Telenav, Inc. Form 10-Q November 09, 2018 Table of Contents

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 ý 1934 For the quarterly period ended September 30, 2018

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)

Delaware77-0521800(State or other jurisdiction of
incorporation or organization)(I.R.S. EmployerIdentification 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)

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 \circ 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 \circ 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 \circ

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 \acute{y}

As of September 30, 2018, there were approximately 45,260,738 shares of the Registrant's Common Stock outstanding.

TELENAV, INC. TABLE OF CONTENTS

PART I. FINANCIAL INFORMATION				
Item 1.	em 1. <u>Financial Statements</u>			
	Condensed Consolidated Balance Sheets	<u>1</u>		
	Condensed Consolidated Statements of Operations	<u>2</u>		
	Condensed Consolidated Statements of Comprehensive Loss	<u>3</u>		
	Condensed Consolidated Statements of Cash Flows	<u>4</u>		
	Notes to Condensed Consolidated Financial Statements	<u>5</u>		
Item 2.	Management's Discussion and Analysis of Financial Condition and Results of Operations	<u>24</u>		
Item 3.	Quantitative and Qualitative Disclosures about Market Risk	<u>44</u>		
Item 4.	Controls and Procedures	<u>44</u>		
<u>PART II</u>	I. OTHER INFORMATION	<u>46</u>		
Item 1.	Legal Proceedings	<u>46</u>		
Item 1A	. Risk Factors	<u>48</u>		
Item 2.	Unregistered Sales of Equity Securities and Use of Proceeds	<u>70</u>		
Item 6.	Exhibits	X		

PART I. FINANCIAL INFORMATION Item 1. Financial Statements.

TELENAV, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS

(in thousands, except par value)

(unaudited)

	September 30, 2018	June 30, 2018
Assets		
Current assets:		
Cash and cash equivalents	\$ 13,596	\$17,117
Short-term investments	67,675	67,829
Accounts receivable, net of allowances of \$11 and \$17 at September 30, 2018 and June 30,	16.056	16 100
2018, respectively	46,956	46,188
Restricted cash	2,930	2,982
Deferred costs	13,842	9,906
Prepaid expenses and other current assets	3,393	3,867
Total current assets	148,392	147,889
Property and equipment, net	6,412	6,987
Deferred income taxes, non-current	550	867
Goodwill and intangible assets, net	30,763	31,046
Deferred costs, non-current	46,466	46,363
Other assets	3,517	2,372
Total assets	\$ 236,100	\$235,524
Liabilities and stockholders' equity		
Current liabilities:		
Trade accounts payable	\$ 16,144	\$13,008
Accrued expenses	36,038	38,803
Deferred revenue	21,892	18,195
Income taxes payable	368	221
Total current liabilities	74,442	70,227
Deferred rent, non-current	1,200	1,112
Deferred revenue, non-current	57,031	53,855
Other long-term liabilities	1,192	1,115
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; 45,260 and 44,871 shares	45	45
issued and outstanding at September 30, 2018 and June 30, 2018, respectively	45	45
Additional paid-in capital	168,984	167,895
Accumulated other comprehensive loss	(1,981)	(1,855)
Accumulated deficit	(64,813)	(56,870)
Total stockholders' equity	102,235	109,215
Total liabilities and stockholders' equity	\$ 236,100	\$235,524
⁽¹⁾ See Note 1 for a summary of adjustments.		

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, 2017		1
	2018	As	
	2010	Adjusted ⁽¹)
Revenue:		· j · · · · ·	
Product	\$40,471	\$42,659	
Services	11,697	14,303	
Total revenue	52,168	56,962	
Cost of revenue:			
Product	23,930	29,441	
Services	7,174	6,382	
Total cost of revenue	31,104	35,823	
Gross profit	21,064	21,139	
Operating expenses:			
Research and development	20,102	20,681	
Sales and marketing	4,415	5,064	
General and administrative	5,450	5,211	
Legal settlement and contingencies		250	
Total operating expenses	29,967	31,206	
Loss from operations	(8,903)	(10,067)
Other income (expense), net	1,590	(47)
Loss before provision for income taxes	(7,313)	(10,114)
Provision for income taxes	630	255	
Net loss	\$(7,943)	\$(10,369)
Net loss per share:			
Basic and diluted	\$(0.18)	\$ (0.24)
Weighted average shares used in computing net loss per share:			
Basic and diluted	45,018	44,079	
Stock-based compensation expense included above:	\$ 22	ф. 2 .5	
Cost of revenue	\$32	\$ 35	
Research and development	1,304	1,395	
Sales and marketing	326	438	
General and administrative	607 #2.260	612	
Total stock-based compensation expense	\$2,269	\$ 2,480	
(1) See Note 1 for a summary of adjustments.			
See accompanying Notes to Condensed Consolidated Financial S	statements.		

TELENAV, INC. CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS (in thousands) (unaudited)

	Three M Septemb 2018	onths Ended er 30, 2017 As Adjusted ⁽¹⁾
Net loss	\$(7,943)) \$(10,369)
Other comprehensive income (loss):		
Foreign currency translation adjustment, net of tax	(217)) 359
Available-for-sale securities:		
Unrealized gain on available-for-sale securities, net of tax	89	28
Reclassification adjustments for gain on available-for-sale securities recognized, net of tax	2	
Net increase from available-for-sale securities, net of tax	91	28
Other comprehensive income (loss), net of tax	(126)) 387
Comprehensive loss	· · · · ·) \$ (9,982)
(1) See Note 1 for a summer of adjustments		

(1) See Note 1 for a summary of adjustments.See accompanying Notes to Condensed Consolidated Financial Statements.

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

(unaudited)	Three Mo Septembo	onths Endec er 30, 2017	t
	2018	As Adjusted ⁽⁾	1)
Operating activities	¢ (7 0 4 2)	Φ (10 2 C0	`
Net loss	\$(7,945)) \$(10,369)
Adjustments to reconcile net loss to net cash used in operating activities:	1.010	716	
Depreciation and amortization Deferred rent reversal due to lease termination	1,010	716	`
		(538)
Tenant improvement allowance recognition due to lease termination	5	(582 59)
Accretion of net premium on short-term investments	-		
Stock-based compensation expense	2,269	2,480	
Unrealized gain on non-marketable equity investments) —	
Loss (gain) on disposal of property and equipment Bad debt expense	(1)) 8 38	
Changes in operating assets and liabilities:	1	30	
Accounts receivable	(780)) (2,109)
Deferred income taxes	308	104)
Deferred costs	(4,039))
Prepaid expenses and other current assets	470	(115))
Other assets	42	(326)
Trade accounts payable	3,167	9,463)
Accrued expenses and other liabilities	(2,600))
Income taxes payable	149	(123)
Deferred rent	35	191)
Deferred revenue	6,873	8,826	
Net cash used in operating activities) (3,788)
Investing activities	(2,2)5	(3,700)
Purchases of property and equipment	(100)) (2,286)
Purchases of short-term investments	· · · · · ·) (13,355)
Proceeds from sales and maturities of short-term investments	10,865	16,697	,
Net cash provided by investing activities	141	1,056	
Financing activities		,	
Proceeds from exercise of stock options	24	197	
Tax withholdings related to net share settlements of restricted stock units	(1,206)) (1,102)
Net cash used in financing activities	(1,182)) (905)
Effect of exchange rate changes on cash and cash equivalents	(239)) 345	
Net decrease in cash, cash equivalents and restricted cash	(3,573)) (3,292)
Cash, cash equivalents and restricted cash, at beginning of period	20,099	24,158	
Cash, cash equivalents and restricted cash, at end of period	\$16,526	\$ 20,866	
Supplemental disclosure of cash flow information			
Income taxes paid, net	\$166	\$ 304	
Reconciliation of cash, cash equivalents and restricted cash to the condensed consolidated balance sheets			

Cash and cash equivalents	\$13,596	\$17,463		
Restricted cash	2,930	3,403		
Total cash, cash equivalents and restricted cash	\$16,526	\$20,866		
⁽¹⁾ See Note 1 for a summary of adjustments.				
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 connected car and location-based products and services. We utilize our automotive navigation platform and our advertising delivery platform to deliver these products and services. Our automotive navigation platform allows us to deliver enhanced location-based services to automobile manufacturers, as well as original equipment manufacturers and tier one suppliers, to which we refer collectively as tier ones. Our automotive solutions primarily include navigation systems built into vehicles, or on-board, mobile phone based navigation systems, or brought-in, and advanced navigation solutions that offer on-board functionality combined with cloud functionality, or hybrid. Our advertising delivery platform, which we provide through our Thinknear subsidiary, delivers highly targeted advertising services leveraging our location expertise. We operate in three segments - automotive, advertising and mobile navigation. Our fiscal year ends on June 30, 2019 as "fiscal 2018" and the fiscal year ending June 30, 2019 as "fiscal 2019."

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, 2018 and 2017.

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 2018, included in our Annual Report on Form 10-K for fiscal 2018 filed with the U.S. Securities and Exchange Commission, or SEC, on September 12, 2018.

Effective July 1, 2018, we adopted the requirements of Accounting Standards Update, or ASU, No. 2014-09, Revenue from Contracts with Customers (Topic 606) as discussed in the section titled "Recently adopted accounting pronouncements" of this Note 1. All amounts and disclosures set forth in this Form 10-Q have been updated to comply with this standard, as indicated by references to "as adjusted" in these condensed consolidated financial statements and related notes.

With the exception of changes in accounting policies associated with our adoption of the new revenue recognition standard, there have been no material changes to our significant accounting policies as compared to the significant accounting policies described in our Form 10-K for fiscal 2018.

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 acquired intangibles and 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.

Concentrations of risk and significant customers

Revenue related to products and services provided through Ford Motor Company and affiliated entities, or Ford, comprised 60% and 73% of revenue for the three months ended September 30, 2018 and 2017, respectively. As of September 30, 2018 and June 30, 2018, receivables due from Ford were 50% and 56% of total accounts receivable, respectively. Revenue related to products and services provided through General Motors Holdings and its affiliates, or GM, comprised 13% and less than 10% of revenue for the three months ended September 30, 2018 and 2017, respectively. As of September 30, 2018 and June 30, 2018, receivables due from GM were 16% and 10% of total accounts receivable, respectively.

Restricted cash

As of September 30, 2018 and June 30, 2018, we had restricted cash of \$2.9 million and \$3.0 million, respectively, on our 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, 2018, were as follows (in thousands):

	Foreign Currency Translation		Unrealized Gains (Losse Available-for	s) on r-Sale	Total
	Adjustmen				
Balance, net of tax as of June 30, 2018	\$ (1,163)	\$ (692)	\$(1,855)
Other comprehensive income (loss) before reclassifications, net of tax	(217)	89		(128)
Amount reclassified from accumulated other comprehensive loss, net of tax			2		2
Other comprehensive income (loss), net of tax	(217)	91		(126)
Balance, net of tax as of September 30, 2018	\$ (1,380)	\$ (601)	\$(1,981)

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, 2018.

Goodwill

Goodwill represents the excess of the aggregate purchase price paid over the fair value of the net assets acquired. Goodwill is not amortized and is tested for impairment at least annually on April 1 or whenever events or changes in circumstances indicate that the carrying value may not be recoverable.

During the three months ended March 31, 2018, certain mobile navigation customer contracts were amended and certain other customers indicated their intent with respect to terminating services in the near term. Based upon a qualitative assessment indicating that it was more likely than not that the fair value of the mobile navigation reporting unit was less than its carrying value, we performed an interim goodwill impairment test for our mobile navigation segment. In assessing its fair value, we made assumptions regarding our estimated future cash flows, weighted average cost of capital and timing over which the cash flows will occur, amongst other factors. Based on the results of our goodwill impairment test, the carrying value of our mobile navigation business exceeded its estimated fair value and, accordingly, during the three months ended March 31, 2018, we recognized a \$2.7 million impairment of all of the goodwill associated with our mobile navigation segment.

Recently adopted accounting pronouncements

In November 2016, the Financial Accounting Standards Board, or FASB, issued new guidance to clarify how entities should present restricted cash and restricted cash equivalents in the statement of cash flows. The new guidance requires that restricted cash and restricted cash equivalents be included with cash and cash equivalents when reconciling the beginning and ending total amounts shown in the statement of cash flows. The new standard was effective for us in our first quarter of fiscal 2019 and requires a retrospective method of adoption. We adopted this standard on July 1, 2018 on a retrospective basis, resulting in immaterial changes to our previously reported

condensed consolidated statement of cash flows for the three months ended September 30, 2017.

In August 2016, the FASB issued new guidance which clarifies how companies present and classify certain cash receipts and cash payments in the statement of cash flows. The new standard was effective for us in our first quarter of fiscal 2019. We adopted this standard on July 1, 2018, and it did not have a material impact to our condensed consolidated statements of cash flows.

In March 2016, the FASB issued new guidance to clarify the implementation guidance on principal versus agent considerations for reporting revenue gross versus net. The guidance includes indicators to assist an entity in determining whether it controls a specified good or service before it is transferred to the customer. The new standard was effective for us in our first quarter of fiscal 2019. We adopted this standard on July 1, 2018 in connection with our adoption of ASU 2014-09 discussed below, and it did not have a material impact to our condensed consolidated financial statements.

In January 2016, the FASB issued new guidance that amends the accounting and disclosures of financial instruments, including a provision that requires equity investments (except for investments accounted for under the equity method of accounting) to be measured at fair value with changes in fair value recognized in current earnings. A practicality exception applies to those equity investments that do not have a readily determinable fair value. These investments may be measured at cost, adjusted for changes in observable prices minus impairment. The new standard was effective prospectively for us in our first quarter of fiscal 2019 for our equity investments, which were previously accounted for under the cost-method. We adopted this standard on July 1, 2018. See Note 4 to these condensed consolidated financial statements.

In May 2014, the FASB issued ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606), which supersedes the revenue recognition requirements in ASC 605, Revenue Recognition. Under Topic 606, revenue is recognized when promised goods or services are transferred to customers in an amount that reflects the consideration that is expected to be received for those goods or services. In conjunction with Topic 606, a new subtopic, ASC 340-40, Other Assets and Deferred Costs - Contracts with Customers, was also issued. The updated standard replaces most existing revenue recognition and certain cost guidance under GAAP. Collectively, we refer to Topic 606 and Subtopic 340-40 as "ASC 606."

