of end users and their use of our services is a proprietary and customized system that we developed internally. Although we believe that the flexibility of this service to integrate tightly with automobile manufacturers' reporting and provisioning systems gives us a competitive advantage, we might lose revenue and the ability to manage our business effectively if the system were to experience material failures or be unable to scale as our business grows. In addition, we may not be able to report our financial results on a timely basis if our customers question the accuracy of our records or we experience significant discrepancies between the data generated by our provisioning and reporting systems and data generated by their systems, or if our systems fail or we are unable to report timely and accurate information to our third-party data providers. The inability to timely report our financial results would impair the quality of our financial reporting and could result in a significant decline in and the delisting of our common stock.

We rely on third-party data and content to provide our services and if we were unable to obtain content at reasonable prices, or at all, our gross margins and our ability to provide our services would be harmed.

We rely on third-party data and content to provide our services, including map data, POI, traffic information, gas prices and weather information. If our suppliers of this data or content were to enter into exclusive relationships with other providers of location services or were to discontinue providing such information and we were unable to replace them cost effectively, or at all, our ability to provide our services would be harmed. Our gross margins may also be affected if the cost of third-party data and content increases substantially. Although we have integrated OpenStreetMap, or OSM, data into our products, we may experience difficulty with customer acceptance if the quality of the consumer generated data within OSM is lower than that of paid maps. We introduced mobile phone-based navigation with OSM and launched our first brought-in automotive navigation service with OSM in 2015. In addition, our entry into the Grab Transaction, which includes, among other things, the transition of certain OSM-related assets and our performance of certain OSM development services for Grab during fiscal 2020 and Grab's hiring of certain of our employees focused on OSM development activities, may limit the amount of OSM development work that we complete for internal purposes. As a result, we may not have sufficient data for automobile manufacturers and tier ones to feel comfortable electing to use OSM in the products and services we provide them.

We obtain map data from TomTom and HERE, which are companies owned by our current and potential competitors. Accordingly, these third-party data and content providers may act in a manner that is not in our best interest. For example, they may cease to offer their map and POI data to us. The termination dates of our licenses to data from TomTom utilized in our mobile and automotive products generally approximate the respective termination dates of our obligations to provide map data to the applicable wireless carriers and automobile manufacturers. Our master data license agreement with HERE renews for successive one-year periods unless either party provides notice of non-renewal at least 180 days prior to the expiration of the applicable term. However, individual territory licenses with distinct term, termination and renewal provisions further govern the license of map data to fully support individual programs and products for our automobile manufacturers and tier ones.

We may identify other requisite content and content-related technologies, including certain geocoding data necessary for our OSM products, that we may be unable to license or develop internally. If we are unsuccessful in these endeavors, we may be unable to successfully launch our OSM-based products globally and across all desired product offerings.

We may not be able to upgrade our navigation services platform to support certain advanced features and functionality without obtaining technology licenses from third parties. Obtaining these licenses may be costly and may delay the introduction of such features and functionality, and these licenses may not be available on commercially favorable terms, or at all. The inability to offer advanced features or functionality, or a delay in our ability to upgrade our navigation services platform, may adversely affect consumer demand for our navigation services and, consequently, harm our business.

We may be subject to our automobile manufacturer or tier one's selection of map and other content providers, and our ability to negotiate and enter into a license with such provider(s) may be dependent on the timing of such automobile manufacturer or tier one's official nomination for such content providers. Accordingly, we may have contractual obligations to provide certain products and services for certain model years or periods to our automobile manufacturer or tier-one partners, prior to our ability to enter into agreements with our map and other content providers to support such products and services. We may be unable to obtain data licenses with the necessary content providers to support these products and services, or we may not be able to secure such data licenses without additional, unplanned costs or delays.

We also use our proprietary provisioning and reporting system to record and report royalties we owe to third-party providers of content used by end users in connection with our services. Certain of the third-party content providers have the right to audit our use of their services and, if we are found to have under or incorrectly reported usage, we may be required to pay the third-party content providers for the actual usage, as well as interest and the cost of the audit. Any significant error in our recording and payment of royalties to our third-party content providers could have a material and adverse effect on our financial results. We may also incur losses as a result of any significant error.

Network failures, disruptions or capacity constraints in our third-party hosted data center facilities could affect the performance of our navigation services and harm our reputation and our revenue.

We use hosted services provided by Amazon Web Services, or AWS, and wireless carrier networks to deliver our navigation platform services. Our operations rely to a significant degree on the efficient and uninterrupted operation of these third-party data centers. In the event that AWS or wireless carrier networks experience a disruption in services or a natural disaster, our ability to continue providing our services would be compromised. Depending on the growth rate in the number of our end users and their usage of our services, if we do not timely complete the negotiation for and scale of additional hosting services, we may experience capacity issues, which could lead to service failures and disruptions. In addition, if we are unable to secure third-party hosting services with appropriate power, cooling and bandwidth capacity, we may be unable to efficiently and effectively scale our business to manage the addition of new automobile manufacturers and tier ones, increases in the number of our end users or increases in data traffic.

AWS hosting services are potentially vulnerable to damage or interruption from a variety of sources, including fire, flood, earthquake, power loss, telecommunications or computer systems failure, human error, terrorist acts or other events. We do not have a comprehensive business continuity plan, and there can be no assurance that the measures implemented by us to date, or measures implemented by us in the future, to manage risks related to network failures or disruptions in our data centers will be adequate, or that the redundancies built into our servers will work as planned in the event of network failures or other disruptions. In particular, if we were to experience damage or interruptions to AWS hosting services our ability to provide efficient and uninterrupted operation of our services would be significantly impaired.

We could also experience failures of our data centers or interruptions of our services, or other problems in connection with our operations, as a result of:

- damage to or failure of our computer software or hardware or our connections and outsourced service arrangements with third parties;
- errors in the processing of data;
- computer viruses or software defects;
- physical or electronic break-ins, sabotage, intentional acts of vandalism and similar events; or
- errors by our employees or third-party service providers.

Poor performance in or disruptions of our services could harm our reputation, delay market acceptance of our services and subject us to liabilities. Our automobile manufacturer and tier-one agreements for on-board and hybrid solutions require us to meet at least 99.9% operational uptime requirements, excluding scheduled maintenance periods, or be subjected to penalties. Any outage in a network or system, or other unanticipated problem that leads to an interruption or disruption of our navigation services, could have a material adverse effect on our operating results and financial condition.

We may not be able to enhance our location services to keep pace with technological and market developments, or develop new location services in a timely manner or at competitive prices.

The market for location services is characterized by rapid technological change, evolving industry standards, frequent new product introductions and short product life-cycles. To keep pace with technological developments, satisfy increasing customer requirements and achieve product acceptance, our future success depends upon our ability to enhance our current navigation services platform and to continue to develop and introduce new navigation services and other location-based product offerings and enhanced performance features and functionality on a timely basis and at competitive prices. Our inability, for technological or other reasons, to enhance, develop, introduce or deliver compelling services and products in a timely manner, or at all, in response to changing market conditions, technologies or consumer expectations could have a material adverse effect on our operating results or could result in our services becoming obsolete. Our ability to compete successfully will depend in large measure on our ability to maintain a technically skilled development and engineering team and to adapt to technological changes and advances in the industry, including providing for the continued compatibility of our services platform with evolving industry standards and protocols and competitive network operating environments.

We rely on network infrastructures provided by our wireless carriers, mobile phones and in-car wireless connections for the delivery of our navigation services to end users.

We generally provide our navigation services from third-party hosted servers, which require close integration with the wireless carriers' networks. We may be unable to provide high quality services if the wireless carriers' networks perform poorly or experience delayed response times. Our future success will depend on the availability and quality of our wireless carrier customers' networks in the United States and abroad to run our mobile navigation services. This includes deployment and maintenance of reliable networks with the speed, data capacity and security necessary to provide reliable wireless communications services. We do not establish or maintain these wireless networks and have no control over interruptions or failures in the deployment and maintenance by wireless carrier customers of their network infrastructure. In addition, these wireless network infrastructures may be unable to support the demands placed on them if the number of subscribers increases, or if existing or future subscribers increase their use of limited bandwidth. Market acceptance of our mobile navigation services will depend in part on the quality of these wireless networks and the ability of our customers to effectively manage their subscribers' expectations.

In addition, certain automotive navigation applications rely on wireless connections between the vehicle and our network. We have no influence or control over the vehicle's wireless equipment and if it does not operate in a satisfactory manner, our ability to provide those services would be impaired and our reputation would be harmed.

Wireless communications have experienced a variety of outages and other delays as a result of infrastructure and equipment failures and could face outages and delays in the future. These outages and delays could affect our ability to provide our navigation services successfully. In addition, changes by a wireless carrier to its network infrastructure may interfere with the integration of our servers with their network and delivery of our navigation services and may cause end users to lose functionality for services they have already purchased. Any of the foregoing could harm our business, operating results and financial condition.

We cannot control the quality standards of our wireless carriers, their mobile phone providers, automobile manufacturers and other technology infrastructure providers. We cannot guarantee that the mobile phones or in-car wireless equipment are free from errors or defects. If errors or defects occur in mobile phones or services offered by our wireless carrier customers, it could result in consumers terminating our services, damage to our reputation, increased customer service and support costs, warranty claims, lost revenue and diverted development resources, any of which could adversely affect our business, results of operations and financial condition.

We operate in an industry with extensive intellectual property litigation. Claims of infringement against us, our customers, or other business partners may cause our business, operating results and financial condition to suffer.