We adopted ASC 606 effective July 1, 2018, utilizing the full retrospective transition method. Adoption of ASC 606 resulted in changes to our accounting policies for revenue recognition and deferred costs as detailed below. We applied ASC 606 using a practical expedient where the consideration allocated to the remaining performance obligations or an explanation of when we expect to recognize that amount as revenue for all reporting periods presented before the date of the initial application is not disclosed.

The effect of adopting ASC 606 on fiscal 2018 was material to our statements of operations and balance sheets as a result of its impact on the recognition of revenue and associated third-party content costs for certain of our on-board and brought-in automotive navigation solutions. The adoption of ASC 606 had no significant impact on our advertising and mobile navigation business segments. The adoption of ASC 606 resulted in reductions to deferred costs (asset) and deferred revenue (liability) balances, and accelerated the recognition of revenues and deferred costs in the automotive segment.

With respect to on-board automotive solutions, historically we recognized revenue and associated content costs over the life of our contractual obligations when map updates were included, and we deferred substantially all revenue and associated content costs pending the delivery of future specified upgrades. Instead, as of July 1, 2018, we recognize revenue related to royalties for distinct software and content that has been accepted as transfer of control takes place, 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, which we will recognize with the associated content costs at a point in time or over time as we transfer control of the related performance obligation.

Regarding brought-in automotive solutions, historically we recognized revenue for each royalty over the expected remaining term of the service obligation. Effective July 1, 2018, since these contracts contain variable consideration we will estimate the total transaction price each reporting period using a probability assessment, and then recognize

revenue ratably over the period the services obligation is expected to be fulfilled, as further described in the section titled "Services revenue" of this Note 1.

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 control of the related performance obligations is transferred. Historically, such costs were not capitalized until receipt of a signed contract or purchase order for a fixed amount, provided the costs were probable of being recovered. Under ASC 340-40, we are required to capitalize such costs in anticipation of a contract, provided the costs are expected to be recovered; thus, increasing the amount of costs we capitalize under ASC 340-40. For on-board automotive solutions, such capitalized costs represent the customized portion of software development, which will continue to be recognized upon acceptance of the

software under ASC 340-40 since acceptance is generally required for control of the software to transfer. For brought-in automotive solutions, such costs will be amortized over the period the services obligation is expected to be fulfilled, since software development does not represent a distinct performance obligation in the case of brought-in automotive solutions. Historically, we recognized such costs for brought-in automotive solutions upon acceptance of the software.

We adjusted our condensed consolidated financial statements from amounts previously reported due to the adoption of ASC 606. Summarized financial information depicting the impact of ASC 606 is presented below. Our historical net cash flows provided by or used in operating, investing and financing activities are not impacted by the adoption of ASC 606. (Amounts in thousands, except per share data):

	As of June 30, 2018			
	As Adjustments		As	
	Reported	rajustinents	Adjusted	
Assets				
Deferred costs	\$31,888	\$ (21,982)	\$ 9,906	
Deferred costs, noncurrent	109,269	(62,906)	46,363	
Liabilities and stockholders' equity				
Deferred revenue	52,871	(34,676)	18,195	
Deferred revenue, noncurrent	182,236	(128,381)	53,855	
Accumulated deficit	(135,042)	78,172	(56,870)	
	Three N	Aonths Ended	September	
	30, 201	7		
	As	Adjustman	As	
	Reporte	Adjustmen	Adjusted	
Revenue:				
Product	\$23,964	4 \$ 18,695	\$42,659	
Services	12,694	1,609	14,303	
Total revenue	36,658	20,304	56,962	
Cost of revenue:				
Product	14,674	14,767	29,441	
Services	6,173	209	6,382	
Total cost of revenue	20,847	14,976	35,823	
Gross profit	15,811	5,328	21,139	
Operating expenses:				
Research and development	21,082	(401) 20,681	
Total operating expenses	31,607	(401) 31,206	
Loss from operations	(15,796) 5,729	(10,067)	
Net loss	(16,098) 5,729	(10,369)	
Net loss per share, basic and diluted	\$(0.37) \$ 0.13	\$(0.24)	

The following accounting policies have been updated to reflect the adoption of ASC 606.

Revenue recognition

The core principle of ASC 606 is to recognize revenue to depict the transfer of products or services to customers in an amount that reflects the consideration we expect to be entitled to in exchange for those products or services. This principle is achieved through applying the following five-step approach:

Identification of the contract, or contracts, with a customer

Identification of the performance obligations in the contract

Determination of the transaction price

Allocation of the transaction price to the performance obligations in the contract

Recognition of revenue when, or as, the company satisfies a performance obligation We generate revenue primarily from software licenses, service subscriptions and customized software development fees, as well as the delivery of advertising impressions. We evaluate whether it is appropriate to recognize revenue based on the gross amount billed to our customers or the net amount earned as revenue. Since we control the products or services prior to their transfer to the customer, we report our automotive, advertising and mobile navigation revenue on a gross basis. This assessment is based primarily on our ultimate primary responsibility for fulfilling the promises made with respect to the products and services as well as the degree of discretion we have in establishing pricing. Royalties for on-board navigation solutions are generally earned 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. Royalties for brought-in navigation solutions are earned upon vehicle sales reporting or upon initial usage by the end user. Product revenue

We generate product revenue from the delivery of our on-board automotive navigation solutions, specified map updates and customized software development.

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. Any royalties for the use of distinct software combined with integrated content, with an allocation of the transaction price based on the relative SSP of map updates, specified upgrades, and other services as applicable, are recognized at the later of when the royalties are earned or when transfer of control of the related performance obligation has occurred.

For hybrid automotive solutions, which contain on-board software and cloud functionality, the transaction price allocated to the on-board component is generally recognized as product revenue as described above, and the transaction price allocated to the included cloud functionality based on relative SSP is generally recognized as services revenue. 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. Services revenue

We derive services revenue primarily from our brought-in automotive navigation solutions. Since these contracts typically contain a substantial amount of variable consideration that is required to be estimated and included 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. Total variable consideration to be received is estimated at contract inception and updated 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 also derive services revenue from the delivery of advertising impressions. We recognize revenue when transfer of control of the related advertising services occur based on the specific terms of each advertising contract, which are generally based on the number of ad impressions delivered. Substantially all contracts for advertising services are cancellable within a short period of notice, and we assess whether pricing within such contracts create any material right which could extend the expected term of the contract beyond the cancellable term.

In addition, we derive a declining amount of services revenue from subscriptions to access our mobile navigation services, which are generally provided through our wireless carrier customers that offer our services to their

subscribers. Our wireless carrier customers typically pay us based on a revenue sharing arrangement or a monthly subscription fee per end user, which is considered variable consideration. For such variable consideration related to our mobile navigation services, these fees are recognized in the month in which they are earned because the terms of the variable payments relate specifically to the

outcome from transferring the distinct time increment (month) of service, which is consistent with the allocation objective when considering all of the performance obligations and payment terms in the contract. We recognize monthly fees related to our mobile navigation services in the month we provide the services. We defer amounts received or billed in advance of the service being provided and recognize the deferred amounts when the

obligation has been fulfilled. Our agreements do not contain general rights of refund once the service has been provided.

In certain instances, due to the nature and timing of monthly revenue and reporting from our customers, we may be required to make estimates of the amount of revenue to recognize from a customer for the current period. Estimates for revenue include our consideration of certain factors and information, including subscriber data, historical subscription and revenue reporting trends, end user subscription data from our internal systems, and data from comparable distribution channels of our other customers. We record any differences between estimated revenue and actual revenue in the reporting period when we determine the actual amounts. To date, actual amounts have not differed materially from our estimates.

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, and is consistent with how we evaluate our financial performance (in thousands):

	Three Months		
	Ended		
	Septemb	er 30,	
	2018	2017	
Product			
On-board automotive navigation solutions (point in time) ⁽¹⁾	\$40,471	\$42,659	
Total product revenue	40,471	42,659	
Services			
Brought-in automotive navigation solutions (over time) ⁽²⁾	2,980	2,949	
Advertising services (point in time)	5,947	7,615	
Mobile navigation services (over time)	2,770	3,739	
Total services revenue	11,697	14,303	
Total revenue	\$52,168	\$56,962	
⁽¹⁾ Includes royalties earned and recognized at the point in time usage occurs,			

map updates and customized software development fees.

⁽²⁾Includes royalties earned and recognized over time from the allocation of transaction price to service obligations.

Contracts with multiple performance obligations

Some of our contracts with customers contain multiple performance obligations. For these contracts, we account for individual performance obligations separately if they are distinct. The transaction price is allocated to the separate performance obligations on a relative SSP basis. We determine SSP based on, if available, observable prices for those related products and services when sold separately. When observable prices are not available, we determine SSP based on our overall pricing trends and objectives, taking into consideration market conditions and other factors, including the value of the contracts, the products and services sold, and stated prices for renewal. In such instances, we apply the expected cost plus margin method and the residual method in cases where we have not yet established a price and the product or service has not previously been sold on a standalone basis.

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, 2018 and June 30, 2018, we had no contract assets.

Deferred revenue

Deferred revenue consists primarily of amounts that have been invoiced, and for which we have the right to bill, in advance of performance obligations being satisfied and revenue being recognized under our contracts with customers. Deferred revenue associated with performance obligations that are anticipated to be satisfied during the succeeding 12-month period is recorded as current deferred revenue, and the remaining portion is recorded as noncurrent deferred revenue in our condensed consolidated balance sheets.

In instances where the timing of revenue recognition differs from the timing of invoicing, we do not adjust consideration for the effects of a significant financing portion for periods of one year or less, for example, in the case of customized software development fees paid in advance of acceptance of the software. Substantially all brought-in automotive navigation solutions contain consideration paid significantly in advance of our provision of the services. In these cases, we have determined such contracts do not include a significant financing component, since neither we nor the applicable automobile manufacturer or tier one is substantially in control of such consideration, as revenue from these contracts is driven by future sales demand of a particular vehicle.

Cost of revenue

Our cost of revenue consists primarily of the cost of third-party royalty based content, such as map, points of interest, or POI, traffic, gas price and weather data, and voice recognition technology that we use in providing our personalized navigation services. Our cost of revenue also includes the cost of third-party exchange ad inventory as well as expenses associated with outsourced hosting services, data center operations, customer support, the amortization of capitalized software, recognition of deferred customized software development costs, stock-based compensation and amortization of acquired developed technology.

Deferred costs

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. Deferred costs are classified as current or non-current consistent with the periods over which the performance obligations are anticipated to be satisfied.

Deferred costs also include the cost of customized software we develop for customers. We begin deferring development costs when they relate directly to a contract or specific anticipated contract and such costs are incurred to satisfy performance obligations in the future, provided they are expected to be recovered. We recognize these deferred software development costs as cost of revenue upon transfer of control of the associated performance obligation. We evaluate contract cost deferrals for impairment on a quarterly basis or whenever events or changes in circumstances indicate that a project may require recognition of a contract loss. We did not record any impairment losses during the three months ended September 30, 2018 and 2017.

In connection with our usage of licensed third-party content, our contracts with certain licensors include minimum guaranteed royalty payments, which are payable regardless of the ultimate volume of revenue derived from the

number of paying end users. These contracts contain obligations for the licensor to provide ongoing services and, accordingly, we record any minimum guaranteed royalty payments as an asset when paid and amortize the amount to cost of revenue over the applicable period. Any additional royalties due based on actual usage are expensed monthly as incurred.

Changes in the balance of total deferred costs (current and non-current) during the three months ended September 30, 2018 are as follows (in thousands):

	Deferred Costs		
	Content	Development	Total
Balance, June 30, 2018 (as adjusted)	\$46,790	\$ 9,479	\$56,269
Content licensing costs incurred	29,114		29,114
Customized software development costs incurred		554	554
Less: cost of revenue recognized	(25,028)	(601)	(25,629)
Balance, September 30, 2018	\$50,876	\$ 9,432	\$60,308
Recent accounting pronouncements			

In August 2018, the FASB issued ASU 2018-15, Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract, or ASU 2018-15, which requires a customer in a cloud computing arrangement that is a service contract to follow the internal-use software guidance in ASC 350-40 to determine which implementation costs to defer and recognize as an asset. This guidance is effective for us in our first quarter of fiscal 2021. Early adoption is permitted and the guidance allows for a retrospective or prospective application. We are evaluating the impact of the adoption of this standard on our consolidated financial statements. With the exception of the recently adopted and new accounting pronouncements discussed above, there have been no other changes in accounting pronouncements during the three months ended September 30, 2018, as compared to the recent accounting pronouncements described in our Annual Report on Form 10-K for fiscal 2018, that are of significance to us.

2. Net income (loss) per share

Basic net income (loss) per share is calculated by dividing net income (loss) by the weighted-average number of common shares outstanding for the period. Diluted net income (loss) per share is computed by dividing net 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 and restricted stock units 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):

		Months Ended nber 30,		2017		
Net loss	\$	(7,943)	\$	(10,369)
Weighted average common shares						
used in computing net loss per share,	45,018	5		44,079		
basic and diluted						
Net loss per share, basic and diluted	\$	(0.18)	\$	(0.24)

The following potential shares outstanding as of September 30, 2018 and 2017 were excluded from the computation of diluted net loss per share for the periods presented because including them would have had an antidilutive effect (in thousands):

	September		
	30,		
	2018	2017	
Stock options	5,263	5,599	
Restricted stock units	2,536	3,035	
Total	7,799	8,634	

3. Cash, cash equivalents and short-term investments

Cash and cash equivalents consist of 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 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. These marketable 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, 2018 and 2017.