Our commercial success depends in part upon us, our partners and our customers not infringing intellectual property rights owned by others and being able to resolve claims of intellectual property infringement without major financial expenditures and/or need to alter our technologies or cease certain activities. We operate in an industry with extensive intellectual property litigation and it is not uncommon for our automobile manufacturers and tier ones and competitors to be involved in infringement lawsuits by or against third parties. Many industry participants that own, or claim to own, intellectual property aggressively assert their rights, and our customers and other business partners, who we agree in certain circumstances to indemnify for intellectual property infringement claims related to our services, are often targets of such assertions. We cannot determine with certainty whether any existing or future third-party intellectual property rights would require us to alter our technologies, obtain licenses or cease certain activities.

We have received, and may in the future receive, claims from third parties alleging infringement and other related claims. Current and future litigation may make it necessary to defend ourselves and our customers and other business partners by determining the scope, enforceability and validity of third-party proprietary rights or to establish our proprietary rights. Some of our competitors may have substantially greater resources than we do and may be able to sustain the costs of complex intellectual property litigation to a greater degree and for longer periods of time than we could. In addition, non-practicing patent holding companies that focus solely on extracting royalties and settlements by enforcing patent rights may target us, our wireless carrier customers or our other business partners. These companies typically have little or no product revenue and, therefore, our patents may provide little or no deterrence against such companies filing patent infringement lawsuits against us. Regardless of whether claims that we are infringing patents or other intellectual property rights have any merit, these claims are time consuming and costly to evaluate and defend and could:

- adversely affect our relationships with our current or future customers and other business partners;
- cause delays or stoppages in the shipment of Telenav-enabled or preloaded mobile phones or vehicles, or cause us to modify or suspend the provision of our navigation services;

- cause us to incur significant expenses in defending claims brought against our customers, other business partners or us;
- divert management’s attention and resources;
- subject us to significant damages or settlements;
- require us to enter into settlements, royalty or licensing agreements on unfavorable terms; or
- require us or our business partners to cease certain activities and/or modify our products or services.

In addition to liability for monetary damages against us or, in certain circumstances, our customers, we may be prohibited from developing, commercializing or continuing to provide certain of our navigation services unless we obtain licenses from the holders of the patents or other intellectual property rights. We cannot assure you that we will be able to obtain any such licenses on commercially reasonable terms, or at all. If we do not obtain such licenses, our business, operating results and financial condition could be materially adversely affected, and we could, for example, be required to cease offering our navigation services or be required to materially alter our navigation services, which could involve substantial costs and time to develop.

Unauthorized control or manipulation of our systems in vehicles may cause them to operate improperly or not at all, or compromise their safety and data security, which could result in loss of confidence in us and our products, cancellation of contracts with certain of our automobile manufacturer or tier-one customers and harm our business.

There have been reports of vehicles of certain automobile manufacturers being “hacked” to grant access to and operation of the vehicles to unauthorized persons and would-be thieves. Modern vehicles are technologically advanced machines requiring the interoperation of numerous complex and evolving hardware and software systems, including the navigation system, and with respect to vehicles with autonomous driving features, control of the vehicle. We have agreed with some of our automobile manufacturer and tier-one customers to adopt certain security procedures and we may be subject to claims or our contracts with those automobile manufacturers and tier ones may be terminated if we do not comply with our covenants or if our products are the source of access to the systems in their vehicles by intruders.

Although we have designed, implemented and tested security measures to prevent unauthorized access to our products when installed in vehicles, our information technology networks and communications with vehicles in which our products are installed may be vulnerable to interception, manipulation, damage, disruptions or shutdowns due to attacks by hackers or breaches due to errors by personnel who have access to our networks and systems. Any such security incidents could result in unexpected control of or changes to the vehicles’ functionality and safe operation and our products’ user interface and performance characteristics. Hackers may also use similar means to gain access to data stored in or generated by the vehicle, such as its current geographical position, previous and stored destination address history and web browser “favorites.” Any such unauthorized control of vehicles or access to or loss of information could result in legal claims or proceedings and negative publicity, which would negatively affect our brand and harm our business, prospects, financial condition and operating results.

Our business is subject to online security risks, including potential security and privacy incidents.

Our business involves the collection, storage, processing and transmission of information about our users, including users’ locations and routes. Additionally, our apps transmit information to users’ personal devices, which creates opportunities for hackers to exploit vulnerabilities in our apps. An increasing number of organizations, including large online and offline merchants and businesses, other large Internet companies, financial institutions, and government institutions, have disclosed breaches of their security, some of which have involved sophisticated and highly targeted attacks, including on portions of their websites or infrastructure. While we invest significant resources to evaluate and improve our security, we have been subject to such attacks in the past, although they have not, to our knowledge, resulted in a breach of security involving unauthorized acquisition of users’ personal information. A breach of security or privacy could have negative consequences for our reputation, which could result in users discontinuing or reducing their use of our products and our automotive customers terminating their agreements with us, and could have significant out-of-pocket financial impact, which could harm our business. Similarly, a breach of security or privacy in vehicles in which our navigation products are installed could result in a reduction in adoption of our navigation products.

The techniques used to obtain unauthorized, improper or illegal access, disable or degrade service, or sabotage systems or access our data change frequently, may be difficult to detect quickly, and often are not recognized until launched against a target. Certain efforts may be state-sponsored and supported by significant financial and technological resources and may therefore be even more difficult to detect. As a result, we may be unable to anticipate these techniques or to implement adequate preventative measures. Unauthorized parties also may attempt to gain access to our systems or facilities through various means, including hacking into our systems or facilities, fraud, trickery or other means of deceiving our employees, contractors and temporary staff. A party that is able to circumvent our security measures could misappropriate our, our customers' or our employees' personal or proprietary information, cause interruption in our operations and damage our computers and systems or those of our customers. In addition, our customers have been and likely will continue to be targeted by parties using fraudulent "spoof" and "phishing" emails to misappropriate user names, passwords, payment card numbers, GPS data or other personal information or to introduce viruses or other malware, including through "trojan horse" programs, to our users' phones and vehicles. Also, our information technology and infrastructure may be vulnerable to cyberattacks or security incidents, and third parties may be able to access our customers' personal or proprietary information and payment card data that are stored on or accessible through our systems. Any security or privacy incident at a company providing services to us or our tier-one customers, or integrated with our products and services, could have similar effects. We may also need to expend significant additional resources to protect against security or privacy incidents or to redress problems caused by such incidents. Our ability to anticipate and respond to these issues is likely to become more difficult and costly as we expand the number of markets where we operate. Additionally, our insurance policies carry low coverage limits, which may not be adequate to reimburse us for losses caused by security incidents, and we may not be able to collect fully, if at all, under these insurance policies.

Vulnerabilities in our products and services have been publicly disclosed before, and if we are unable to adequately detect and address vulnerabilities in our products and services, it may result in harm to our business.

As with any application, our products may contain known and unknown vulnerabilities, coding errors, design flaws, or other issues that could allow an attacker to maliciously exploit our software. Vulnerabilities in our software and applications have been publicly exposed in the past, although they have not, to our knowledge, resulted in the disclosure of user information or been maliciously exploited. While we are investing significantly to evaluate and improve our security on the vulnerabilities we have identified, addressing vulnerabilities in our software is an ongoing process. Malicious exploitation of our products could result in the introduction of malicious software onto our users' devices, the theft of confidential or private information, damage to users' devices, and harm to our reputation, among other issues. Successful exploitation of a vulnerability in our software may subject us to numerous lawsuits or regulatory inquiries. Additionally, the disclosure of any vulnerability may result in a loss of confidence in us or our products, the cancellation of contracts with certain of our automotive tier-one customers, discontinued use of our products, and harm to our business and reputation. These events could have significant out-of-pocket financial impact for us.

If we are unable to protect our intellectual property and proprietary rights, or if claims are asserted against us, our competitive position and our business could be harmed.

Our success depends in part upon our ability to protect our core technology and intellectual property. We rely on patents, trademarks, copyrights and trade secret laws, confidentiality procedures, and employee disclosure and invention assignment agreements to protect our intellectual property rights. As of September 30, 2020, we had 185 patents issued in the United States and 33 patent applications pending in the United States relating to our current and next-generation products, operating platform and solutions applications, and the ability to claim priority to many of the patent applications worldwide. These patents issued in the U.S. expire between April 11, 2020 and August 23, 2038. However, these patents or any patents that may issue to us in the future may be subject to re-examination, contest, circumvention, or found unenforceable or invalidated, and we may or may not be able to prevent third parties from infringing them. We also license software from third parties for integration into our products, including open-source software.

We utilize internal and external controls to restrict access to and use of our proprietary software and other confidential information, including contractual protections with employees, contractors, end customers and partners. Our software is also protected by U.S. and international copyright laws. However, despite our efforts to protect our trade secrets and proprietary rights through intellectual property rights, licenses and confidentiality agreements, and reasonable security measures, third parties may still copy our products or otherwise gain access to or obtain and use our proprietary software and technology without our knowledge or authority or in ways we do not intend.

Monitoring unauthorized use of our intellectual property is difficult and costly. The steps we have taken to protect our proprietary rights may not be adequate to prevent misappropriation of our intellectual property. We may not be able to detect unauthorized use of, or take appropriate steps to enforce, our intellectual property rights. Our competitors may also independently develop similar technology. In addition, the laws of many countries do not protect our proprietary rights to as great an extent as do the laws of the United States. Any failure by us to meaningfully protect our intellectual property could result in competitors offering products that incorporate our most technologically advanced features, which could seriously reduce demand for our navigation services. In addition, we may in the future need to initiate infringement claims or litigation. Litigation, whether we are a plaintiff or a defendant, can be expensive, time consuming and may divert the efforts of our technical staff and managerial personnel, which could harm our business, whether or not such litigation results in a determination favorable to us.

Our industry is characterized by the existence of a large number of patents, and competitors increasingly may utilize litigation regarding patent and other intellectual property rights to protect or expand their market position. In particular, leading and more mature companies have extensive patent portfolios and are regularly involved in both offensive and defensive litigation. As end customers increasingly use our products and services, we face a higher risk of being the subject of intellectual property infringement claims from third parties, not only from our competitors but also increasingly from non-operating entities, who will be more likely to claim that our platform infringes their proprietary rights. From time-to-time, such third parties, including certain of these leading companies and, increasingly, non-operating entities, may assert patent, copyright, trademark, and other intellectual property rights against us, our partners or our end customers. In these instances, our standard license and other agreements may obligate us to indemnify our partners and end customers against such claims. Successful claims of infringement by a third party could prevent us from distributing certain products or performing certain services, require us to expend significant management attention and money to develop non-infringing solutions or force us to pay substantial damages, royalties or other fees. This could include treble damages if we are found to have willfully infringed patents or copyrights. We currently do not maintain insurance coverage against any such claims.

In addition, our products utilize software under third-party open-source licenses, including as incorporated into software we receive from third-party commercial software vendors. Some open-source licenses contain requirements that we make available source code for modifications or derivative works we create based upon the type of open-source software that we use. If we combine our proprietary software with open-source software in a certain manner, we could, under certain open-source licenses, be required to release portions of the source code of our proprietary software to the public. This could allow our competitors to create similar products with lower development effort and time, and ultimately could result in a loss of product sales for us.

We cannot assure that we do not currently infringe, or that we will not in the future infringe, or that we can resolve through litigation or on reasonable settlement terms, any such claims against us relating to, any third-party patents or other proprietary rights, including relating to use of third-party open source software. See “Part II, Item 1 - Legal Proceedings” for additional information.

Confidentiality agreements with employees and others may not adequately prevent disclosure of our trade secrets and other proprietary information.

We have devoted substantial resources to the development of our proprietary technology, including the proprietary software components of our navigation services and related processes. In order to protect our proprietary technology and processes, we rely in part on confidentiality agreements with our employees, licensees, independent contractors and other advisors. These agreements may not effectively prevent disclosure of our confidential information and may not provide an adequate remedy in the event of unauthorized disclosure of our confidential information. In addition, others may independently discover trade secrets and proprietary information, and in such cases, we could not assert any trade secret rights against such parties. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

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

We use open source software in our navigation services platform and client applications and may use more open source software in the future. Use of open source software may subject our navigation services platform and client applications to general release or require us to re-engineer our navigation services platform and client applications, which may cause harm to our business. From time to time, there have been claims challenging the ownership of open source software against companies that incorporate open source software into their products. As a result, we could be subject to suits by parties claiming ownership of what we believe to be open source software. Some open source licenses contain requirements that we make available source code for modifications or derivative works we create based upon the open source software and that we license such modifications or derivative works under the terms of a particular open source license or other license granting third parties certain rights of further use. If we combine our proprietary software products with open source software in a certain manner, we could, under certain of the open source licenses, be required to release our proprietary source code. In addition to risks related to license requirements, usage of open source software can lead to greater risks than use of third-party commercial software, as open source licensors generally do not provide warranties or controls on origin of the software. Open source license terms may be ambiguous and we may not be able to anticipate or eliminate many of the risks associated with our usage of open source, which could negatively affect our business. If we were found to have inappropriately used open source software, we may be required to release our proprietary source code, re-engineer our navigation services platform and client applications, discontinue the sale of our service in the event re-engineering cannot be accomplished on a timely basis or take other remedial action that may divert resources away from our development efforts, any of which could adversely affect our business, operating results and financial condition.

We are subject to complex and evolving U.S. and foreign laws and regulations regarding privacy, data protection and other matters and violations of these complex and dynamic laws, rules and regulations may result in claims, changes to our business practices, monetary penalties, increased costs of operations, and/or other harms to our business.

Numerous provincial, state, national and international laws and regulations apply to our collection, use, retention, protection, disclosure, transfer and other processing of data, including personal data. These laws and regulations are evolving rapidly and imposing increasingly varied requirements across the jurisdictions in which we do business. For example, the European Union's, or EU, General Data Protection Regulation, or GDPR, took effect in May 2018. The GDPR replaced Directive 95/46/EC of 1995 and is directly applicable in EU member states. Among other things, the GDPR regulates data controllers and processors outside of the EU whose processing activities relate to the offering of goods or services to, or monitoring the behavior within the EU of, EU data subjects. Efforts to comply with the GDPR has caused us to incur substantial operational costs and required us to change our business practices or service offerings, and we believe will continue to do so. Despite our efforts to bring practices into compliance with the GDPR, we cannot guarantee that we are fully compliant or will be able to demonstrate compliance as of a future date if required to do so. In addition, because the GDPR is new, it may be subject to new or changing interpretations by courts, and our interpretation of the law and efforts to comply with the rules and regulations of the law may be ruled invalid. The GDPR imposes significant penalties of up to the greater of 4% of worldwide turnover and €20 million for violations of the GDPR. Similarly, in June 2018, California enacted the California Consumer Privacy Act of 2018, or the CCPA, which became effective in January 2020. The CCPA, among other things, requires covered companies to provide new disclosures to California consumers and afford such consumers new rights to opt-out of our collection, retention and certain sales of personal information. The CCPA creates a private right of action for statutory damages for certain breaches of information. In addition, from time to time the Office of the California Attorney General will promulgate proposed regulations and, following a public comment period, will issue final regulations to establish procedures to facilitate these new rights and as necessary to further the purposes of the CCPA. As such, and as additional amendments to the CCPA could be introduced during California's next legislative session, it remains unclear what procedures will be required to comply with the CCPA or how the CCPA and final regulations will be interpreted and enforced. In addition, other states have enacted or proposed legislation that regulates the collection, use, and sale of personal information, and such laws and regulations might not be compatible with either the GDPR or the CCPA. We cannot yet predict the impact of the CCPA or impending legislation on our business or operations, but it may require us to modify our data processing practices and policies and to incur substantial costs and expenses in an effort to comply. If we fail to implement practices and procedures deemed necessary by regulators or consumers or to comply with the GDPR, CCPA or other applicable laws and regulations, we may be subject to fines, penalties, litigation, and reputational harm and our business may be seriously harmed. In addition, various government and consumer agencies and public advocacy groups have called for new regulation and changes in industry practices, including some directed at the mobile and advertising industries in particular. It is possible that new laws, regulations, standards, recommendations, best practices or requirements will be adopted that would affect our business, particularly with regard to location-based services and communication with consumers via mobile devices. To the extent that we or our clients are subject to new laws or recommendations or choose to adopt new standards, recommendations, or other requirements, we may have greater compliance burdens. If we are perceived as not operating in accordance with industry best practices or any such guidelines or codes with regard to privacy or data protection, our reputation may suffer, and we could lose relationships with developer partners as well as our automobile manufacturers and tier ones.

The application and interpretation of these laws and regulations may be uncertain, particularly in the new and rapidly evolving industry in which we operate. At the same time that these data protection requirements are increasing in number, variation, and complexity, the consequences of noncompliance are also increasing. As a result, we anticipate (i) heightened privacy and data protection compliance costs; (ii) an increased risk of legal, financial, or reputational harm in case of actual or perceived noncompliance, whether by us, our business partners, customers or end users; and (iii) an increased risk of a reduced return on investments in some strategic partnerships and product and service development efforts. These risks include:

- *Heightened Privacy and Data Protection Compliance Costs.* Privacy and data protection laws and regulations affecting our business are evolving rapidly and may result in heightened long-term compliance costs for our business. In some cases, this may result in longer customer contract cycles and delayed onboarding. Additionally, as part of our own compliance efforts, we anticipate increasing our scrutiny of the vendors that support data-related aspects of our services. Further, as data subject access rights become more widespread and frequently exercised under these evolving requirements, we anticipate heightened compliance costs in implementing policies, procedures and technologies to respond to our business partners and others regarding requests to exercise data subject or consumer rights related to "personal data" or "personal information," as defined under the laws of various jurisdictions.

- *Increased Risk of Legal, Financial, or Reputational Harm in Cases of Actual or Perceived Noncompliance (whether by us, our business partners, customers, or end users)*. In cases of our potential noncompliance with any of these privacy and data protection laws and regulations, regulatory trends suggest the risk of heightened enforcement and more significant fines, including monetary penalties, for example, under the GDPR, which went into effect May 25, 2018 and, among other things, authorizes fines up to 4% of global annual revenue or €20 million, whichever is greater, for some types of violations. In other cases, new laws may authorize a private right of action and/or a statutory framework for damages that are likely to increase the risk and costs of litigation, in particular, in the case of certain security incidents involving personal information, such as under the recently enacted CCPA. Additional litigation risks may arise due to contractual obligations with our customers and business partners.

  In most cases, our processing of personal data is a service we provide at the direction of a partner or end customer, including in conjunction with a service the customer provides for its end-users. Our role in delivering services for customers to end-users may increase the risk of a perceived violation, even when the fault is not attributable to our action or inaction (e.g., in the case of a data breach resulting from a customer's or end-user's failure to secure systems or passwords within their control). We might be included in others' perceptions of inadequate data protection measures, regardless of whether such perceptions are invalid, and this could harm our reputation and inhibit adoption of our products, applications and services by current and prospective customers. Even where it is clear that we are not responsible, privacy or data protection violations caused by one of our business partners could negatively affect us by association. We may incur costs to investigate and disprove perceptions. We may also experience challenges recovering trust from customers whose information may have been affected (e.g., disclosed more broadly than intended due to a data breach, regulatory inquiry, or litigation). Such reputational harms could result in potentially decreased demand for our products and services.