Cash, cash equivalents and short-term investments consisted of the following as of September 30, 2018 (in thousands):

Description	Amortized	Unrealized	Unrealized	Estimated
Description	Cost	Gains	Losses	Fair Value
Cash	\$ 11,053	\$ —	\$ —	\$ 11,053
Cash equivalents:				
Money market mutual funds	196		_	196
U.S. treasury securities	200		_	200
U.S. agency securities	500			500
Commercial paper	1,247		_	1,247
Corporate bonds	400		_	400
Total cash equivalents	2,543		_	2,543
Total cash and cash equivalents	13,596		_	13,596
Short-term investments:				
U.S. treasury securities	5,237		(36)	5,201
U.S. agency securities	1,799		(12)	1,787
Asset-backed securities	7,853	1	(66)	7,788
Municipal securities	3,220		(4)	3,216
Commercial paper	3,983		(1)	3,982
Corporate bonds	46,048	6	(353)	45,701
Total short-term investments	68,140	7	(472)	67,675
Cash, cash equivalents and short-term investments	\$ 81,736	\$ 7	\$ (472)	\$ 81,271

Cash, cash equivalents and short-term investments consisted of the following as of June 30, 2018 (in thousands):

Description	Amortized Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
Cash	\$ 10,202	\$ —	\$ —	\$ 10,202
Cash equivalents:				
Money market mutual funds	3,751	_		3,751
U.S. treasury securities	498	_		498
Commercial paper	2,666			2,666
Total cash equivalents	6,915	_		6,915
Total cash and cash equivalents	17,117	_		17,117
Short-term investments:				
U.S. treasury securities	4,737	_	(34)	4,703
U.S. agency securities	2,424	_	(16)	2,408
Asset-backed securities	8,040	1	(72)	7,969
Municipal securities	2,220	_	(4)	2,216
Commercial paper	1,249	—		1,249
Corporate bonds	49,717	2	(435)	49,284
Total short-term investments	68,387	3	(561)	67,829
Cash, cash equivalents and short-term investments	\$ 85,504	\$ 3	\$ (561)	\$ 84,946

The following table summarizes the fair value and gross unrealized losses related to available-for-sale securities, aggregated by investment category, that have been in an unrealized loss position for less than twelve months or a continuous unrealized loss position for twelve months or greater, as of September 30, 2018 and June 30, 2018 (in thousands):

	Septemb	er 30, 201	8						
	Less than Months	n 12		12 Mont Greater	hs or		Total		
	Fair	Unrealize	ed	Fair	Unrealize	ed	Fair	Unrealiz	ed
	Value	Losses		Value	Losses		Value	Losses	
U.S. treasury securities	\$4,219	\$ (21)	\$981	\$ (15)	\$5,200	\$ (36)
U.S. agency securities	994	(6)	1,293	(6)	2,287	(12)
Asset-backed securities	3,779	(25)	3,400	(41)	7,179	(66)
Municipal securities	2,716	(4)				2,716	(4)
Commercial paper	5,229	(1)				5,229	(1)
Corporate bonds	24,920	(214)	15,285	(139)	40,205	(353)
Total	\$41,857	\$ (271)	\$20,959	\$ (201)	\$62,816	\$ (472)
	June 30,	2018							
	Less than Months			12 Mont Greater	hs or		Total		
	Fair	Unrealize	ed	Fair	Unrealize	ed	Fair	Unrealiz	ed
	Value	Losses		Value	Losses		Value	Losses	
U.S. treasury securities	\$4,703	\$ (34)	\$—	\$ —		\$4,703	\$ (34)

U.S. agency securities	1,118	(6)	1,290	(10)	2,408	(16)
Asset-backed securities	5,368	(69)	1,562	(3)	6,930	(72)
Municipal securities	1,716	(4)				1,716	(4)
Commercial paper	1,249						1,249		
Corporate bonds	34,982	(318)	10,880	(117)	45,862	(435)
Total	\$49,136	\$ (431)	\$13,732	\$ (130)	\$62,868	\$ (561)

There were 90 securities and 111 securities in an unrealized loss position for less than twelve months at September 30, 2018 and at June 30, 2018, respectively, and 44 securities and 25 securities in an unrealized loss position for twelve months or greater at September 30, 2018 and at June 30, 2018, respectively.

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, 2018 (in thousands):

	Amortized	Estimated
	Cost	Fair Value
Due within one year	\$ 36,318	\$ 36,186
Due between one and two years	23,888	23,637
Due between two and three years	7,934	7,852
Total	\$ 68,140	\$ 67,675

Declines in fair value judged to be other-than-temporary on securities available for sale are included as a component of other income (expense), 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, 2018, 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, 2018 and June 30, 2018, 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, 2018 (in thousands):

<u>Table of Contents</u> TELENAV, INC. Notes to Condensed Consolidated Financial Statements—(Continued) (unaudited)

	Fair Value Measurements at September 30, 2018 Using						
		Quoted Prices in Active Markets for Identical Assets	Significant Other Observable Inputs	Significant Unobservable Inputs			
Description	Total	(Level 1)	(Level 2)	(Level 3)			
Cash equivalents:							
Money market mutual funds	\$196	\$ 196	\$ —	\$			
U.S. treasury securities	200	200					
U.S. agency securities	500		500	_			
Commercial paper	1,247		1,247	_			
Corporate bonds	400		400				
Total cash equivalents	2,543	396	2,147				
Short-term investments:							
U.S. treasury securities	5,201	5,201					
U.S. agency securities	1,787		1,787	_			
Asset-backed securities	7,788		7,788				
Municipal securities	3,216		3,216				
Commercial paper	3,982		3,982				
Corporate bonds	45,701		45,701				
Total short-term investments	67,675	5,201	62,474	_			
Cash equivalents and short-term investments	\$70,218	\$ 5,597	\$ 64,621	\$			

The fair values of our financial instruments were determined using the following inputs at June 30, 2018 (in thousands):

	Fair Value Measurements at June 30, 2018 Using					
		Quoted Prices in Active Markets for Identical Assets	Significant Other Observable Inputs	Significant Unobservable Inputs		
Description	Total	(Level 1)	(Level 2)	(Level 3)		
Cash equivalents:						
Money market mutual funds	\$3,751	\$ 3,751	\$ —	\$		
U.S. treasury securities	498	498				
Commercial paper	2,666		2,666	_		
Total cash equivalents	6,915	4,249	2,666	_		
Short-term investments:						
U.S. treasury securities	4,703	4,703		_		
U.S. agency securities	2,408		2,408	_		
Asset-backed securities	7,969		7,969	_		
Municipal securities	2,216	—	2,216	—		

Commercial paper	1,249		1,249	_		
Corporate bonds	49,284		49,284	_		
Total short-term investments	67,829	4,703	63,126	_		
Cash equivalents and short-term investments	\$74,744	\$ 8,952	\$ 65,792	\$	—	
Accretion of net premium on short-term investments totaled \$5,000 and \$59,000 in the three months ended						
September 30, 2018 and 2017, respectively.						
There were no transfers between Level 1 and Level 2 financial instruments in the three months ended September 30,						
2018 and 2017.						

We did not have any financial liabilities measured at fair value on a recurring basis as of September 30, 2018 or June 30, 2018.

Non-marketable equity investments

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

Prior to July 1, 2018, we accounted for our non-marketable equity investments at cost less impairment. Realized gains and losses on non-marketable equity investments sold or impaired were recognized in other income (expense), net. As of June 30, 2018, non-marketable equity investments accounted for under the cost method had a carrying value of \$708,000.

On July 1, 2018, we adopted ASU 2016-01, which changed the way we account for non-marketable equity securities. 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 (expense), net. Because we adopted ASU 2016-01 prospectively for investments without readily determinable market values, we apply the measurement alternative commencing July 1, 2018. Non-marketable equity securities remeasured during the three months ended September 30, 2018 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.

During the three months ended September 30, 2018, we recorded an upward adjustment to carrying value resulting from the sale of similar securities by an investee company. A summary of unrealized gains and losses recorded in other income (expense), net, and included as adjustments to the carrying value of non-marketable equity securities held as of September 30, 2018 is as follows (in thousands):

1,259

Carrying value (cost basis), June 30, 2018 \$708

Upward adjustments

Downward adjustments (including impairment) —

Carrying value, September 30, 2018 \$1,967

Included in the \$2.0 million carrying value of non-marketable equity securities, \$1.5 million was measured at fair value based on observable market transactions, resulting in a net unrealized gain of \$1.3 million as of September 30, 2018.

5. Balance sheet information

Goodwill and intangible assets, net

Goodwill as of September 30, 2018 and June 30, 2018 was \$28.7 million.

Intangible assets consisted of the following (in thousands):

8				
	September 30,	June 30,		
	2018	2018		
Acquired developed technology	\$ 13,875	\$13,875		
Less accumulated amortization	(11,775)	(11,491)		
Intangible assets, net	\$ 2,100	\$2,384		

Acquired developed technology is amortized on a straight-line basis over the expected useful life. Amortization expense related to intangibles was \$284,000 and \$283,000 for the three months ended September 30, 2018 and 2017, respectively.

As of September 30, 2018, remaining amortization expense for intangible assets by fiscal year is as follows: \$720,000 in fiscal 2019, \$872,000 in fiscal 2020 and \$509,000 in fiscal 2021.

Accrued expenses

Accrued expenses consisted of the following (in thousands):

Table of Contents TELENAV, INC.

Notes to Condensed Consolidated Financial Statements—(Continued) (unaudited)

	September 30,	June 30,
	2018	2018
Accrued compensation and benefits	\$ 5,854	\$12,024
Accrued royalties	17,823	16,298
Customer overpayments and related reserves	7,153	5,356
Other accrued expenses	5,208	5,125
Total accrued expenses	\$ 36,038	\$38,803

6. 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, 2018 are as follows (in thousands):

Beginning balance, June 30, 2018 (as adjusted)	\$72,050
Revenue recognized that was included in beginning balance	(6,616)
Amount billed, net of revenue recognized that was not included in beginning balance	13,489
Ending balance, September 30, 2018	\$78,923

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, 2018 was a net reduction in revenue recognized of \$0.4 million. In addition, the amount of revenue recognized in the current period from performance obligations satisfied or partially satisfied in previous periods was \$0.4 million.

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, 2018, the aggregate amount of the transaction price allocated to remaining performance obligations for our automotive segment was \$68.5 million, which is expected to be recognized over a remaining period of 5 to 8 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. We have used the practical expedient to not disclose amounts related to the comparative period under ASC 606.

The aggregate amount of transaction price allocated to the remaining performance obligations for advertising services and mobile navigation services as of September 30, 2018 was not material.

7. Commitments and contingencies

Operating lease and purchase obligations

In August 2017, we terminated our sublease with Avaya Inc. for our Santa Clara, California headquarters facility and signed a new direct lease agreement, effective in September 2017, for this same facility. In connection with the sublease termination agreement, we recorded the following amounts during the three months ended September 30, 2017: i) the reversal of \$538,000 of deferred rent related to the sublease, with an offsetting credit to rent expense, as amortization of this deferred rent liability is no longer required, and ii) the recognition of \$582,000 of tenant improvement allowance related to the sublease, with an offsetting credit to depreciation expense, as amortization of this allowance is no longer required.

As of September 30, 2018, we had future minimum non-cancelable financial commitments primarily related to office space under non-cancelable operating leases and license fees due to certain of our third-party content providers, regardless of usage level. The aggregate future minimum commitments were comprised of the following (in thousands):

	Total	Fiscal	Fiscal	Fiscal	Fiscal	Fiscal	Thereafter
	Total	2019	2020	2021	2022	2023	Thereafter
Operating lease obligations	\$15,534	\$3,023	\$4,125	\$3,012	\$2,642	\$2,206	\$ 526
Purchase obligations	7,115	2,998	1,491	965	415	415	831
Total contractual obligations	\$22,649	\$6,021	\$5,616	\$3,977	\$3,057	\$2,621	\$ 1,357

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 can be reasonably estimated, we accrue the estimated loss or cost of indemnification in our consolidated financial statements. Where the outcome of these matters is not determinable, 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.

On July 28, 2016, Nathan Gergetz filed a putative class action complaint in the U.S. District Court for the Northern District of California, alleging that Telenav violated the Telephone Consumer Protection Act, or TCPA. The complaint purports to be filed on behalf of a class, and it alleged that Telenav caused unsolicited text messages to be sent to the plaintiff from July 6, 2016 to July 26, 2016. Plaintiffs sought statutory and actual damages under the TCPA law, attorneys' fees and costs of the action, and an injunction to prevent any future violations. A settlement was subsequently reached, and the plaintiff filed a motion for preliminary approval of class action settlement on March 5, 2018. The court granted preliminary approval of the class action settlement on April 30, 2018 and final approval of the settlement on September 27, 2018. The settlement became effective on October 30, 2018 and was paid by our technology errors and omissions liability insurance policy, after payment of our deductible of \$250,000. We accrued the \$250,000 deductible payment in fiscal 2018.

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. A number of these indemnity demands, including demands relating to pending litigation, remain outstanding and unresolved as of the date of this Form 10-Q. 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. At this time, we are not a party to the following cases; however, our customers requested that we indemnify them in connection with such cases.

In August 2017, AT&T Mobility LLC, or AT&T, and Sprint Spectrum L.P., or Sprint, sent Telenav indemnification requests relating to patent infringement lawsuits brought by Location Based Services LLC, alleging patent infringement by the AT&T Navigator system and App for iOS and Android, and the Sprint Scout System and the Sprint Scout App for iOS and Android. Location Based Services LLC filed separate lawsuits against AT&T and Sprint in the U.S. District Court for the Eastern District of Texas, asserting five U.S. Patents. Telenav agreed to indemnify and defend AT&T and Sprint in connection with these matters. We accrued \$250,000 related to these matters in the three months ended September 30, 2017 and recorded this amount as legal settlement and contingencies expense in our consolidated statement of operations. On November 22, 2017, Location Based Services LLC entered into a Settlement and License Agreement with Telenav for the patents in suit and 15 other patents assigned to Location Based Services LLP.

In November 2017, Traxcell Technologies, LLC, or Traxcell, filed patent infringement lawsuits against AT&T and Sprint in the U.S. District Court for the Eastern District of Texas. On November 9, 2017, AT&T tendered control of the defense of one of the patents alleged to be infringed upon in the case and sought indemnification for the entire amount of litigation expenses related to the patent and Telenav products, including discovery, defensive intellectual property rights and any judgment rendered in, or settlement of, the lawsuit. Telenav has not accepted tender of the defense. Although we have agreed to indemnify AT&T to the extent that the claims relate to the ordinary use of Telenav products, we have not yet determined the extent of our indemnification obligations to AT&T. On April 12, 2018, Traxcell served its infringement contentions, identifying Telenav products as being at issue in the AT&T litigation. On August 14, 2018, we filed a motion to intervene and stay or sever the claims against AT&T related to AT&T Navigator. On September 11, 2018, Traxcell filed a response to that motion objecting only to our motion to stay or sever. On November 7, 2018, the court granted our motion to intervene but did not rule on our

motion to stay or sever, which is still pending before the court.