- *Reduced Return on Investments in Some Strategic Partnerships and Product and Service Development Efforts*. As legal requirements and interpretations change, are called into question, or increase in variability across jurisdictions, some of our assumptions leading to investments in strategic partnerships and product and service development may be challenged. This may reduce the return on some of our investments in products, services, and partnerships in key markets. Our ability to operate or expand our business may be inhibited if we must implement increased or higher-cost security measures, establish alternate business processes or infrastructure, or are prohibited from capitalizing on cost-saving efficiencies related to the automated processing of data previously not anticipated to be subject to such requirements. For example, evolving and increasingly varied legal definitions of personal information and personal data in the United States, EU and elsewhere may affect our legal treatment of IP addresses, MAC addresses, machine identification, location, tracking and routing data, data analytics, ability to conduct in-car commerce and other information as well as the extent to which we can lawfully apply machine learning and artificial intelligence to those data sets for certain purposes and in certain jurisdictions. Some countries' data localization laws may require us to establish additional infrastructure or engage service providers in those jurisdictions, increasing the cost and complexity of our business operations and potentially limiting sales of our products in those jurisdictions. While we do not anticipate the same rapid evolution and proliferation of data localization laws as with privacy and data protection laws and regulations, we continue to monitor overall legal developments in this area for impact on our current products and services, as well as those in development. We also note that our introduction of new data platforms, applications and services or expansion of our activities in certain jurisdictions may subject us to additional laws and regulations. For instance, participation in certain funding programs may subject us to additional privacy and data use restrictions under U.S. federal, state, and local laws and regulations relating to the processing of data relating to students or children. Risks remain that new or expanded products and services may be commercially infeasible in some markets in light of actual or potential compliance costs under current or developing legal requirements in this area.

Risks related to regulations and laws that may apply to us, including to our operations outside the United States

Changes to United States tax, tariff and import/export regulations may have a negative effect on global economic conditions, financial markets and our business.

The current administration, along with the United States Congress, has created significant uncertainty about the future relationship between the United States and other countries with respect to the trade policies, treaties, taxes, government regulations and tariffs that would be applicable. It is unclear what changes might be considered or implemented and what response to any such changes may be by the governments of other countries. These changes have created significant uncertainty about the future relationship between the United States and China, as well as other countries, including with respect to the trade policies, treaties, government regulations and tariffs that could apply to trade between the United States and other nations. For example, in 2018, the Office of the U.S. Trade Representative, or the USTR, enacted new tariffs on imports into the United States from China. Since then, additional tariffs have been imposed by the USTR on imports into the United States from China and China has also imposed tariffs on imports into China from the United States. The countries entered into the first portion of a trade deal but continue to negotiate other provisions. If additional tariffs or other restrictions are placed on Chinese imports or any additional counter-measures are taken by China, our revenue and results of operations may be materially harmed. Furthermore, the United States continues to threaten placing tariffs and other restrictions on automobile manufactures and tier ones located in the European Union, or EU, and current or future such tariffs or restrictions imposed by the United States may negatively impact the automobile manufacturers to which we provide our automotive navigation products and services, thereby causing an indirect negative impact on our own sales. Any reduction in the sales of our customers and business partners, and/or any apprehension among our customers and business partners of a possible reduction in such sales, would likely cause an indirect negative impact on our own sales. Even in the absence of further tariffs, the related uncertainty and the market's fear of an escalating trade war might create forecasting difficulties for us and could cause our customers and business partners to place fewer orders for our products and services, which could have a material adverse effect on our business, liquidity, financial condition, and/or results of operations. These developments, or the perception that any of them could occur, may have a material adverse effect on global economic conditions and the stability of global financial markets, and may significantly reduce global trade and, in particular, trade between these nations and the United States. Any of these factors could depress economic activity and restrict our access to suppliers or customers and have a material adverse effect on our business, financial condition and results of operations and affect our strategy in China, the EU and elsewhere around the world. Given the relatively fluid regulatory environment in China and the United States and uncertainty how the U.S. administration or foreign governments will act with respect to tariffs, international trade agreements and policies, a trade war, further governmental action related to tariffs or international trade policies, or additional tax or other regulatory changes in the future could directly and adversely impact our financial results and results of operations.

Our operations in certain emerging markets expose us to political, economic and regulatory risks.

Our growth strategy depends in part on our ability to expand our operations in emerging markets, including Asia Pacific, the Middle East and Africa, and Latin America. However, some emerging markets have greater political, economic and currency volatility, and greater vulnerability to infrastructure and labor disruptions than more-established markets. In many countries outside of the United States, particularly those with emerging economies, it may be common for others to engage in business practices prohibited by laws and regulations with extraterritorial reach, such as the U.S. Foreign Corrupt Practices Act, or the FCPA, the United Kingdom’s, or U.K.’s, Bribery Act, or other local anti-bribery laws. These laws generally prohibit companies and their employees, contractors or agents from making improper payments to government officials, including in connection with obtaining permits or engaging in other actions necessary to do business. Failure to comply with these laws could subject us to civil and criminal penalties that could materially and adversely affect our reputation, financial condition and results of operations.

For example, under the FCPA, U.S. companies may be held liable for the corrupt actions taken outside the United States by employees, strategic or local partners, or other representatives. Under the FCPA, we and our partners are required to maintain accurate books and records and a system of internal accounting controls. As such, if we or our intermediaries fail to comply with the requirements of the FCPA or similar legislation outside the United States, governmental authorities in the United States and elsewhere could seek to impose civil or criminal fines and penalties, which could have a material adverse effect on our business, operating results and financial conditions. While our employee handbook and other policies prohibit our employees from engaging in corrupt conduct, we do not yet have in place compliance measures and training to require both our employees and our third-party intermediaries to comply with the FCPA and similar anticorruption laws.

Establishing operations and partners in these emerging markets may also require complex legal arrangements and operations to deliver services on global contracts for our end customers. Because of our limited experience with international operations and developing and managing sales in international markets, our international expansion efforts may not be successful. Additionally, we have established operations in locations remote from our more developed business centers. As a result, we are subject to heightened risks inherent in conducting business internationally, including the following:

- failure to comply with local regulations or restrictions;
- enactment of legislation, regulation or restriction, whether by the United States or in the foreign countries, including unfavorable labor regulations, tax policies or economic sanctions (such as potential economic sanctions arising from political disputes), and currency controls or restrictions on the transfer of funds;
- enforcement of legal rights or recognition of commercial procedures by regulatory or judicial authorities in a manner in which we are not accustomed, would not reasonably expect or with which we could not reasonably comply;
- differing technical and environmental standards, data protection and telecommunications regulations and certification requirements, which could prevent the import, sale or use of our products or SaaS offerings in such countries;
- difficulties and costs associated with staffing and managing foreign operations;
- potentially longer payment cycles and greater difficulty collecting accounts receivable;
- the need to adapt and localize our services for specific countries, including conducting business and providing services in local languages;
- reliance on third parties over which we have limited control, such as our partners or their resellers or agents, for marketing and reselling our products and solutions;
- difficulties in understanding and complying with local laws, regulations, and customs in foreign jurisdictions or unanticipated changes in such laws;
- application of or changes in anti-bribery laws, such as the FCPA and U.K. Bribery Act, which may disrupt our staffing or ability to manage our foreign operations;
- changes in political and economic conditions leading to changes in the business environment in which we operate, as well as changes in foreign currency exchange rates;
- sanctions restricting local commercial activity, including retaliatory actions by local governments; and
- natural disasters, pandemics (including COVID-19) or international conflict, including terrorist acts or labor or political disputes, which could interrupt our operations or endanger our personnel.

In addition, our competitors may also expand their operations in these markets or others we may also target, and low-cost local manufacturers may also expand and improve products and their production capacities, thus increasing competition in these emerging markets. Our success in emerging markets is important to our growth strategy. If we cannot successfully increase our business in emerging markets and manage associated political, economic, regulatory and currency volatility, our product sales, financial condition and results of operations could be materially and adversely affected.

We conduct substantial research and development operations in China; risks associated with a business presence in China could negatively affect our business and results of operations.

We currently operate a research and development center in China, which subjects us to a number of risks relating to China’s political and legal systems, including;

- uncertainty regarding the validity, enforceability, scope and ability to protect and secure our intellectual property rights and the practical difficulties or enforcing such rights;
- ability to secure our business' proprietary information when residing in or is accessible from China from illegal or unauthorized access or use;
- extensive government regulation; and
- an uncertain legal system.

Any actions and policies taken or adopted by the government of China, particularly with regard to our intellectual property, products and legal rights, could have an adverse effect on our business, results of operations and financial condition. For example, development in China or by entities supported by the China government of competing products or technologies using our intellectual property could significantly erode the market or pricing for our products. In addition, actions or policies to incorporate technical capabilities into our products, without our knowledge or permission or the appearance or threat of the same, could undermine product or data security features of our products. Whether any such actions or policies actually exist, or have been effected, the fact of a significant research and development presence in China could expose our products and data and security offerings to government or market scrutiny regarding the integrity of our product or data security features. Any of the foregoing could similarly discourage the purchase or use of our products and cause significant harm to our reputation in the market.

The COVID-19 pandemic disrupted our operations in China significantly and delayed various initiatives with existing and potential OEM partners. Our customers and potential customers in China have also significantly reduced their operations and delayed engagements with us. This disruption, including limitation of flights in and out of China, quarantines, supply chain disruptions and further governmental responses, could continue to have a significant negative impact on our ability to meet schedules for delivery of our products and services to customers, which would have a negative impact on our financial condition, results of operations and customer relationships.