On June 15, 2018, Telenav filed a complaint against Traxcell seeking a declaratory judgment of non-infringement against the plaintiff. On August 31, 2018, Traxcell filed a motion to dismiss the declaratory judgment complaint asserting that there is no actual controversy because Traxcell does not assert that the AT&T product by itself infringes the patent. The motion is pending before the court.

Due to the preliminary nature of and uncertainties relating to the Traxcell litigation, we are unable at this time to estimate the effects of these matters on our financial condition, results of operations or cash flows.

While we presently believe that the ultimate outcome of these proceedings, individually and in the aggregate, will not materially harm our financial position, cash flows or overall trends in results of operations, legal proceedings are subject to inherent uncertainties and unfavorable rulings could occur. Unfavorable final outcomes may have a material adverse impact on our business, financial position, cash flows or overall trends in results of operations. 8. 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.

9. Stock-based compensation

Under our 2009 Equity Incentive Plan and 2011 Stock Option and Grant Plan, 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. In addition, we have granted restricted common stock in connection with certain acquisitions.

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

	of	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (years)	Aggregate Intrinsic Value
Options outstanding as of June 30, 2018	5,116	\$ 6.48	•	
Granted	290	\$ 5.10		
Exercised	(5)	\$ 5.01		
Canceled or expired	(138)	\$ 7.44		
Options outstanding as of September 30, 2018	5,263	\$ 6.38	5.70	\$ 87,949
As of September 30, 2018:				
Options vested and expected to vest	5,100	\$ 6.40	5.60	\$ 85,445
Options exercisable	3,884	\$ 6.60	4.81	\$ 65,956

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

	Number of Shares	Weighted Average f Remaining Contractual Life (years)	Aggregate Intrinsic Value
RSUs outstanding as of June 30, 2018	3,068		
Granted	187		
Vested	(600)	
Canceled	(119)	
RSUs outstanding as of September 30, 2018 As of September 30, 2018:	2,536	1.47	\$ 12,807
RSUs expected to vest	2,146	1.34	\$ 10,839

During the three months ended September 30, 2018, pursuant to the annual increase provisions of our 2009 Equity Incentive Plan, the number of shares available for grant under this plan increased by 1,666,666 shares. The last annual increase in the shares reserved for issuance under our 2009 Equity Incentive Plan will occur on July 1, 2019, and the plan will expire in October 2019 as to new awards. 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, 2018	3,169	
Additional shares authorized	1,667	
Granted	(477)
RSUs withheld for taxes in net share settlements	215	
Canceled	257	
Shares available for grant as of September 30, 2018	4,831	

The following table summarizes the stock-based compensation expense recorded for stock options and RSUs issued to employees and nonemployees (in thousands):

	Three Months	
	Ended	
	Septem	ber 30,
	2018	2017
Stock option awards	\$429	\$596
RSU awards	1,840	1,884
Total stock-based compensation expense	\$2,269	\$2,480

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. The weighted average assumptions used to value stock option awards granted and the resulting weighted average grant date fair value per share were as follows:

	Three Months	
	Ended	
	September 30,	
	2018 2017	
Expected volatility	39 % 49 %	
Expected term (in years)	6.87 6.22	
Risk-free interest rate	2.99 % 1.64 %	
Dividend yield	%%	
Weighted average grant date fair value per share	\$2.32 \$3.07	
10. Income taxes		

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 was \$630,000 in the three months ended September 30, 2018 compared to \$255,000 in the three months ended September 30, 2017. Our provision for income taxes of \$630,000 and \$255,000 for the three months ended September 30, 2018 and 2017, respectively, was comprised primarily of foreign withholding taxes and income taxes in foreign jurisdictions where we have profit. Our effective tax rate of 9% and 3% for the three months ended September 30, 2018 and 2017, respectively, was less 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 they are not more likely than not to be realized due to the lack of current and future income and the inability to carryback losses within the two-year carryback period, when applicable.

We record liabilities related to unrecognized tax benefits in accordance with authoritative guidance on accounting for uncertain tax positions. As of September 30, 2018 and June 30, 2018, our cumulative unrecognized tax benefits were \$4.7 million and \$3.8 million, respectively. Included in the balance of unrecognized tax benefits at September 30, 2018 and June 30, 2018 was \$205,000 and \$98,000, respectively, 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 \$100,000 and \$97,000 for the payment of interest and penalties at September 30, 2018 and June 30, 2018, respectively.

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 2016 for federal tax purposes, from fiscal 2014 in state jurisdictions, and from fiscal 2013 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, 2018 was \$58.3 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.

11.Segments

We report segment information based on the "management" approach. The management approach designates the internal reporting used by management for making decisions and assessing performance as the source of our reportable segments.

Our chief executive officer, or CEO, the chief operating decision maker, reviews revenue and gross margin information for each of our reportable segments. In addition, with the exception of accounts receivable and goodwill and intangible assets, we do not identify or allocate our assets by the reportable segments.

We report results in three business segments:

Automotive - Our automotive segment utilizes our connected car platform to deliver enhanced location-based navigation services to automobile manufacturers and tier ones. We primarily offer three variations of our connected car products and services to our automobile manufacturer and tier one customers. 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. Second, we offer advanced hybrid 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 run on the phone and provide an interactive map and navigation instructions to the vehicle's video screen and audio system, which we refer to as brought-in navigation. Finally, we offer a Navigation Software Development Kit, or SDK, that enables our customers to add mapping and location capabilities to their cloud, mobile and on-board automotive applications.

Advertising - Our advertising segment provides interactive mobile advertisements on behalf of our advertising clients to consumers based specifically on the location of the user and other sophisticated targeting capabilities. Our customers include advertisers and advertising agencies.

Mobile Navigation - Our mobile navigation segment provides our map and navigation platform to end users through mobile devices. We distribute our services primarily through our wireless carrier partners.

Our segment results for the three months ended September 30, 2018 and 2017 were as follows (dollars in thousands):

	Three Months Ended September 30,			
	2018		2017	
Automotive				
Revenue	\$43,451		\$45,608	
Cost of revenue	26,959		30,861	
Gross profit	\$16,492		\$14,747	,
Gross margin	38	%	32	%
Advertising				
Revenue	\$5,947		\$7,615	
Cost of revenue	3,220		3,412	
Gross profit	\$2,727		\$4,203	
Gross margin	46	%	55	%
Mobile Navigation				
Revenue	\$2,770		\$3,739	
Cost of revenue	925		1,550	
Gross profit	\$1,845		\$2,189	
Gross margin	67	%	59	%
Total				
Revenue	\$52,168		\$56,962	,
Cost of revenue	31,104		35,823	

Gross profit\$21,064\$21,139Gross margin40%37%

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

The following discussion and analysis should be read 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 are based on our management's beliefs and assumptions and on information currently available to our management. 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 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 exprine gatives 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. Also, forward-looking statements represent our management's 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 members 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" 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, 2018 as "fiscal 2018" and the fiscal year ending June 30, 2019 as "fiscal 2019."

Overview

Telenav is a leading provider of location-based products and services for connected cars and advertising. We utilize our connected car platform and our advertising platform to deliver these products and services. Our connected car platform allows us to deliver enhanced location-based navigation services to automobile manufacturers and tier one suppliers, or tier ones. Our advertising platform, which we provide through our Thinknear subsidiary, leverages our location expertise and delivers highly targeted advertising services to advertisers and advertising agencies. We report results in three business segments: automotive, advertising and mobile navigation.

We adopted ASC 606 effective July 1, 2018, utilizing the full retrospective transition method. All prior period amounts and disclosures set forth in this Form 10-Q have been adjusted to comply with ASC 606. See Note 1 to our condensed consolidated financial statements for a summary of adjustments.

We derive revenue primarily from automobile manufacturers and tier ones, advertisers and advertising agencies. We receive revenue from automobile manufacturers and tier ones whose vehicles or systems incorporate our proprietary personalized navigation software and services. These automobile manufacturers and tier ones generally do not provide us with any volume or revenue guarantees. In addition, we have a strategic business in mobile advertising where our customers are primarily advertising agencies, which represent national and regional brands, and channel partners, which work closely with local and small business advertisers.

Our legacy mobile navigation business has declined steadily since fiscal 2013, and we expect it to continue to decline. Mobile navigation revenue was \$2.8 million in the three months ended September 30, 2018. We began offering our

mobile navigation services in 2003. Our mobile navigation business generates 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. The mobile navigation business has declined both in absolute dollars and as a percentage of revenue from \$116.4 million, or 61% of our revenue, in fiscal 2013 to \$2.8 million, or 5% of our revenue, in the three months ended September 30, 2018 as

subscriptions for paid navigation services declined in favor of free or freemium navigation services offered by our competitors with greater resources and name recognition, such as Google and Apple. We have experienced and anticipate that we will continue to experience the non-renewal of our agreements for these services by our wireless carrier customers as demand from their subscribers declines. In the event our mobile navigation business ceases to be profitable we may ultimately elect to terminate our legacy wireless carrier mobile navigation business to the extent allowable under our contractual arrangements.

For our automotive manufacturer and tier one customers, we offer our connected car products and services for distribution with their vehicles and systems. We believe our history as a supplier of cloud-based navigation services combined with our proven track record of delivering navigation solutions to three of the top five global automobile manufacturers provides a unique advantage in the automotive navigation marketplace over our competitors. We offer four variations of our connected car products and services to our automobile manufacturer and tier one customers. 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. 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 run on the phone and provide an interactive map and navigation instructions to the vehicle's video screen and audio system, which we refer to as brought-in navigation. Finally, we offer a Navigation Software Development Kit, or SDK, that enables our customers to add mapping and location capabilities to their cloud, mobile and on-board automotive applications.

We provide our automotive navigation products and services to automobile manufacturers such as Ford Motor Company and affiliated entities, or Ford, which represented 60% of our revenue in the three months ended September 30, 2018, General Motors Holdings and its affiliates, or GM, which represented 13% of our revenue in the three months ended September 30, 2018, and Toyota Motor Corporation, or Toyota. We also provide our products and services indirectly through tier ones such as XEVO Inc., or XEVO, for certain Toyota solutions, LG Electronics, Inc., or LG, for certain Opel Automobile GmbH, or Opel, solutions and Panasonic Automotive Systems Company of America, or Panasonic, for certain Fiat Chrysler Automobiles, or FCA, solutions.

We believe our advertising delivery platform offers significant audience reach, sophisticated targeting capabilities and the ability to deliver interactive and engaging ad experiences to consumers on their mobile devices. We also believe that we are experts in location-based advertising and offer differentiated value compared to brick-and-mortar and brand advertisers through our location-based ad targeting capabilities. Our technology focuses on leveraging the complexity and scale associated with mobile location data to deliver better mobile campaigns for our advertising partners. We deliver mobile advertisements by leveraging our proprietary in-house ad serving technology. Our inventory, or accessible market, is comprised of thousands of mobile applications and mobile websites that are accessed through advertising exchanges using programmatic real time bidding, or RTB, tools.

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. We generate services revenue from brought-in automotive navigation solutions, advertising services and mobile navigation services.

Ford utilizes our on-board automotive navigation product in its Ford SYNC® platform. Ford pays us a royalty fee on SYNC 2 on-board solutions as the software is imaged onto an SD card and shipped for installation in vehicles and pays us a royalty fee on SYNC 3 on-board solutions as our software is installed in the vehicle. We also derive product revenue from map update fees.

We generate automotive services revenue primarily from our brought-in automotive navigation solutions. 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 and Lexus vehicle sold and enabled to connect with our Scout GPS Link mobile application, similarly provided over a contracted service period.

For our hybrid navigation solutions, GM pays us a 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. GM will pay us an additional service fee for connected solution subscriptions for each end user that elects to renew their OnStar Connected Navigation or Connected Navigation subscription with GM.

We generate revenue from advertising network services through the delivery of advertising impressions based on the specific terms of the advertising contract.

We also generate a declining portion of our services revenue from subscriptions to access our mobile navigation services, which are generally provided through our wireless carrier customers that offer our services to their subscribers. Our wireless carrier customers typically pay us based on a revenue sharing arrangement or a monthly subscription fee per end user. This revenue continues to decline, and in fiscal 2018 we recognized a \$2.7 million impairment of all of the goodwill associated with our mobile navigation segment. Adoption of ASC 606

The effect of adopting ASC 606 on fiscal 2018 was material to our statements of operations and balance sheets as a

result of its impact on the recognition of revenue and associated third-party content costs for certain of our on-board and brought-in automotive navigation solutions. The adoption of ASC 606 had no significant impact on our advertising and mobile navigation business segments. The adoption of ASC 606 resulted in reductions to deferred costs (asset) and deferred revenue (liability) balances, and accelerated the recognition of revenues and deferred costs in the automotive segment. Such impact on our statements of operations will continue going forward.

The adjustments required to transition to ASC 606 resulted in \$163.1 million of deferred revenue and \$89.1 million of deferred costs of the total originally reported on our balance sheet as of June 30, 2018 being recorded instead as revenue and cost of revenue, respectively, in our adjusted prior periods. In addition, the adoption of ASC 606 required us to capitalize an additional \$4.2 million, net, of deferred development costs on our adjusted June 30, 2018 balance sheet, resulting in a net decrease in deferred costs of \$84.9 million. In total, our accumulated deficit decreased by \$78.2 million as of June 30, 2018. All prior period amounts presented have been adjusted to comply with ASC 606. See the summary of adjustments in Note 1 to our condensed consolidated financial statements.

With respect to on-board automotive solutions, historically we recognized revenue and associated content costs over the life of our contractual obligations when map updates were included, and we deferred substantially all revenue and associated content costs pending the delivery of future specified upgrades. Instead, as of July 1, 2018, we recognize revenue related to royalties for distinct software and content that has been accepted as transfer of control takes place, 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, which we will recognize with the associated content costs at a point in time or over time as we transfer control of the related performance obligation.

Regarding brought-in automotive solutions, historically we recognized revenue for each royalty over the expected remaining term of the service obligation. Effective July 1, 2018, since these contracts contain variable consideration we will estimate the total transaction price each reporting period using a probability assessment, and then recognize revenue ratably over the period the services obligation is expected to be fulfilled.

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 control of the related performance obligations is transferred. Historically, such costs were not capitalized until receipt of a signed contract or purchase order for a fixed amount, provided the costs were probable of being recovered. Under ASC 340-40, we are required to capitalize such costs in anticipation of a contract, provided the costs are expected to be recovered; thus, increasing the amount of costs we capitalize under ASC 340-40. For on-board automotive solutions, such capitalized costs represent the customized portion of software development, which will continue to be recognized upon acceptance of the software under ASC 340-40 since acceptance is generally required for control of the software to transfer. For brought-in automotive solutions, such costs will be amortized over the period the services obligation is expected to be fulfilled, since software development does not represent a distinct performance obligation in the case of brought-in automotive solutions. Historically, we recognized such costs for brought-in automotive solutions upon acceptance of the software.

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, direct contribution from billings, direct contribution margin from billings, changes in deferred revenue and deferred costs, adjusted earnings before interest,

taxes, depreciation and amortization, or adjusted EBITDA, adjusted cash flow from operations and free cash flow are not measures calculated in accordance with GAAP, and should not be considered as an alternative to any measure of financial performance 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, 2017		l	
	2018		As	
			Adjusted	(1)
Revenue	\$52,168	8	\$56,962	
Revenue from Ford as a percentage of total revenue	60	%	73	%
Revenue from GM as a percentage of total revenue	13	%	4	%
Billings (Non-GAAP)	\$59,041		\$65,788	
Billings to Ford as a percentage of total billings (Non-GAAP)	54	%	68	%
Billings to GM as a percentage of total billings (Non-GAAP)	17	%	6	%
Increase in deferred revenue	\$6,873		\$8,826	
Increase in deferred costs	\$4,039		\$5,474	
Gross profit	\$21,064	ŀ	\$21,139	
Gross margin	40	%	37	%
Direct contribution from billings (Non-GAAP)	\$23,898	3	\$24,491	
Direct contribution margin from billings (Non-GAAP)	40	%	37	%
Net loss	\$(7,943)	\$(10,369))
Diluted net loss per share	\$(0.18)	\$(0.24)
Adjusted EBITDA (Non-GAAP)	\$(5,624)	\$(7,741)
Adjusted cash flow from operations (Non-GAAP)	\$(2,790)	\$(4,389)
Net cash used in operating activities	\$(2,293)	\$(3,788)
Free cash flow (Non-GAAP)	\$(2,393)	\$(6,074)

⁽¹⁾Certain amounts have been adjusted to reflect the adoption of ASC 606. See Note 1 to our condensed consolidated financial statements for a summary of adjustments.

Gross margin is our gross profit, or total revenue less cost of revenue, expressed 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 derived from automotive navigation solutions and advertising network services, which generally have higher associated third-party content costs and third-party display ad inventory costs, respectively, than our mobile navigation offerings provided through wireless carriers.

Billings measure revenue recognized plus the change in deferred revenue from the beginning to the end of the period. Direct contribution from billings reflects GAAP gross profit plus change in deferred revenue less change in deferred costs. Direct contribution margin from billings reflects direct contribution from billings divided by billings. We have also provided a breakdown of the calculation of the change in deferred revenue by segment, which is added to revenue in calculating our non-GAAP metric of billings. In connection with our presentation of the change in deferred costs primarily include costs associated with third-party content and certain development costs associated with our customized software solutions. As we enter into more hybrid and brought-in navigation programs, deferred revenue and deferred costs become larger components of our operating results, thus we believe these metrics are useful in evaluating cash flow.

We consider billings, direct contribution from billings and direct contribution margin from billings to be useful metrics for management and investors because billings drive revenue and deferred revenue, which is an important indicator of the viability of our business. We believe direct contribution from billings and direct contribution margin from billings are useful metrics because they reflect the impact of the contribution over time from such billings, exclusive of the incremental costs incurred to deliver any related service obligations. There are a number of

limitations related to the use of billings, direct contribution from billings and direct contribution margin from billings versus revenue, gross profit and gross margin calculated in accordance with GAAP. First, billings, direct contribution from billings and direct contribution margin from billings include amounts that have not yet been recognized as revenue or cost and may require additional services to be provided over contracted service periods. For example, billings related to certain brought-in solutions cannot be fully recognized as revenue in a given period due to requirements for ongoing provisioning of services such as hosting, monitoring, customer support and map updates, including

certain third-party technology and content license fees as applicable. Second, we may calculate billings, direct contribution from billings and direct contribution margin from billings in a manner that is different from peer companies that report similar financial measures, making comparisons between companies more difficult. When we use these measures, we attempt to compensate for these limitations by providing specific information regarding billings and how they relate to revenue, gross profit and gross margin calculated in accordance with GAAP. Adjusted EBITDA measures our GAAP net loss excluding the impact of stock-based compensation expense, depreciation and amortization, other income (expense), provision (benefit) for income taxes, and other applicable items such as goodwill impairment, legal settlements and contingencies, and deferred rent reversal and tenant improvement allowance recognition due to sublease termination, net of tax. Stock-based compensation expense relates to equity incentive awards granted to our employees, directors, and consultants. Goodwill impairment represents the impairment of all of the goodwill associated with our mobile navigation segment. Legal settlements and contingencies represent settlements and offers made to settle patent litigation cases in which we are a defendant and royalty disputes. Deferred rent reversal and tenant improvement allowance recognition represent the reversal of our deferred rent liability and recognition of our deferred tenant improvement allowance, as amortization of these amounts is no longer required due to the termination of our Santa Clara facility sublease and subsequent entry into a new lease agreement with our landlord for this same facility in August 2017. Adjusted EBITDA, while generally a measure of profitability, can also represent a loss.

Adjusted EBITDA and adjusted cash flow from operations are key measures used by our management and board of directors 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 eliminated in calculating adjusted EBITDA can provide a useful measure for period-to-period comparisons of our core business.

Adjusted cash flow from operations measures adjusted EBITDA plus the effect of changes in deferred revenue and deferred costs. We believe adjusted cash flow from operations is a useful measure, especially in light of the significant impact we expect on reported GAAP revenue from certain value-added offerings we provide our customers, including Ford map updates. In addition, adjusted cash flow from operations is a key financial measure used by the compensation committee of our board of directors in connection with the development of incentive-based compensation for our executive officers and other employees. Accordingly, we believe that adjusted EBITDA and adjusted cash flow from operations generally provide useful information to investors and others in understanding and evaluating our operating results in the same manner as our management and board of directors. Adjusted EBITDA and adjusted cash flow from operations, while generally measures of profitability, can also represent losses.

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 the purchases of property and equipment.

These non-GAAP measures have limitations as analytical tools and should not be considered 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, direct contribution from billings, direct contribution margin from billings and adjusted cash flow from operations do not reflect all costs associated with billings;

assets being depreciated and amortized may have to be replaced in the future, and adjusted EBITDA does not reflect cash capital expenditure requirements for such replacements or for new capital expenditures;

adjusted EBITDA and adjusted cash flow from operations do not reflect the potentially dilutive impact of equity-based compensation;

adjusted EBITDA and adjusted cash flow from operations do not reflect the use of cash for net share settlements of RSUs;

adjusted EBITDA and adjusted cash flow from operations do 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

adjusted EBITDA, adjusted cash flow from operations, free cash flow or similarly titled measures may be calculated by other companies differently, which reduces their usefulness as comparative measures.

Because of these and other limitations, you should consider billings, direct contribution from billings, direct contribution margin from billings, adjusted EBITDA, adjusted cash flow from operations 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. The following tables present reconciliations of revenue to billings, deferred revenue to the change in deferred revenue, deferred costs to the change in deferred costs, gross profit to direct contribution from billings, net loss to adjusted EBITDA and adjusted cash flow from operations, 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

Reconcination of Revenue to Billings				
	Three Months			
	Ended			
	September 30,			
	2018	2017		
Automotive				
Revenue	\$43,451	\$45,608		
Adjustments:				
Change in deferred revenue	6,860	8,883		
Billings	\$50,311	\$54,491		
Advertising				
Revenue	\$5,947	\$7,615		
Adjustments:				
Change in deferred revenue				
Billings	\$5,947	\$7,615		
Mobile Navigation				
Revenue	\$2,770	\$3,739		
Adjustments:				
Change in deferred revenue	13	(57)		
Billings	\$2,783	\$3,682		
Total				
Revenue	\$52,168	\$56,962		
Adjustments:				
Change in deferred revenue	6,873	8,826		
Billings	\$59,041	\$65,788		

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

	Three Months End	•	0, 2018
	AutomotiAcelvertisi	ing Mobile Navigation	Total
Deferred revenue, September 30	\$78,373 \$	—\$ 550	\$78,923
Deferred revenue, June 30	71,513 —	537	72,050
Change in deferred revenue	\$6,860 \$	—\$ 13	\$6,873
Deferred costs, September 30	\$60,308 \$	_\$	\$60,308
Deferred costs, June 30	56,269 —		56,269
Change in deferred costs	\$4,039 \$	_\$	\$4,039
	Three Months End	led September 3	0, 2017
	Three Months End AutomotiActivertisi	Mobile	0, 2017 Total
Deferred revenue, September 30		Mobile	
Deferred revenue, September 30 Deferred revenue, June 30	AutomotiAclvertisi	ing Mobile Navigation	Total
	Automoti Ac lvertisi \$46,407 \$	ing Mobile Navigation —\$ 827	Total \$47,234
Deferred revenue, June 30	Automoti Ae lvertisi \$46,407 \$ 37,524 —	Mobile Navigation —\$ 827 884	Total \$47,234 38,408
Deferred revenue, June 30	Automoti Ae lvertisi \$46,407 \$ 37,524 —	Mobile Navigation —\$ 827 884	Total \$47,234 38,408
Deferred revenue, June 30 Change in deferred revenue	Automoti Ac lvertisi \$46,407 \$ 37,524 — \$8,883 \$	Mobile Navigation —\$ 827 884	Total \$47,234 38,408 \$8,826

Reconciliation of Revenue to Billings - Ford and GM

	Three Months Ended		
	September 30,		
	2018	2017	
Revenue from Ford	\$31,100	\$41,319	
Adjustments:			
Change in deferred revenue attributed to Ford	674	3,700	
Billings to Ford	\$31,774	\$45,019	
Billings to Ford as a percentage of total billings	54 %	68 %	
Revenue from GM	\$6,799	\$2,433	
Adjustments:			
Change in deferred revenue attributed to GM	3,189	1,373	
Billings to GM	\$9,988	\$3,806	
Billings to GM as a percentage of total billings	17 %	6 %	

Reconciliation of Gross Profit to Direct Contribution from Billings

	Three Months Ended		
	September 30,		
	2018 2017		
Gross profit	\$21,064	\$21,139	
Gross margin	40 %	6 37 %	
Adjustments to gross profit:			
Change in deferred revenue	\$6,873	\$8,826	
Change in deferred costs ⁽¹⁾	(4,039)	(5,474)	
Net change	2,834	3,352	
Direct contribution from billings ⁽¹⁾	\$23,898	\$24,491	
Direct contribution margin from billings ⁽¹⁾	40 %	6 37 %	

⁽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. Accordingly, direct contribution from billings and direct contribution margin from billings do not include all costs associated with billings.

Reconciliation of Net Loss to Adjusted EBITDA and Adjusted Cash Flow from Operations

	Three Months		
	Ended		
	Septembe	er 30,	
	2018	2017	
Net loss	\$(7,943)	\$(10,369	9)
Adjustments:			
Legal settlement and contingencies		250	
Deferred rent reversal due to lease termination	—	(538)
Tenant improvement allowance recognition due to lease termination	—	(582)
Stock-based compensation expense	2,269	2,480	
Depreciation and amortization	1,010	716	
Other income (expense), net	(1,590)	47	
Provision for income taxes	630	255	
Adjusted EBITDA	\$(5,624)	\$(7,741)
Change in deferred revenue	6,873	8,826	
Change in deferred costs ⁽¹⁾	(4,039)	(5,474)
Adjusted cash flow from operations ⁽¹⁾	\$(2,790)	\$(4,389)

(1) 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. Accordingly, adjusted cash flow from operations does not reflect all costs associated with billings.

Reconciliation of Net Loss to Free Cash Flow

	Three Months	
	Ended	
	September 30,	
	2018 2017	
Net loss	\$(7,943) \$(10,369)	
Adjustments to reconcile net loss to net cash used in operating activities:		
Change in deferred revenue ⁽¹⁾	6,873 8,826	
Change in deferred costs ⁽²⁾	(4,039) (5,474)	
Changes in other operating assets and liabilities	791 1,048	
Other adjustments ⁽³⁾	2,025 2,181	
Net cash used in operating activities	(2,293) (3,788)	
Less: Purchases of property and equipment	(100) (2,286)	
Free cash flow	\$(2,393) \$(6,074)	

⁽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, advertising services and mobile navigation services.

We report revenue, cost of revenue and gross profit results in three business segments: automotive, advertising and mobile navigation. Our chief executive officer, or CEO, the chief operating decision maker, reviews revenue and gross margin information for each of our reportable segments. See " - Results of operations" and Note 11 to the condensed consolidated financial statements in this Form 10-Q for more information about our business segments. Revenue from our automotive segment represented 83% and 80% of our revenue in the three months ended September 30, 2018 and 2017, respectively. In the three months ended September 30, 2018 and 2017, revenue from Ford represented 60% and 73% of our total revenue, respectively, and revenue from GM comprised 13% and less than 10% of our total revenue, respectively.