We could be subject to additional income tax liabilities.

We are subject to income taxes in the United States and numerous foreign jurisdictions. We use significant judgment in evaluating our worldwide provision for income taxes, which could be adversely affected by several factors, many of which are outside our control. During the ordinary course of business, there are many transactions for which the ultimate tax determination is uncertain. For example, our effective tax rates could be adversely affected by earnings being lower than we anticipate in countries that have lower statutory rates and higher than we anticipate in countries that have higher statutory rates, by changes in foreign currency exchange rates, by changes in the valuation of our deferred tax assets and liabilities, or by changes in the relevant tax, accounting and other laws, regulations, principles and interpretations, including possible changes to the U.S. taxation of earnings of our foreign subsidiaries or to the deductibility of expenses attributable to foreign income or the foreign tax credit rules. We are subject to audit in various jurisdictions, and such jurisdictions may assess additional income tax against us as well as penalties and fines. As we operate in multiple taxing jurisdictions, the application of tax laws can be subject to diverging and sometimes conflicting interpretations by tax authorities of these jurisdictions. The time and expense necessary to defend and resolve a tax audit may be significant. Although we believe our tax estimates are reasonable, the final outcome of tax audits and any related litigation could be materially different from our historical income tax provisions and accruals and may have a material effect on our operating results or cash flows in the period or periods for which we make such determination.

Our international operations and corporate structure subject us to potential adverse tax consequences.

We generally conduct our international operations through wholly owned subsidiaries and report our taxable income in various jurisdictions worldwide based upon our business operations in those jurisdictions. Our intercompany relationships are subject to complex transfer pricing regulations administered by taxing authorities in various jurisdictions. The relevant taxing authorities may disagree with our determinations as to the income and expenses attributable to specific jurisdictions. If such a disagreement were to occur, and our position 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. We may not have adequate reserves to cover such a contingency.

In the future, we may reorganize our corporate structure or intercompany relationships, which would likely require us to incur expenses in the near term for which we may not realize related benefits, at all or within a reasonable period, to justify the expense. Changes in domestic and international tax laws, including enacted legislation to reform U.S. taxation of international business activities, may negatively impact our ability to effectively restructure, or reduce the benefits we expected from such corporate restructuring. Any such restructuring would likely involve sophisticated analysis, including analysis of U.S. and international tax regimes. Compliance with such laws and regulations may be difficult and expensive and subject our business to additional risks, costs and uncertainties.

The U.K.'s decision to leave the EU will continue to have uncertain effects and could adversely affect us.

On January 31, 2020, the U.K. left the EU, which is commonly referred to as "Brexit."

The effects of Brexit will depend on agreements the UK makes to retain access to EU markets either during a transitional period or more permanently. Brexit creates an uncertain political and economic environment in the UK and potentially across other EU member states for the foreseeable future, including during any period while the terms of post-Brexit trade agreements between the UK and the EU and UK and the United States are being negotiated and such uncertainties could impair or limit our ability to transact business in the UK. The COVID-19 pandemic has delayed and may continue to delay the negotiation of post-Brexit trade agreements for a substantial period of time.

Further, post-Brexit trade uncertainty could adversely affect European and worldwide economic or market conditions and could contribute to instability in global financial markets, and the value of the Pound Sterling currency or other currencies, including the Euro. We are exposed to the economic, market and fiscal conditions in the U.K. and the EU and to changes in any of these conditions. Depending on the terms reached regarding Brexit, it is possible that there may be adverse practical and/or operational implications on our business and that of our automobile manufacturer customers, whose supply chains and manufacturing and sales operations may be disrupted.

A significant amount of the regulatory regime that currently applies to us in the U.K. is derived from EU directives and regulations. However, Brexit may change the legal and regulatory framework within the U.K. where we operate and is likely to lead to legal uncertainty and potentially divergent national laws and regulations as the U.K. determines which EU laws to replace or replicate. Consequently, no assurance can be given as to the impact of Brexit and, in particular, no assurance can be given that our operating results, financial condition and prospects would not be adversely impacted by the result.

Changes in government regulation of the wireless communications, automobile and in-car commerce industries may adversely affect our business.

It is possible that a number of laws and regulations may be adopted in the United States and elsewhere that could restrict the wireless communications industry, further regulate the automobile industry or impair the ability to conduct in-car commerce, including laws and regulations regarding lawful interception of personal data, hands free use of mobile phones or navigation services within vehicles, autonomous driving or the control of such use, privacy, export control, taxation, content suitability, copyright and antitrust. Furthermore, the growth and development of electronic storage of personal information may prompt calls for more stringent consumer protection laws that may impose additional burdens on companies such as ours that store personal information. We anticipate that regulation of the industries in which our products and services are used will increase and that we will be required to devote legal and other resources to address this regulation. In addition, governments have recently begun to consider and adopt laws regarding vehicles using advanced driver assistance systems, or ADAS, and autonomous and semi-autonomous driving capabilities and those laws may curtail or preclude using the services our products provide. Changes in current laws or regulations or the imposition of new laws and regulations in the United States or elsewhere regarding the wireless communications or automobile industries may make operation more costly, and may materially reduce our ability to increase or maintain sales of our products and services.

Certain of our products are subject to U.S. export controls; where we fail to comply with these laws, we could suffer monetary or other penalties.

Certain of our products are subject to U.S. export controls, specifically the Export Administration Regulations, and economic sanctions enforced by the Office of Foreign Assets Control. We incorporate standard encryption algorithms into our products, which, along with the underlying technology, we may export outside of the United States only with the required export authorizations, including by license, license exception or other appropriate government authorizations. Each of these authorizations may require us to file an encryption registration and classification request. Furthermore, U.S. export control laws and economic sanctions prohibit the shipment of certain products and services to countries, governments and persons targeted by U.S. sanctions. We also are restricted from exporting products to certain government and state-owned enterprises. We take precautions to prevent our products and services from being exported in violation of these laws and, in many instances, we rely on our partners to assure compliance when selling, distributing and/or using our products outside the United States. In certain instances, we may have shipped encryption products prior to obtaining the required export authorizations and/or submitting the required requests, including a classification request and request for an encryption registration number. Additionally, even though we take precautions to ensure that our partners comply with all relevant regulations, any failure by our partners to comply with such regulations could have negative consequences for us, including reputational harm, government investigations and penalties and interruptions in our ability to distribute and sell our products. In addition, in connection with the recent changes resulting from 2018 U.S. legislation expanding the scope and authority of the Committee on Foreign Investment in the United States, or CFIUS, the U.S. Commerce Department’s Bureau of Industry and Security recently released for comment new export control classifications for artificial intelligence driven geospatial imagery analysis, which may be used in navigation software. Software meeting this new classification is likely to be classified as a critical technology and export of it from the United States may be limited. There is a risk that the types of navigation software and technologies that we provide to our customers may be affected by the CFIUS law, including in a manner which could impede or substantially delay or render uncertain any transaction involving our company.

Various countries also regulate the import of certain encryption technology and operation of our products, including through import permitting, certification and licensing requirements, and have enacted laws that could limit our ability to distribute our products or our end customers' ability to operate our products in those countries, or could impose additional expense on us to meet these requirements as a condition to distribute our products. Encryption products and the underlying technology may also be subject to export-control restrictions. Governmental regulation of encryption technology and regulation of imports or exports of encryption products, or our failure to obtain required import or export approval for our products, when applicable, could harm our international sales and adversely affect our revenue. Compliance with applicable regulatory laws and regulations regarding the export or import of our products, including with respect to new releases of our products, may create delays in our introduction of products in international markets, prevent our end customers with international operations from deploying our products throughout their globally distributed systems or, in some cases, prevent the export or import of our products to some countries altogether.

In addition, because our sales are made through partners, if these partners fail to obtain appropriate import, export or re-export licenses or authorizations, we may also be adversely affected, including potentially being liable for penalties under government restrictions and regulations, even where the partner failed to obtain the appropriate licenses or authorizations. Obtaining the necessary authorizations, including any required license, for a particular sale may be time-consuming, is not guaranteed and may result in the delay or loss of sales opportunities. Changes in our products or changes in applicable export or import laws and regulations may also create delays in the introduction and sale of our products in international markets, prevent our end customers with international operations from deploying our products or, in some cases, prevent the export or import of our products to certain countries, governments or persons altogether. Any change in export or import laws and regulations, shift in the enforcement or scope of existing laws and regulations, or change in the countries, governments, persons or technologies targeted by such laws and regulations, could also result in decreased use of our products, or in our decreased ability to export or sell our products to existing or potential end customers with international operations. Any decreased use of our products or limitation on our ability to export or sell our products could adversely affect our business, financial condition and results of our operations.

U.S. export control laws and economic sanctions programs also prohibit the shipment of certain products and services to targeted countries, governments and persons that are subject to U.S. economic embargoes and trade sanctions. If we or our partners ship products to those targets, or third parties provide our products to these targets, we could be subject to government investigations, penalties and reputational harm. Furthermore, any new embargo or sanctions program, or any change in the countries, governments, persons or activities targeted by such existing programs, could result in decreased use of our products, or in our decreased ability to export or sell our products to existing or potential end customers, which could adversely affect our business and our financial condition.

Government regulation designed to protect end user privacy may make it difficult for us to provide our services or provide in-car commerce services.

We collect, store and transmit a large volume of information from or about end users or their devices in the course of providing our products and services. This information is increasingly subject to legislation and regulations, such as the GDPR and CCPA, in numerous jurisdictions around the world. This government regulation is typically intended to protect the privacy and security of personal or sensitive information about its residents or that is collected, stored and transmitted in or from the relevant jurisdiction.