Our contract with Ford covers a broad range of products and services that we provide to Ford. On December 15, 2017, we entered into an amendment with Ford that extends the term of the agreement from December 31, 2017 to December 31, 2018 for each jurisdiction in which we currently provide our products to Ford. On December 14, 2017, Ford awarded to us a further extension of the agreement to December 31, 2020 for each jurisdiction in which we currently provide our products to Ford, subject to certain conditions and execution of a subsequent amendment to the agreement. The subsequent amendment was executed in March 2018. On December 14, 2017, Ford also selected us to provide its next generation navigation solution in North America, subject to certain conditions and execution of an agreement regarding those solutions. Although we have been awarded these programs, in the course of negotiating definitive agreements for the programs, the terms and conditions of the programs, including the pricing, the length of the programs and geographic scope of the programs, may change. We were not awarded the contracts for Europe, South America and Australia and New Zealand. Furthermore, a substantial portion of our revenue, and, to a lesser extent, gross profit is impacted by the underlying licensed content cost negotiated through HERE and other content providers and we cannot predict the impact on our revenue and gross profit of any changes between Ford and the map or other content providers.

Our contract with GM includes the provision of our on-board, hybrid, and brought-in navigation solutions across a wide assortment of GM vehicles. Our mobile navigation SDK powers GM's branded mobile and web-based applications and is covered under a services agreement that was entered into June 13, 2014 and extends to December 31, 2019. Our on-board and hybrid navigation solutions for GM are covered under a product and services agreement that became effective February 1, 2017. These solutions began shipping in a limited number of vehicles beginning with model year 2017 and are gradually expanding across additional regions and models. In May 2017, additional vehicles through model year 2025 were added to this products and services agreement, which terminates on December 31, 2026.

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.

Royalties for on-board navigation solutions are generally earned 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. Any royalties for the use of distinct software combined with integrated content, with an allocation of the transaction price based on the relative SSP of map updates, specified

upgrades, and other services as applicable, are recognized at the later of when the royalties are earned or when transfer of control of the related performance obligation has occurred.

For hybrid automotive solutions, the transaction price allocated to the on-board component is generally recognized as product revenue as described above, and the transaction price allocated to the included cloud functionality based on SSP is generally recognized as services revenue. 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.

Our product revenue from Ford is primarily derived from Ford's SYNC 2 and SYNC 3 on-board solutions. In each geography where we provide navigation products to it, Ford also provides a map update program under which Ford owners in North America, South America, China and Europe with SYNC 3 and in Australia and New Zealand with SYNC 2 or SYNC 3 are eligible to receive annual map updates at no additional cost through the applicable contractual period. We earn an annual compilation fee and a per unit fee for these updates included in the pricing arrangement. We anticipate that we will continue to depend on Ford for a material portion of our revenue for the foreseeable future. We also have agreements with GM. In February 2017, GM launched its first model featuring integration of our hybrid navigation solution in North America, the 2017 Cadillac CTS and CTS-V. Our solution is now available in North America on select 2019 models of Cadillac CTS, CTS-V, ATS, XTS and XT 4: GMC Terrain, Sierra and Canyon; Chevrolet Silverado, Equinox, Colorado, Camaro, Cruze Hatchback and Volt; and Buick Regal. GM also has launched vehicles with our hybrid navigation solution in China and has launched vehicles with our on-board solution in South America, Australia and New Zealand, and the Middle East. Our on-board and connected navigation solution is scheduled to become available in additional regions and GM models for model years 2020 through 2025. We anticipate that we will continue to depend on GM for a material portion of our revenue for the foreseeable future. We were selected to provide entry level on-board navigation through LG, a tier one supplier for the Opel and Vauxhall line of vehicles, for the European market. This solution launched in Adam, Corsa, Karl and Zafira model vehicles equipped with NAVI 4.0 IntelliLink® beginning in July 2017. These products are expected to be made available in other select vehicles for model years 2020 to 2022. GM sold its Opel and Vauxhall business to Groupe PSA in August 2017, and we continue to engage in development of similar solutions for Opel and Vauxhall.

We also have an agreement to offer our on-board navigation solution in select Jeep and Chrysler vehicles in the China market through Panasonic. Our on-board navigation is included in the 2018 Jeep Grand Cherokee, which had its China launch in August 2017, and is expected to be included in Jeep Cherokee and Compass when those models debut in China by December 31, 2018.

Services revenue. We derive services revenue primarily from our brought-in automotive navigation solutions. 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 is required to be estimated and included 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. Total variable consideration to be received is estimated at contract inception and updated 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.

In October 2017, we amended our agreement with Ford to provide certain connected services for SYNC 3 in North America, Europe and China. Ford launched connected search across various model year 2018 SYNC 3 vehicles in North America using its FordPassTM and Lincoln WayTM mobile applications. As of September 30, 2018, the vast majority of Ford vehicles with SYNC 3 produced in North America and Europe during the three months ended September 30, 2018 were capable of providing connected services.

GM offers its OnStar RemoteLink feature including our location-based services platform, and we earn a one-time fee for each new vehicle owner who downloads the associated MyBrand mobile application, including a localized version

offered in Europe for the Opel and Vauxhall brands.

We have a partnership with Toyota for brought-in navigation services where our Scout GPS Link mobile application is available in select Entune® Audio equipped Toyota vehicles in the United States and in select Lexus Enform® equipped Lexus models. Toyota and Lexus vehicles enabled to connect with our Scout GPS Link began shipping in August 2015 and September 2016, respectively. We earn a one-time fee for each new Toyota or Lexus sold and enabled to connect to our Scout GPS Link mobile application.

Our Scout GPS Link and Xevo's Xevd^M Engine Link provide brought-in navigation services, including a fully interactive moving map, for select Toyota vehicles equipped with Entune 3.0 Audio, as well as select Lexus vehicles equipped with Lexus Enform. Our fully interactive solution first became available on select model year 2018 Toyota Camry and Sienna and Lexus NX and RC models, and was recently expanded to select model year 2019 Toyota Corolla hatchback, Avalon and CHR models. On these same Toyota and Lexus models, a premium embedded connected navigation option is also available that provides connected search, powered by our platform. Toyota and Lexus offer our solutions, including the new fully interactive solution, in model year 2018 and 2019 vehicles, with the availability of each solution dependent upon the Toyota and Lexus model and trim level. While we have seen expansion of our latest version of Scout GPS Link solution across more Toyota and Lexus models in 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 recently announced it is offering across certain Toyota models, and the expanded offering of Google's Android Auto solution across more automobile manufacturers.

Revenue from our advertising segment, which includes the delivery of display, location-based advertising impressions, represented 11% and 13% of our revenue in the three months ended September 30, 2018 and 2017, respectively. Our advertising revenue is derived primarily from ad insertion orders contracted with advertising agencies, direct customers, and channel partners. We recognize revenue when transfer of control of the related advertising services occur based on the specific terms of each advertising contract, which are generally based on the number of ad impressions delivered.

Revenue from our mobile navigation segment represented 5% and 7% of our revenue in the three months ended September 30, 2018 and 2017, respectively. We offer voice-guided, real-time, turn by turn, mobile navigation service under several brand names including Telenav GPS as well as under wireless carrier brands (or "white label" brands). Subscription fee revenue from our mobile navigation service has declined steadily, primarily due to a substantial decrease in the number of paying subscribers for navigation services provided through AT&T and other wireless carriers. We expect that mobile navigation revenue will continue to decline. We have experienced and anticipate that we will continue to experience the non-renewal of our agreements for these services by our wireless carrier customers as demand from their subscribers declines.

We derive mobile navigation services revenue primarily from our wireless carrier customers for their end users' subscriptions to our mobile navigation services. Our wireless carrier customers pay us based on a revenue sharing arrangement or a monthly subscription fee per end user, and they are responsible for billing and collecting the fees they charge their subscribers for the right to use our navigation services. We recognize monthly fees related to our mobile navigation services in the month we provide the services. We defer amounts received or billed in advance of the service being provided and recognize the deferred amounts when the obligation has been fulfilled.

In fiscal 2019, we expect automotive to represent the strategic growth segment of our business, but our expectations may not be realized. We expect that services revenue from wireless carrier customers, which has a higher gross margin than automotive and advertising revenue, will continue to decline substantially in fiscal 2019 due to the continued decline in the number of monthly recurring subscribers.

Revenue concentrations. We generated 85% and 94% of our revenue in the United States in the three months ended September 30, 2018 and 2017, 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. For example, in fiscal 2017, Ford assigned certain contract rights for its production of vehicles with our SYNC 3 products to its joint venture in China. 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, third-party ad inventory, 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. As the deferred revenue and related deferred costs are recognized as we

transfer control of the related performance obligation, 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 such costs are incurred to satisfy performance obligations in the future, provided they are expected to be recovered. We recognize these deferred software development costs as cost of revenue upon transfer of control of the associated performance obligation.

We primarily provide navigation service customer support through a third-party provider to whom we provide training and assistance with problem resolution. In addition, we use outsourced, hosting services and industry standard hardware to provide our navigation services. We generally maintain at least 99.9% uptime every month, excluding designated periods of maintenance. Our internal targets for service uptime are even higher. We have in the past, and may in the future, not achieve our targets for service availability, which could result in penalties for failure to meet contractual service availability requirements or termination of our customer agreement.

The largest component of cost of revenue as it relates to our advertising business is the cost of location-based, third-party advertising inventory which we acquire from advertising exchanges. Other notable costs of our advertising business are the cost of technologies that we license to deliver customized solutions, costs of ad delivery via contracted hosted relationships and the cost of our advertising operations.

While we expect that our services revenue from wireless carrier customers will continue to decline substantially in fiscal 2019 and beyond, we do not expect to be able to reduce our cost of services revenue at the same rate, if at all, as the decline in services revenue. Although we successfully transitioned to utilizing OpenStreetMap, or OSM, content for the majority of our mobile user base resulting in notable cost savings, we expect to continue to incur significant costs, especially related to third-party content as well as for outsourced hosting services. Cost of services revenue related to our advertising business will be impacted by our ability to grow advertising revenue, as well as the cost and availability of display ad inventory sourced from third-party exchanges. 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, advertising sales commissions, payroll taxes, employee benefit costs and stock-based compensation expense. Other expenses include marketing program costs, third-party contractor and temporary staffing services, facilities-related costs including rent expense, legal, audit and tax consulting and other professional service fees. 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 or make offers to settle contingencies, we classify such operating expense amounts separately as legal settlement and contingencies. We anticipate continued investment of resources, including the hiring of additional headcount, or reallocation of employee personnel to automotive and advertising. We may also be required to pay judgments, indemnification claims or other amounts, which we are unable to predict or estimate at this time.

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, commissions earned by our sales personnel and the cost of marketing programs, advertising and promotional activities. Historically, a majority of our revenue has been derived from wireless carriers, which bore much of the expense of marketing and promoting our services to their subscribers, as well as consumers acquired through open

market application stores. More recently, automotive revenue has comprised the largest portion of our revenue and automotive and advertising revenue have represented the growing components of our revenue. Our sales and marketing activities supporting our automotive navigation solutions 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.

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 ability to benefit from the carryback of net operating losses within the carryback period and the available amount therein, if any. 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, or changes in tax laws, regulations, or accounting principles, as well as the expiration and retroactive reinstatement of tax holidays.

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, our judgment is required 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, 2018 as compared to the critical accounting policies and estimates disclosed in Part II, Item 7 of our Annual Report on Form 10-K for fiscal 2018, 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 consolidated financial statements, see Note 1 to our condensed consolidated financial statements, "Summary of business and significant accounting policies."

Results of operations

The following tables set forth our results of operations for the three months ended September 30, 2018 and 2017, as well as a percentage that each line item represents of our total revenue for those periods. The additional key metrics presented are used 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.

*		Three Months Ended			
		September 30,			
			2017		
Consolidated Statements of Operations I	Data	2018	As		
			Adjust	$ted^{(1)}$	
		(in thousa	ands)		
Revenue:					
Product		\$40,471	\$42,63	59	
Services		11,697	14,303	3	
Total revenue		52,168	56,962	2	
Cost of revenue:					
Product		23,930	29,441	l	
Services		7,174	6,382		
Total cost of revenue		31,104	35,823	3	
Gross profit		21,064	21,139)	
Operating expenses:					
Research and development		20,102	20,681	1	
Sales and marketing		4,415	5,064		
General and administrative		5,450	5,211		
Legal settlement and contingencies			250		
Total operating expenses		29,967	31,206	5	
Loss from operations		(8,903)	(10,06	7)	
Other income (expense), net		1,590	(47)	
Loss before provision for income taxes		(7,313)	(10,11	4)	
Provision for income taxes		630	255		
Net loss		\$(7,943)	\$(10,3	369)	
	(as a	n percentag	ge of rev	venue)	
Revenue:					
Product	78	%	75	%	
Services	22	%	25	%	
Total revenue	100	%	100	%	
Cost of revenue:					
Product	46	%	52	%	
Services	14	%	11	%	
Total cost of revenue	60	%	63	%	
Gross profit	40	%	37	%	
Operating expenses:					
Research and development	39	%	37	%	
Sales and marketing	8	%	9	%	
General and administrative	10	%	9	%	
Legal settlement and contingencies		%		%	
Total operating expenses	57	%	55	%	

Loss from operations	(17)%	(18)%
Other income (expense), net	3	%		%
Loss before provision for income taxes	(14)%	(18)%
Provision for income taxes	1	%		%
Net loss	(15)%	(18)%

Comparison of the three months ended September 30, 2018 and 2017

Revenue, cost of revenue and gross profit.

Consolidated overview. Product revenue decreased 5% to \$40.5 million in the three months ended September 30, 2018 from \$42.7 million in the three months ended September 30, 2017. The decrease in product revenue for the comparable three month period was due primarily to a decrease in royalty revenue resulting from a reduction in certain on-board navigation content costs that are passed through to Ford, partially offset by an increase in map update revenue. Services revenue decreased 18% to \$11.7 million in the three months ended September 30, 2018 from \$14.3 million in the three months ended September 30, 2017. The decrease in services revenue for the comparable three month period was due primarily to lower advertising revenue and mobile navigation subscription fees. Our cost of product revenue decreased 19% to \$23.9 million in the three months ended September 30, 2017. The decrease in the comparable three month period was due primarily to a net decrease in third-party content costs. Our cost of services revenue increase in third-party content costs. Our cost of services revenue increase in third-party content costs. Our cost of services revenue increase 12% to \$7.2 million in the three months ended September 30, 2018 from \$6.4 million in the three months ended September 30, 2017. The increase in the comparable three month period was due primarily to a net decrease in the comparable three month period was due primarily to an increase in the comparable three month sended September 30, 2017. The increase in the comparable three month period was due primarily to an increase in the comparable three month period was due primarily to an increase in the comparable three month period was due primarily to an increase in the comparable three month period was due primarily to an increase in the comparable three month period was due primarily to an increase in the comparable three month period was due primarily to an increase in the comparable three month period was due primarily to an increase in the comparable three month

Our gross profit was comparable at \$21.1 million in the three months ended September 30, 2018 and 2017. Our gross margin increased to 40% in the three months ended September 30, 2018 from 37% in the three months

ended September 30, 2017. The increase in gross margin for the comparable three month period was due primarily to a reduction in certain on-board navigation content costs that are passed through to Ford.

Revenue concentrations. In the three months ended September 30, 2018 and 2017, revenue from Ford represented 60% and 73% of our total revenue, respectively, and revenue from GM comprised 13% and less than 10% of our total revenue, respectively.

We primarily sell our services in the United States. In the three months ended September 30, 2018 and 2017, revenue derived from U.S. sources represented 85% and 94% of our total revenue, respectively.

Segments information. The information below is organized in accordance with our three reportable business segments: Three Months Ended

	I hree Months Ended			
	September 30,			
			2017	
	2018		As	
			Adjusted	(1)
	(in thousands, except			
	percentag	ges	s)	
Automotive				
Revenue	\$43,451		\$45,608	
Cost of revenue	26,959		30,861	
Gross profit	\$16,492		\$14,747	
Gross margin	38	%	32	%
Advertising				
Revenue	\$5,947		\$7,615	
Cost of revenue	3,220		3,412	
Gross profit	\$2,727		\$4,203	
Gross margin	46	%	55	%
Mobile Navigation				
Revenue	\$2,770		\$3,739	
Cost of revenue	925		1,550	
Gross profit	\$1,845		\$2,189	
Gross margin	67	%	59	%
Total				
Revenue	\$52,168		\$56,962	
Cost of revenue	31,104		35,823	
Gross profit	\$21,064		\$21,139	
Gross margin	40	%	37	%
⁽¹⁾ Certain amounts have been adjusted to				
reflect the adoption of ASC 606. See Note 1				

to our condensed consolidated financial

statements for a summary of adjustments.

Automotive. Automotive revenue decreased 5% to \$43.5 million in the three months ended September 30, 2018 from \$45.6 million in the three months ended September 30, 2017. The decrease in the comparable three month period was due primarily to a decline in royalty revenue of \$2.6 million partially offset by an increase in map update revenue of \$0.6 million. The decrease in on-board royalty revenue was due primarily to a reduction in certain on-board navigation content costs that are passed through to Ford, despite an increase in navigation unit volume across our automotive customer base. Automotive revenue included customized software development and map update revenue of \$1.0 million and \$1.1 million in the three months ended September 30, 2018 and 2017, respectively. Automotive revenue represented 83% and 80% in the three months ended September 30, 2018 and 2017, respectively. Cost of automotive revenue decreased 13% to \$27.0 million in the three months ended September 30, 2018 from \$30.9 million in the three months ended September 30, 2017. The decrease in the comparable three month period was due primarily to a net decrease in third-party content costs of \$3.5 million due primarily to a reduction in certain on-board navigation content costs that are passed through to Ford, partially offset by an increase in content costs associated with increased map update revenue, as well as a decrease of \$1.5 million in deferred development costs recognized. These decreases were partially offset by a \$0.2 million increase in hosted services costs and a \$0.7 million increase in costs related to software maintenance services performed by engineering personnel. In prior periods, such maintenance costs were allocated entirely to research and development expense.

Automotive gross profit increased 12% to \$16.5 million in the three months ended September 30, 2018 from \$14.7 million in the three months ended September 30, 2017. Automotive gross margin increased to 38% in the three months ended September 30, 2018 from 32% in the three months ended September 30, 2017. The increase in gross margin for the comparable three month period was due primarily to the aforementioned reduction in certain on-board navigation content costs that are

passed through to Ford, partially offset by a decrease in gross margin resulting from increased map update revenue, which carries a higher relative cost and lower gross margin.

Advertising. Advertising revenue decreased 22% to \$5.9 million in the three months ended September 30, 2018 from \$7.6 million in the three months ended September 30, 2017. The decrease in the comparable three month period was due primarily to a decrease in the value of contracted insertion orders along with the number of impressions delivered. Advertising revenue represented 11% and 13% of total revenue in the three months ended September 30, 2018 and 2017, respectively.

Cost of advertising revenue decreased 6% to \$3.2 million in the three months ended September 30, 2018 from \$3.4 million in the three months ended September 30, 2017. The decrease in the comparable three month period was due primarily to decreased third-party ad exchange inventory costs of \$0.2 million, and costs decreased at a lower rate than revenue due to higher relative costs as measured on an effective cost per thousand impressions, or eCPM, basis. Advertising gross profit decreased 35% to \$2.7 million in the three months ended September 30, 2018 from \$4.2 million in the three months ended September 30, 2017. Advertising gross margin decreased to 46% in the three months ended September 30, 2018 from 55% in the three months ended September 30, 2017. The decrease in gross margin in the comparable three month period was due primarily to the decreased value of contracted insertion orders, combined with a higher ad inventory eCPM and the effect of certain fixed costs spread over a lower revenue base.

Mobile Navigation. Mobile navigation revenue decreased 26% to \$2.8 million in the three months ended September 30, 2018 from \$3.7 million in the three months ended September 30, 2017. The decrease in the comparable three month period was due primarily to lower subscription revenue resulting from decreases in the number of paying subscribers for mobile navigation services provided through AT&T, and a decrease in mobile navigation revenue represented 5% and 7% of total revenue in the three months ended September 30, 2018 and 2017, respectively.

Cost of mobile navigation revenue decreased 40% to \$0.9 million in the three months ended September 30, 2018 from \$1.6 million in the three months ended September 30, 2017. The decrease in the comparable three month period was due primarily to decreases in third-party content costs of \$0.3 million, hosted services costs of \$0.2 million and payroll and related compensation and benefits expense of \$0.1 million associated with the decline in mobile navigation revenue.

Mobile navigation gross profit decreased 16% to \$1.8 million in the three months ended September 30, 2018 from \$2.2 million in the three months ended September 30, 2017. Mobile navigation gross margin increased to 67% in the three months ended September 30, 2018 from 59% in the three months ended September 30, 2017. The increase in gross margin resulted primarily from decreased hosted services costs and headcount required to support the declining business.

Operating expenses

Our total operating expenses decreased 4% to \$30.0 million in the three months ended September 30, 2018 from \$31.2 million in the three months ended September 30, 2017. The decrease in the comparable three month period was due primarily to cost optimization, including lower compensation costs resulting from a redesigned employee incentive compensation plan that more closely aligns compensation payouts with financial results, partially offset by higher base compensation driven by merit-based salary increases on generally flat headcount. In addition, costs decreased as a result of the allocation to cost of services revenue of certain software maintenance costs previously allocated to research and development expense, as discussed above in Automotive results of operations.

Research and development. Our research and development expenses decreased 3% to \$20.1 million in the three months ended September 30, 2018 from \$20.7 million in the three months ended September 30, 2017. The decrease in the comparable three month period was due primarily to decreases in payroll and related compensation and benefits expense of \$0.9 million, software maintenance costs of \$0.7 million allocated to cost of services revenue as discussed above, outside consulting services of \$0.6 million, and travel and entertainment expense of \$0.4 million. These decreases were partially offset by an increase of \$1.5 million as a result of lower capitalized deferred development costs in the three months ended September 30, 2018, and an increase of \$0.6 million in rent and depreciation expense, due to a one-time reversal of deferred rent and recognition of a tenant improvement allowance

realized in the three months ended September 30, 2018 in connection with the termination of our Santa Clara facility sublease. As a percentage of revenue, research and development expenses increased to 39% in the three months ended September 30, 2018 from 37% in the three months ended September 30, 2017 as a result of a lower revenue base. The total number of research and development personnel decreased 1% to 641 at September 30, 2018 from 645 at September 30, 2017. We believe that as we deliver our contracted customer requirements for our automotive customers, establish relationships with new automobile manufacturers and tier ones, enhance our service offerings around our OSM capabilities, and develop new products and services for advertisers, revenue from those research and development efforts will lag the related expenses.

Sales and marketing. Our sales and marketing expenses decreased 13% to \$4.4 million in the three months ended September 30, 2018 from \$5.1 million in the three months ended September 30, 2017. The decrease in the comparable three month period was due primarily to decreases in payroll and related compensation and benefits expense of \$0.5 million, stock-based compensation expense of \$0.1 million and outside services costs of \$0.1 million. As a percentage of revenue, sales and marketing expenses decreased to 8% in the three months ended September 30, 2018 from 9% in the three months ended September 30, 2017. The total number of sales and marketing personnel decreased 10% to 55 at September 30, 2018 from 61 at September 30, 2017.

General and administrative. Our general and administrative expenses increased 5% to \$5.5 million in the three months ended September 30, 2018 from \$5.2 million in the three months ended September 30, 2017. The increase in the comparable three month period was due primarily to an increase in outside services of \$0.2 million. As a percentage of revenue, general and administrative expenses increased to 10% in the three months ended September 30, 2018 from 9% in the three months ended September 30, 2017. The total number of general and administrative personnel increased 3% to 60 at September 30, 2018 from 58 at September 30, 2017.

Legal settlement and contingencies. We incurred \$250,000 in legal settlement and contingencies expense for the three months ended September 30, 2017 related primarily to the settlement of the Location Based Services LLC patent matter.

Other income (expense), net. Our other income (expense), net increased to \$1.6 million in the three months ended September 30, 2018 compared to \$47,000 in the three months ended September 30, 2017. The increase in the comparable three month period was due primarily to an unrealized gain of \$1.3 million recorded on non-marketable equity investments resulting from a change in accounting for such investments due to our adoption of ASU 2016-01 effective July 1, 2018.

Provision for income taxes. Our provision for income taxes was \$0.6 million in the three months ended September 30, 2018 compared to \$0.3 million in the three months ended September 30, 2017. Our provision for income taxes of \$0.6 million and \$0.3 million for the three months ended September 30, 2018 and 2017, respectively, was comprised primarily of foreign withholding taxes and income taxes in foreign jurisdictions where we have profit. Our effective tax rate of 9% and 3% for the three months ended September 30, 2018 and 2017, respectively, was less 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 they are not more likely than not to be realized due to the lack of current and future income and the inability to carry back losses within the two-year carryback period, when applicable.

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, 2018 and June 30, 2018, our cumulative unrecognized tax benefits were \$4.7 million and \$3.8 million, respectively. Included in the balance of unrecognized tax benefits at September 30, 2018 and June 30, 2018 was \$0.2 million and \$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 \$0.1 million and \$0.1 million for the payment of interest and penalties at September 30, 2018 and June 30, 2018.

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 2016 for federal tax purposes, from fiscal 2014 in state jurisdictions, and from fiscal 2013 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, 2018 was \$58.3 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.

Liquidity and capital resources

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

	Three Months
	Ended
	September 30,
	2018 2017
Net cash used in operating activities	\$(2,293) \$(3,788)
Net cash provided by investing activities	141 1,056
Net cash used in financing activities	(1,182) (905)
Effect of exchange rate changes on cash and cash equivalents	(239) 345
Net decrease in cash, cash equivalents and restricted cash	\$(3,573) \$(3,292)

At September 30, 2018, we had cash, cash equivalents and short-term investments of \$81.3 million, which primarily consisted of corporate bonds, asset-backed securities, U.S. treasury securities, commercial paper and municipal 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, 2018, our accounts receivable balance was \$47.0 million, of which Ford and GM represented 50% and 16%, 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 2019 and beyond, whether and when we return to profitability, 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, we expect to continue to use cash in operating activities in the remainder of fiscal 2019 and we may experience greater than expected cash usage in operating activities 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, two of which we are substantially dependent upon for a large portion of our revenue, were to limit or terminate our relationships with them, we were to fail to successfully compete in our highly competitive market, our revenue did not grow as expected or we were unable to reduce our costs by using OSM. 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 used in operating activities. Net cash used in operating activities was \$2.3 million and \$3.8 million in the three months ended September 30, 2018 and 2017, respectively. Cash provided by or used in operating activities is affected by changes in our declining mobile navigation end user base, anticipated growth in our automotive and advertising businesses, 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, 2018, cash used in operating activities was primarily the result of a net loss of \$7.9 million and an unrealized gain on non-marketable equity investments of \$1.3 million, which were partially offset by non-cash charges for stock-based compensation of \$2.3 million, depreciation and amortization of \$1.0 million and \$3.6 million from changes in our operating activities was primarily the result of a net loss of \$7.9 million and stock-based compensation of \$2.5 million, depreciation and amortization of \$1.0 million and \$3.6 million from changes in our operating activities was primarily the result of a net loss of \$10.4 million, which was offset by non-cash charges for stock-based compensation of \$2.5 million, depreciation of \$0.7 million and \$4.4 million from changes in our operating assets and liabilities.

Net cash provided by investing activities. Our investing activities provided \$0.1 million and \$1.1 million during the three months ended September 30, 2018 and 2017, 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, 2018, cash provided by investing activities was principally the result of proceeds from sales and maturities of short-term investments, net of purchases, of \$0.2 million, partially offset by purchases of property and equipment of \$0.1 million. In the three months ended September 30, 2017, cash

provided by investing activities was principally the result of proceeds from sales and maturities of short-term investments, net of purchases, of \$3.3 million, partially offset by purchases of property and equipment of \$2.3 million. Net cash used in financing activities. During the three months ended September 30, 2018 and 2017, our financing activities used cash of \$1.2 million and \$0.9 million, respectively. In the three months ended September 30, 2018, we utilized \$1.2 million for payment of tax withholdings related to net share settlements of RSUs. In the three months ended September 30, 2017, we utilized \$1.1 million for payment of tax withholdings related to net share settlements of RSUs. In the three months ended September 30, 2017, we utilized \$1.1 million for payment of tax withholdings related to net share settlements of RSUs. Settlements of RSUs, which was partially offset by cash of \$0.2 million provided from the exercise of stock options.