Domestic or international legislation or regulations, such as GDPR and CCPA, may expand to require changes in our business practices or if governing authorities interpret or implement their legislation or regulations in ways that negatively affect our business. For example, the USA PATRIOT Act provides certain rights to U.S. law enforcement authorities to obtain personal information in the control of U.S. persons and entities without notifying the affected individuals. If we are required to allocate significant resources to modify the delivery of our services to enable enhanced legal interception of the personal information that we transmit and store, our results of operations and financial condition may be adversely affected.

In addition, because various foreign jurisdictions have different laws and regulations concerning the collection, storage and transmission of personal information, we may face unknown requirements that pose compliance challenges in new international markets that we seek to enter. Such variation could subject us to costs, delayed service launches, liabilities or negative publicity that could impair our ability to expand our operations into some countries and therefore limit our future growth.

As privacy and data protection have become more topical issues, we may also be subject to increased scrutiny or potential liabilities as a result of developing views on the relevance of privacy or sensitivity of personal information. These and other privacy concerns could adversely impact our business, results of operations and financial condition.

If we are unable to obtain the required government licenses or approvals to comply with government regulation relating to map data and location-based services, we may not be able to provide our products and services and our business could be adversely impacted.

A number of countries and local jurisdictions require certain licenses and/or government approvals in order to comply with regulations governing the creation or distribution of map data and/or the provision of location-based services, including the collection of location information. If we are unable to obtain the necessary licenses or approvals or fail to comply with the regulations in each jurisdiction where we or our partners offer location-based products and services, we may be unable to offer to our partners or customers the full scope of planned products and services. In addition, should any map data or location-based services related regulations change, we may incur additional expense in modifying our existing products and product roadmaps to comply with the requirements of individual jurisdictions. Such laws or regulations or the imposition of new laws and regulations regarding the provision of map data or location-based services may make operation more costly, and may materially reduce our ability to increase or maintain sales of our products and services.

Regulations relating to investments in offshore companies by Chinese residents may subject our Chinese-resident beneficial owners or our Chinese subsidiaries to liability or penalties, limit our ability to inject capital into our Chinese subsidiaries, limit our Chinese subsidiaries' ability to increase their registered capital or limit their ability to distribute profits to us.

On July 4, 2014, the State Administration of Foreign Exchange of the People's Republic of China, or SAFE, promulgated the *Circular on Relevant Issues Concerning Foreign Exchange Control on Domestic Residents' Offshore Investment and Financing and Roundtrip Investment through Special Purpose Vehicles*, or Circular 37, which replaced the former *Circular on Issues Relating to the Administration of Foreign Exchange in Fund-Raising and Round Trip Investment Activities of Domestic Residents Conducted via Offshore Special Purpose Vehicles* (commonly known as "SAFE Circular 75") promulgated by SAFE on October 21, 2005. Circular 37 requires Chinese residents to register with local branches of SAFE in connection with their direct establishment or indirect control of an offshore entity, for the purpose of overseas investment and financing, with such Chinese residents' legally owned assets or equity interests in domestic enterprises or offshore assets or interests, referred to in Circular 37 as a "special purpose vehicle." Circular 37 further requires amendment to the registration in the event of any significant changes with respect to the special purpose vehicle, such as increase or decrease of capital contributed by Chinese individuals, share transfer or exchange, merger, division or other material event. In the event that a Chinese shareholder holding interests in a special purpose vehicle fails to fulfill the required SAFE registration, the Chinese subsidiaries of that special purpose vehicle may be prohibited from making profit distributions to the offshore parent and from carrying out all subsequent cross-border foreign exchange activities in worst scenario, and the special purpose vehicle may be restricted in its ability to contribute additional capital into its Chinese subsidiary. Furthermore, failure to comply with the various SAFE registration requirements described above could result in liability under Chinese law for evasion of foreign exchange controls. On February 13, 2015, SAFE promulgated a *Notice on Further Simplifying and Improving Foreign Exchange Administration Policy on Direct Investment*, or Circular 13, which became effective on June 1, 2015. Pursuant to Circular 13, entities and individuals are required to apply for foreign exchange registration of overseas direct investment, including those required under Circular 37, with qualified banks, instead of SAFE. The qualified banks, under the supervision of SAFE, will directly review the applications and conduct the registration.

We attempt to comply, and attempt to ensure that our stockholders who are subject to Circular 37 and other related rules, comply with the relevant requirements under Circular 37. However, we cannot provide any assurances that all of our stockholders who are Chinese residents have complied or will comply with our request to make or obtain any applicable registrations or comply with other requirements required by Circular 37 or other related rules. Any failure or inability of any of our stockholders who is a Chinese resident to comply with relevant requirements under Circular 37 could subject such stockholders or our Chinese subsidiaries to fines and legal sanctions imposed by the Chinese government and may also limit our ability to contribute additional capital into our Chinese subsidiaries or receive dividends or other distributions from our Chinese subsidiaries. As a result, these risks may have a material adverse effect on our business, financial condition and results of operations.

Risks related to competition we face and our strategy, including investments we may make

We face intense competition in our market, especially from competitors that offer their location services for free, which could make it difficult for us to acquire and retain customers and end users.

The market for development, distribution and sale of location services is highly competitive. Many of our competitors have greater name recognition, larger customer bases and significantly greater financial, technical, marketing, public relations, sales, distribution and other resources than we do. Competitors may offer location services that have at least equivalent functionality to ours for free. For example, Google offers free voice-guided turn-by-turn navigation as part of its Google Maps and Waze products for mobile devices, including those based on the Android and iOS operating system platforms, and Apple offers proprietary maps and voice-guided turn by turn directions. Microsoft Corporation also provides a free voice-guided turn-by-turn navigation solution on its Windows Mobile and Windows Phone operating systems. Competition from these free offerings may reduce our revenue, result in our incurring additional costs to compete and harm our business. In addition, new car buyers may not value navigation solutions built into their vehicles if they believe that free (brought-in) offerings, such as Apple's CarPlay or Google's auto initiatives, are adequate and may not purchase our solutions with their new cars. Ford offers Apple's CarPlay and Google's Android Auto on its vehicles in North America equipped with its SYNC 3 platform and announced that Waze will be available on its vehicles equipped with the SYNC 3 platform, which may reduce the number of vehicle purchasers who purchase on-board navigation solutions. GM also offers Apple's CarPlay and Google's Android Auto on most of its vehicles in North America and announced on September 5, 2019 that it intends to utilize GAS solutions on certain models beginning with GM's model year 2022. The relationship GM announced with GAS may reduce the number of new GM models and vehicles in which our products and services are provided over the remaining term of our agreements with GM. Garmin announced on January 7, 2020 a relationship with Ford to integrate Garmin's navigation technology into Ford's next-generation SYNC communications and entertainment system. The relationship Garmin announced with Ford may reduce the number of new Ford models and vehicles in which our products and services are provided. In addition, we anticipate that as early as model year 2023 Ford could begin to transition to an Android-based operating system and away from the QNX-based operating system on which we currently provide navigation products and services to Ford. In addition, while we saw expansion of our latest version of Scout GPS Link solution across more Toyota and Lexus models through fiscal 2019, we expect that Toyota may limit the number of future models or vehicles on which Scout GPS Link is offered by Toyota and Lexus, due in part to the offering of alternative brought-in solutions such as Apple's CarPlay, which Toyota announced it is offering across certain Toyota models, and the expanded offering of Google's Android Auto solution across more automobile manufacturers. We may not successfully increase our revenue from Ford or Toyota, and our revenue could decrease, if our products are replaced within vehicles by Ford, GM or Toyota with our competitors' products or due to price competition from third parties.

We compete in the automotive navigation market with established automobile manufacturers and tier ones and providers of on-board navigation services such as AISIN AW CO., Ltd, AutoNavi Software Co., Ltd., Robert Bosch GmbH, Elektrobit Corporation, Garmin, Ltd., HERE, Navinfo Co., Ltd., NNG LLC, Shenyang MXNavi Co., Ltd., and TomTom, as well as other competitors such as Apple and Google. In 2019, Lear acquired Xevo, with which we provide an offering to Toyota, which could result in Xevo moving into the on-board navigation services space. Some of our competitors' and our potential competitors' advantages over us, either globally or in particular geographic markets, include the following:

- significantly greater revenue and financial resources;
- ownership of mapping and other content allowing them to offer a more vertically integrated solution;
- stronger brand and consumer recognition in a particular market segment, geographic region or worldwide;
- the capacity to leverage their marketing expenditures across a broader portfolio of products;
- access to core technology and intellectual property, including more extensive patent portfolios;
- access to custom or proprietary content;
- quicker pace of innovation;
- stronger automobile manufacturer and tier-one relationships;
- more financial flexibility and experience to make acquisitions;
- ability or demonstrated ability to partner with others to create stronger or new competitors;
- stronger international presence, which could make our larger competitors more attractive partners to automobile manufacturers and tier ones;

- lower labor and development costs; and
- broader global distribution and presence.

Our competitors' and potential competitors' advantages over us could make it more difficult for us to sell our navigation services, and could result in increased pricing pressures, reduced profit margins, increased sales and marketing expenses and failure to increase, or the loss of, market share or expected market share, any of which would likely cause harm to our business, operating results and financial condition.

If we are unable to integrate future investments or acquisitions successfully, our operating results and prospects could be harmed.

In the future, we may make acquisitions to improve and increase the scale of our navigation services offerings or expand into new markets. Our future acquisition strategy will depend on our ability to identify, negotiate, complete and integrate acquisitions and, if necessary, to obtain satisfactory debt or equity financing to fund those acquisitions. We do not have experience identifying, executing or integrating such investments or acquisitions and any investments we make or mergers and acquisitions we complete may not be successful, may fail to demonstrate a return or fail to advance our product offerings or overall strategy. Future investments or mergers and acquisitions we may pursue would involve, numerous risks, including the following:

- our ability to realize synergies, cost reductions and operating efficiencies we may expect to result from an acquisition or strategic investment;
- difficulties in integrating and managing the operations, technologies and products of the companies or assets we acquire, including those that are geographically remote from our existing operations;
- the potential disruption to our ongoing business of the acquisition or the process of integrating and managing the acquired operations, technologies and products;
- diversion of our management's attention from normal daily operation of our business;
- our inability to maintain the key business relationships and the reputations of the businesses we acquire;
- uncertainty of entry into markets in which we have limited or no prior experience and in which competitors have stronger market positions;
- our dependence on unfamiliar affiliates and customers of the companies we acquire;
- insufficient revenue or cost savings to offset our increased expenses associated with acquisitions;
- our responsibility for known and unknown liabilities of the businesses we acquire; and
- our inability to maintain internal standards, controls, procedures and policies.

Completion of acquisitions is typically subject to the satisfaction of various closing conditions, including but not limited to regulatory approvals or financings supporting the transaction. There can be no assurance that any of such conditions will be satisfied and the acquisition will be completed. In addition, we may be unable to secure the equity or debt funding necessary to finance such future acquisitions, or on terms that are acceptable to us. If we finance acquisitions by issuing equity or convertible debt securities, our existing stockholders will likely experience dilution, which could be significant, and if we finance future acquisitions with debt funding, we will incur interest expense and may have to comply with financial covenants and secure that debt obligation with our assets.

If we are not successful in completing acquisitions that we may pursue in the future, we may be required to reevaluate our business strategy, and we may incur substantial expenses and devote significant management time and resources without a productive result. We could also in the future record impairment losses in connection with acquisitions.

Our investment portfolio and cash balances may become impaired by poor investment performance, deterioration of the financial markets or the economic effects of COVID-19.

Our cash equivalent and short-term investment portfolio as of September 30, 2020 consisted of corporate bonds, asset-backed securities, municipal securities, U.S. agency securities, commercial paper, U.S. treasury securities and money market mutual funds. We follow an established investment policy and set of guidelines to monitor and help mitigate our exposure to interest rate and credit risk. The policy sets forth credit quality standards and limits our exposure to any one issuer, as well as our maximum exposure to various asset classes.

During fiscal 2020, significant market volatility, in large part due to the economic uncertainty arising from the COVID-19 pandemic, affected the prices of the securities we hold, as well as the financial markets in general. Should financial market conditions worsen in the future, investments in some financial instruments may pose risks arising from market liquidity and credit concerns. In addition, poor performance by the early stage companies in which we hold investments could cause us to write down the value of those investments. Any significant under-performance by these companies, including due to factors or market or competitive forces outside of our control or which we may not foresee, could negatively impact the value of such investments, which could be material in any period. Any deterioration of the capital markets could also cause our other income and expense to vary from expectations. For example, recent manufacturing shutdowns of our automobile manufacturer partners, such as GM, Ford, Toyota and others, decreased our revenue, operating results, financial condition and cash flows while they continued and until our automobile manufacturer partners resume full production. If additional automobile manufacturing plant shut-downs occur or further social distancing guidelines affect the number of vehicles produced, they would also negatively impact our ability to maintain cash balances to support our operations and future investments. For example, in our first fiscal quarter ended September 30, 2020, our cash used in operating activities was $5.0 million. In addition, a sustained economic recession will negatively impact demand for new vehicles, even when full production resumes. Should these conditions continue, they would also negatively impact our ability to maintain cash balances to support our operations and future investments. While we maintain what we believe are sufficient cash balances to support our operations, we believe such periods of cash usage in our operations could continue for the near-to-mid-term, and until our automobile manufacturer partners resume full production.

We cannot predict when that resumption of production may occur, and at what level our partners may resume production. Once production does resume, it is likely that for an extended period the production rate will be substantially below maximum production or levels which preceded the COVID-19 shutdown. As of September 30, 2020, we had no material impairment charges associated with our short-term investment portfolio. Although we believe our current investment portfolio has little risk of material impairment, we cannot predict future market conditions or market liquidity, or credit availability, and can provide no assurance that our investment portfolio will remain materially unimpaired.

Changes in business direction and market conditions could lead to charges related to structural reorganization and discontinuation of certain products or services, which may adversely affect our financial results.

In response to changing market conditions and the desire to focus on new and more potentially attractive opportunities, we may be required to strategically realign our resources and consider restructuring, eliminating, or otherwise exiting certain business activities. Any decision to reduce investment in, dispose of, or otherwise exit business activities may result in the recording of special charges, such as workforce reduction and excessive facility space costs.

Risks related to being a publicly traded company and holding our common stock

As a public company, we are obligated to develop and maintain effective internal control over financial reporting. We may not always complete our assessment of the effectiveness of our internal control over financial reporting in a timely manner, or such internal control may not be determined to be effective, which may adversely affect investor confidence in our company and, as a result, the value of our common stock.

The Sarbanes-Oxley Act requires that we test our internal control over financial reporting and disclosure controls and procedures annually and that we incur substantial expense and expend significant management time on compliance-related issues.

During the three months ended December 31, 2018, we identified a material weakness in internal control over our financial reporting relating to our supervision and review of the financial models supporting our revenue recognition accounting and disclosures which related to our implementation of ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606). We refer to this as the “December 2018 Control Deficiency.” We also identified a material weakness in internal control over our financial reporting during the three-month period ended December 31, 2019, relating to a design deficiency in our review controls over unusual or non-recurring and significant transactions. We refer to this as the “December 2019 Control Deficiency.”

As further described in Part II, Item 9A of our Form 10-K, we took specific steps to remediate these material weaknesses by implementing and enhancing our internal controls. During our fourth fiscal quarter of 2020, we completed our testing of the design and operating effectiveness of the implemented controls and found them to be effective. As a result, we have concluded that the December 2018 Control Deficiency and the December 2019 Control Deficiency which each constituted a material weakness had been remediated as of June 30, 2020, and that internal control over our financial reporting was effective as of June 30, 2020. We also concluded that internal control over financial reporting was effective as of September 30, 2020; however, we may not be able to maintain effective internal control over financial reporting in the future.

If we are unable to comply with the requirements of Section 404 in the future, or if we or our independent registered public accounting firm identify additional deficiencies in our internal control over financial reporting that are deemed to be material weaknesses, the market price and trading liquidity of our stock may decline, investors may lose confidence in our reported financial information, we could be subject to civil and criminal investigations and penalties by the NASDAQ Global Market, the SEC or other regulatory authorities, and our business and financial condition could otherwise be materially and adversely impacted.

We will continue to incur high costs and demands upon management as a result of complying with the laws and regulations affecting public companies, which could harm our operating results.

As a public company, we incur significant legal, accounting, investor relations and other expenses, including costs associated with public company reporting requirements. We also have incurred and will continue to incur costs associated with current corporate governance requirements, including requirements under Section 404 and other provisions of the Sarbanes-Oxley Act, as well as rules implemented by the SEC and the stock exchange on which our common stock is traded. We are generally not eligible to report under reduced disclosure requirements or benefit from longer phase in periods for “emerging growth companies” as such term is defined in the Jumpstart Our Business Act of 2012. The expenses incurred by public companies for reporting and corporate governance purposes have increased dramatically over the past several years. We expect these rules and regulations to continue to impact our legal and financial compliance costs substantially and to make some activities more time consuming and costly. We are unable currently to estimate these costs with any degree of certainty. We also expect that, over time, it may be more expensive for us to obtain director and officer liability insurance. As a result, it may be more difficult for us to attract and retain qualified individuals to serve on our Board of Directors or as our executive officers if we cannot provide a level of insurance coverage that they believe is adequate.

In September 2018, California enacted a law that requires publicly held companies headquartered in California to have at least one female director by the end of 2019 and at least three by the end of 2021, with the exact number required dependent upon the size of the board. The law would impose financial penalties for failure to comply. We believe we were in compliance with the requirements of the law during 2019. However, we do not currently have any female directors and we may incur costs associated with complying with the law now and in future years, including costs associated with expanding our Board of Directors or identifying qualified female candidates for appointment to our Board of Directors, or financial penalties or harm to our brand and reputation if we are unable to do so.

If securities analysts do not publish research or reports about our business or if they publish negative evaluations of our stock, the price of our stock could decline.

We expect that the trading price for our common stock will be affected by any research or reports that industry or financial analysts publish about us or our business. As of September 30, 2020, only three research analysts publish reports regarding our company. If one or more of these analysts cease coverage of our company, our stock may lose visibility in the market, which in turn could cause our stock price to decline. In addition, if any analysts who may elect to cover us downgrade their evaluations of us or issues an adverse or misleading opinion regarding our stock, the price of our stock could decline. For example, following the GM announcement on September 5, 2019 that it intended to utilize GAS solutions on certain models beginning with GM’s model year 2022, several financial analysts published research reports lowering their price targets of our stock. After this announcement and publication of these reports, our stock price fell significantly. Garmin announced in January 2020 a relationship with Ford to integrate Garmin’s navigation technology into Ford’s next-generation SYNC communications and entertainment system, which also caused our stock price to decline. If Ford were similarly to announce a broader transition toward a competitive platform or offering such as GAS, this would significantly impact our revenue in future years. If one or more of these analysts cease coverage of our company, our stock may lose visibility in the market, which in turn could cause its price to decline. During portions of fiscal 2019, fiscal 2020 and fiscal 2021, our stock has traded at prices below $5.00 per share. If our stock continues to trade at prices below $5.00 per share for an extended period of time, financial analysts might terminate coverage of our company due to internal policies within their investment banks, which could result in further stock price declines.

Our stock price has fluctuated significantly and may continue to fluctuate in the future.

Since our initial public offering, our common stock has traded at prices as high as $22.07 per share and as low as $3.35 per share and has tended to have significant downward and upward price movements in short time periods. For example, GM announced on September 5, 2019 that it intended to utilize GAS solutions on certain models beginning with GM's model year 2022. Garmin announced in January 2020 a relationship with Ford to integrate Garmin's navigation technology into Ford's next-generation SYNC communications and entertainment system. The price per share of our common stock fell significantly following these announcements. If Ford were similarly to announce a broader transition toward a competitive platform or offering such as GAS, this would significantly impact our revenue in future years. Future fluctuations or declines in the trading price of our common stock may result from a number of events or factors, including those discussed in the preceding risk factors relating to our operations, as well as:

- actual or anticipated fluctuations in our operating results;
- changes in the financial projections we may provide to the public or our failure to meet these projections;
- announcements by us or our competitors of significant technical innovations, relationship changes with key customers, acquisitions, strategic partnerships, joint ventures, capital raising activities or capital commitments;
- announcements by automobile manufacturers, such as Ford, GM and others, regarding increased use in their vehicles of competing third-party navigation platforms, such as GAS;
- our issuance of equity to our employees or through private or public sales, which could cause dilution to our existing investors;
- announcements of strategic transactions or investments by us, which could cause uncertainty for our investors and analysts;
- the public's response to our press releases or other public announcements, including our filings with the SEC;
- lawsuits threatened or filed against us; and
- large distributions of our common stock by significant stockholders to limited partners or others who immediately resell the shares.

General market conditions and domestic or international macroeconomic factors unrelated to our performance, such as the continuing unprecedented volatility in the financial markets, including as a result of COVID-19, may also affect our stock price. For these reasons, investors should not rely on recent trends to predict future stock prices or financial results. Investors in our common stock may not be able to dispose of the shares they purchased at prices above the initial public offering price, or, depending on market conditions, at all.

In the past, the market price for our common stock has traded only slightly above the cash value of our common stock. As of September 30, 2020, the cash value (including short-term investments) of our common stock was approximately $2.08 per share. If investors do not value our company as an ongoing business and only value it for the cash on our balance sheet, our stock price may decline if we continue to incur net losses and use our cash to fund operations. We may also attract investors who are looking for short-term gains in our shares rather than being interested in our long-term outlook. As a result, the price of our common stock may be volatile.

The concentration of ownership of our capital stock limits your ability to influence corporate matters.

Our executive officers and directors and entities affiliated with them beneficially owned (as determined in accordance with the rules of the SEC) approximately 22.93% of our common stock outstanding as of September 30, 2020, which includes approximately 15.39% of our common stock held by Digital Mobile Venture Ltd., which is an entity represented by Samuel Chen, a member of our Board of Directors, and 5.12% held by HP Jin, our chief executive officer. These stockholders, acting together, may be able to control our management and affairs and matters requiring stockholder approval, including the election of directors and the approval of significant corporate transactions, such as mergers, consolidations or the sale of substantially all of our assets. Consequently, this concentration of ownership may have the effect of delaying or preventing a change of control, including a merger, consolidation or other business combination involving us, or discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control, even if that change of control would benefit our other stockholders.

The average daily trading volume in our stock is limited and any sales of our common stock by any of these stockholders (or, in the case where such stockholders are investment funds, distribution of our stock to their investors and their subsequent sale), could significantly increase trading volatility in and significantly lower the market price of our common stock, regardless of our actual operating performance.

Certain provisions in our charter documents and under Delaware law could limit attempts by our stockholders to replace or remove members of our Board of Directors or current management and may adversely affect the market price of our common stock.

Provisions in our certificate of incorporation and bylaws may have the effect of delaying or preventing a change of control or changes in our Board of Directors or management. These provisions include the following:

- our Board of Directors has the right to elect directors to fill a vacancy created by the expansion of the Board of Directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our Board of Directors;
- our stockholders may not act by written consent or call special stockholders' meetings; as a result, a holder or holders controlling a majority of our common stock would not be able to take certain actions other than at annual stockholders' meetings or special stockholders' meetings called by the Board of Directors, the chair of the Board of Directors, the chief executive officer or the president;
- our directors may only be removed for cause, which would delay the replacement of a majority of our Board of Directors;
- our Board of Directors is staggered in three tiers, with directors in each tier separately serving staggered three-year terms, which could impede an acquiror from rapidly replacing our existing directors with its own slate of directors;
- our certificate of incorporation prohibits cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- our stockholders must provide advance notice and additional disclosures in order to nominate individuals for election to our Board of Directors or to propose matters that can be acted upon at a stockholders' meeting, which may discourage or deter a potential acquiror from conducting a solicitation of proxies to elect the acquiror's own slate of directors or otherwise attempting to obtain control of our company; and
- our Board of Directors may issue, without stockholder approval, shares of undesignated preferred stock; the ability to issue undesignated preferred stock makes it possible for our Board of Directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to acquire us.

As a Delaware corporation, we are also subject to certain Delaware anti-takeover provisions. For example, under Delaware law, a corporation may not engage in a business combination with any holder of 15% or more of its capital stock unless the holder has held the stock for three years or, among other things, the Board of Directors has approved the transaction. Our Board of Directors could rely on Delaware law to prevent or delay an acquisition of us.

Our directors are entitled upon a change of control of our company to accelerated vesting of their equity awards pursuant to the terms of their service arrangements, and our executive officers and certain employees may also receive certain benefits, including vesting acceleration, in the event their employment is actually or constructively terminated in the context of a change of control. In addition to the arrangements currently in place with some of our executive officers, we may enter into similar arrangements in the future.

These provisions, alone or together, could deter, delay or prevent hostile takeovers and changes in control of our company or changes in our management, and could limit the opportunity for our stockholders to receive a premium for their shares of our capital stock, and could also affect the price that some investors are willing to pay for our common stock.

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

Unregistered Sales of Equity Securities

None.

Issuer Purchases of Equity Securities

In July 2020, we repurchased shares from a greater than 5% stockholder in a private transaction. The price paid by us was equal to the average of the trading price for our common stock, as reported by Nasdaq, on the day of the transaction.

The following table summarizes stock repurchase activity during the three months ended September 30, 2020:

	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value that May Yet be Purchased Under the Plans or Programs
July 1 – July 31, 2020	300,000	$ 5.43	—	$ —
August 1 – August 31, 2020	—	—	—	—
September 1 – September 30, 2020	—	—	—	—
Total	300,000		—	$ —

Item 6. Exhibits.

Exhibit Number	Description	Incorporated by Reference From Form	Incorporated by Reference From Exhibit Number	Date Filed
31.1	Certification Pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 of President and Chief Executive Officer	Filed herewith		
31.2	Certification Pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 of Chief Financial Officer	Filed herewith		
32.1~	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 of President and Chief Executive Officer	Furnished herewith		
32.2~	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 of Chief Financial Officer	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.			
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	Inline XBRL Taxonomy Extension Label Linkbase Document	Filed herewith		
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document	Filed herewith		
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)			

~ In accordance with Item 601(b)(32)(ii) of Regulation S-K and SEC Release No. 33-8238 and 34-47986, Final Rule: Management's Reports on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports, the certifications furnished in Exhibits 32.1 and 32.2 hereto are deemed to accompany this Form 10-Q and will not be deemed "filed" for purposes of Section 18 of the Exchange Act. Such certifications will not be deemed to be incorporated by reference into any filings under the Securities Act or the Exchange Act, except to the extent that the registrant specifically incorporates it by reference.

SIGNATURES

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

		TELENAV, INC.
Dated: November 5, 2020	By:	/s/ Dr. HP JIN
		Dr. HP Jin
		President and Chief Executive Officer
		(Principal Executive Officer)
Dated: November 5, 2020	By:	/s/ ADEEL MANZOOR
		Adeel Manzoor
		Chief Financial Officer
		(Principal Financial and Accounting Officer)

Exhibit 31.1

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

I, Dr. HP Jin, certify that:

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

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

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

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

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

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

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

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

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of 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: November 5, 2020

By: /s/ Dr. HP JIN
Dr. HP Jin
President and Chief Executive Officer

Exhibit 31.2

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

I, Adeel Manzoor, certify that:

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

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

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

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

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

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

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

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

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of 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: November 5, 2020

By: /s/ ADEEL MANZOOR
Adeel Manzoor
Chief Financial Officer

Exhibit 32.1

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

I, Dr. HP Jin, the president and chief executive officer of Telenav, Inc. (the “Company”), certify for the purposes of 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge,

(i) the Quarterly Report of the Company on Form 10-Q for the three months ended September 30, 2020 (the “Report”), fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

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

Date: November 5, 2020

By: /s/ Dr. HP JIN
Dr. HP Jin
President and Chief Executive Officer

Exhibit 32.2

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

I, Adeel Manzoor, the chief financial officer of Telenav, Inc. (the "Company"), certify for the purposes of 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge,

(i) the Quarterly Report of the Company on Form 10-Q for the three months ended September 30, 2020 (the "Report"), fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

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

Date: November 5, 2020

By: /s/ ADEEL MANZOOR
Adeel Manzoor
Chief Financial Officer