We do not have any relationships with unconsolidated organizations or financial partnerships, such as structured finance or special purpose entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

Contractual obligations, commitments and contingencies

As of September 30, 2018, we had an aggregate of \$22.6 million of future minimum non-cancelable financial commitments primarily related to office space under non-cancelable operating leases and license fees due to certain of our third-party content providers, regardless of usage level. The aggregate of \$22.6 million of future minimum commitments were comprised of \$6.0 million due in fiscal 2019; \$5.6 million due in fiscal 2020; \$4.0 million due in fiscal 2021; \$3.1 million due in fiscal 2022; \$2.6 million due in fiscal 2023; and \$1.3 million due thereafter.

Item 3. Quantitative and Qualitative Disclosures about Market Risk.

Interest rate sensitivity. The primary objectives of our investment activities are to preserve principal, provide liquidity and maximize income without significantly increasing risk. By policy, we do not enter into investments for trading or speculative purposes. Some of the securities we invest in are subject to market risk. This means that a change in prevailing interest rates may cause the fair value of the investment to fluctuate. To minimize this risk, we invest in a variety of securities, which primarily consist of money market funds, commercial paper, municipal securities and other debt securities of domestic corporations. Due to the nature of these investments and relatively short duration of the underlying securities, we believe that we do not have any material exposure to changes in the fair value of our investment portfolio as a result of changes in interest rates. Declines in interest rates, however, will reduce future interest income. During the three months ended September 30, 2018, a 10% appreciation or depreciation in overall interest rates would not have had a material impact on our interest income or the fair value of our marketable securities.

Foreign currency risk. A substantial majority of our revenue has been generated to date from our end users and customers in the United States and, as such, our revenue has not been substantially exposed to fluctuations in currency exchange rates. However, some of our contracts with our wireless carrier customers outside of the United States are denominated in currencies other than the U.S. dollar and therefore expose us to foreign currency risk. Should the revenue generated outside of the United States grow in absolute amounts and as a percentage of our revenue, we will increasingly be exposed to foreign currency exchange risks. In addition, a substantial portion of our operating expenses are incurred outside the United States, are denominated in foreign currencies and are subject to changes in foreign currency exchange rates, particularly the Euro, RMB and RON. We also recognize foreign exchange gains and losses resulting from the translation of an intercompany loan receivable held by our German subsidiary and denominated in U.S. dollars. Additionally, changes in foreign currency exchange rates may cause us to recognize transaction gains and losses in our statement of operations.

To date, we have not used any foreign currency forward contracts or similar instruments to attempt to mitigate our exposure to changes in foreign currency rates.

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, 2018. 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, 2018, 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 that occurred during the three months ended September 30, 2018 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.

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 business. We have received, and may in the future continue to receive, claims from third parties asserting infringement of their intellectual property rights. Future 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. There can be no assurance 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.

On July 28, 2016, Nathan Gergetz filed a putative class action complaint in the U.S. District Court for the Northern District of California, alleging that Telenav violated the Telephone Consumer Protection Act, or TCPA. The complaint purported to be filed on behalf of a class, and it alleged that Telenav caused unsolicited text messages to be sent to the plaintiff from July 6, 2016 to July 26, 2016. Plaintiffs sought statutory and actual damages under the TCPA law, attorneys' fees and costs of the action, and an injunction to prevent any future violations. A settlement was subsequently reached, and the plaintiff filed a motion for preliminary approval of class action settlement on March 5, 2018. The court granted preliminary approval of the class action settlement on April 30, 2018 and final approval of the settlement on September 27, 2018. The settlement became effective on October 30, 2018 and was paid by our technology errors and omissions liability insurance policy, after payment of our deductible of \$250,000. We accrued the \$250,000 deductible payment in fiscal 2018.

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. A number of these indemnity demands, including demands relating to pending litigation, remain outstanding and unresolved as of the date of this Form 10-Q. 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. At this time, we are not a party to the following cases; however, our customers requested that we indemnify them in connection with such cases.

In August 2017, AT&T Mobility LLC, or AT&T, and Sprint Spectrum L.P., or Sprint, sent Telenav indemnification requests relating to patent infringement lawsuits brought by Location Based Services LLC, alleging patent infringement by the AT&T Navigator system and App for iOS and Android, and the Sprint Scout System and the Sprint Scout App for iOS and Android. Location Based Services LLC filed separate lawsuits against AT&T and Sprint in the U.S. District Court for the Eastern District of Texas, asserting five U.S. Patents. Telenav agreed to indemnify and defend AT&T and Sprint in connection with these matters. We accrued \$250,000 related to these matters in the three months ended September 30, 2017, and recorded this amount as legal settlement and contingencies expense in our consolidated statement of operations. On November 22, 2017, Location Based Services LLC entered into a Settlement and License Agreement with Telenav for the patents in suit and 15 other patents assigned to Location Based Services LLP.

In November 2017, Traxcell Technologies, LLC, or Traxcell, filed patent infringement lawsuits against AT&T and Sprint in the U.S. District Court for the Eastern District of Texas. On November 9, 2017, AT&T tendered control of the defense of one of the patents alleged to be infringed upon in the case and sought indemnification for the entire amount of litigation expenses related to the patent and Telenav products, including discovery, defensive intellectual property rights and any judgment rendered in, or settlement of, the lawsuit. Telenav has not accepted tender of the defense. Although we have agreed to indemnify AT&T to the extent that the claims relate to the ordinary use of Telenav products, we have not yet determined the extent of our indemnification obligations to AT&T. On April 12, 2018, Traxcell served its infringement contentions, identifying Telenav products as being at issue in the AT&T litigation. On August 14, 2018, we filed a motion to intervene and stay or sever the claims against AT&T

related to AT&T Navigator. On September 11, 2018, Traxcell filed a response to that motion objecting only to our motion to stay or sever. On November 7, 2018, the court granted our motion to intervene but did not rule on our motion to stay or sever, which is still pending before the court.

On June 15, 2018, Telenav filed a complaint against Traxcell seeking a declaratory judgment of non-infringement against the plaintiff. On August 31, 2018, Traxcell filed a motion to dismiss the declaratory judgment complaint asserting that there is no actual controversy because Traxcell does not assert that the AT&T product by itself infringes the patent. The motion is pending before the court.

Due to the preliminary nature of and uncertainties relating to the Traxcell litigation, we are unable at this time to estimate the effects of these matters on our financial condition, results of operations, or cash flows. While we presently believe that the ultimate outcome of these proceedings, individually and in the aggregate, will not materially harm our financial position, cash flows or overall trends in results of operations, legal proceedings are subject to inherent uncertainties and unfavorable rulings could occur. Nevertheless, were unfavorable final outcomes to occur, there exists the possibility of a material adverse impact on our business, financial position, cash flows or overall trends in results of operations.

Large future indemnity payments and associated legal fees and expenses, including potential indemnity payments and legal fees and expenses relating to our wireless carrier and other customers' indemnity demands with respect to pending litigation, could materially harm our business, operating results and financial condition. When we believe a loss or a cost of indemnification is probable and can be reasonably estimated, we accrue the estimated loss or cost of indemnification in our consolidated financial statements. Where the outcome of these matters is not determinable, 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. Although to date we have not agreed to defend or indemnify our customers for outstanding and unresolved indemnity demands where we do not believe we have an obligation to do so or that our solution infringes on asserted intellectual property rights, we may in the future agree to defend and indemnify our customers in connection with demands for indemnification, irrespective of whether we believe that we have an obligation to indemnify them or whether we believe our solution infringes the asserted intellectual property rights. Alternatively, we may reject certain of our customers' indemnity demands, including the outstanding demands, which may lead to disputes with our customers, negatively impact our relationships with them or result in litigation against us. Our wireless carrier or other customers may also claim that any rejection of their indemnity demands constitutes a material breach of our agreements with them, allowing them to terminate such agreements. If we make substantial payments as a result of indemnity demands, our relationships with our customers are negatively impacted, or any of our customer agreements is terminated, our business, operating results and financial condition could be materially harmed.

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. 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, the trading price of our securities could decline, and you may lose all or part of your investment.

Risks related to our business

We incurred losses in each period since fiscal 2015. We expect that we will incur losses during fiscal 2019, and we do not know when, or if, we will return to profitability as we make further expenditures to enhance and expand our operations in order to support growth and diversification of our business.

As a percentage of revenue, our net loss was 15% and 18% in the three months ended September 30, 2018 and 2017, respectively. Our revenue from paid wireless carrier mobile navigation has substantially declined and we expect it to continue to do so, and we may be unable to generate sufficient revenue from our automotive navigation and advertising businesses to return Telenav to profitability in the short-term, if at all.

We anticipate that we will continue to incur net operating losses during fiscal 2019. These expected losses are also due to the expected continued decline in our higher margin mobile navigation revenue and 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 contribute to these expected 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 CarPlay or Google's Android Auto.

Although we are working to replace the continued decline in wireless carrier revenue, 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 relationship with GM. In addition, the revenue commencement 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 has only launched in select vehicle models and we do not have any control over when and whether it launches in other GM models.

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 intend to make additional investments in systems and continue to expand our operations to support diversification of our business, but it is likely that these efforts at diversification will not replace our declining wireless carrier revenue in the short-term, if at all. As a result of these factors, we believe we will incur a net operating loss and we will incur net losses during fiscal 2019, and we cannot predict when, or if, we will return to profitability. Our investments and expenditures may not result in the growth that we anticipate. 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. 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 ability of automobile manufacturers to sell automobiles equipped with our products; 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;

the recent 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 potentially European, passenger car portfolio whereby it has begun phasing out certain car models;

the seasonality and unpredictability of new vehicle production, including tooling and assembly changes and plant shutdowns, such as the impact to production of certain Ford pickup truck models in U.S. factories due to a May 2018 fire at a supplier plant;

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 recent demonstration by Google of in-car integration of Android Auto with Google Maps which did not require a mobile handset;

investments made by HERE North America, LLC, or HERE, and TomTom North America, Inc., 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, particularly outside of the United States;

the impact of tariffs and other trade negotiations on vehicle 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 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 or acquisition 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 the recent rise 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;

changes in our effective tax rates; and

the impact of new accounting pronouncements such as ASC 606.

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 rapidly and we could face costly securities class action lawsuits or other unanticipated issues.

We are dependent on Ford and GM for a substantial portion of our billings and revenue, and our business, financial condition and results of operations will be harmed if our billings and revenue from Ford and GM do not continue to grow or decline.

Ford represented approximately 60% and 73% of our revenue and approximately 54% and 68% of our billings in the three months ended September 30, 2018 and 2017, respectively. GM represented approximately 13% and less than 10% of our revenue and approximately 17% and less than 10% of our billings in the three months ended September 30, 2018 and 2017, respectively. During the first quarter of fiscal 2019, we experienced a decline in billings as compared to the first quarter of fiscal 2018 due primarily to a reduction in certain content costs that are passed through to Ford. We expect that Ford, GM, other automobile manufacturers and tier ones will account for an increasing portion of our revenue and billings, as our revenue and billings from paid wireless carrier provided navigation continues to decline. However, our revenue and billings could potentially decline if Ford or GM increases the cost to consumers of our navigation product, reduces the number of vehicles or the geographies in which vehicles with our product as an option are sold, or its sales of vehicles fall below forecast due to competition, global macro-economic conditions or other factors. Ford offers Apple's CarPlay and Google's Android Auto on its vehicles in North America equipped with its SYNC 3 platform and recently announced that Waze is available on its vehicles equipped with the SYNC 3 platform, which may reduce the number of vehicle purchasers who purchase built-in navigation services. GM also offers Apple's CarPlay and Google's Android Auto on most of its vehicles in North America. We may not successfully increase our revenue and billings from Ford or GM if our products are replaced within vehicles by Ford or GM with our competitors' products or from price competition from third parties. Moreover, Ford announced its intention to modify its North American passenger car portfolio strategy and has begun phasing out certain car models, and it recently indicated that it is also considering changes in its European portfolio strategy. This could lead to a significant reduction in the sales of vehicles with our products as an option. We may not be able to mitigate the effect of any lost billings and 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.

Our contract with Ford covers a broad range of products and services that we provide to Ford. On December 14, 2017, Ford awarded to Telenav a further extension of the Ford Agreement to December 31, 2020 for each jurisdiction in which we currently provide our products to Ford, subject to certain conditions and execution of a subsequent amendment to the Ford Agreement. The subsequent amendment was executed in March 2018. On December 14, 2017, Ford also selected us to provide its next generation navigation solution in North America, subject to certain conditions and execution of an agreement regarding those solutions. Although we have been awarded these programs, in the course of negotiating definitive agreements for the programs, the terms and conditions of the programs, including the pricing, the length of the programs and geographic scope of the programs, may change. We were not awarded the contracts for Europe, South America and Australia and New Zealand. 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.

Our contract with GM includes the provision of our on-board, hybrid, and brought-in navigation solutions across a wide assortment of GM vehicles. Our mobile navigation SDK powers GM's branded mobile and web-based applications and is covered under a services agreement that was entered into June 13, 2014 and extends to December 31, 2019. Our on-board and hybrid navigation solutions for GM are covered under a product and services agreement that became effective February 1, 2017. These solutions began shipping in a limited number of vehicles beginning with model year 2017 and are gradually expanding across additional regions and models. In May 2017, additional vehicles through model year 2025 were added to this products and services agreement, which terminates on December 31, 2026.

In addition, a substantial portion of our revenue and billings and, to a lesser extent, gross profit from Ford is impacted by the underlying licensed content cost negotiated through HERE and other content providers. We cannot predict the impact on our revenue, billings, and gross profit of any changes between the automobile manufacturers and the map or other content providers.

We have limited experience managing, supporting and retaining automobile manufacturers and tier ones as customers and if we are not able to maintain Ford and GM as customers our revenue will decline.

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. Such obligations related to earned royalties generally can include an onboard 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 the services obligation is expected to be fulfilled, which is generally 8 to 12 years, as 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, such as 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 revenue recognition. 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 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 recognition of revenue, or the need 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 continue to be recognized upon acceptance of the software under ASC 340-40 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, since software development does not represent a distinct performance obligation in the case of brought-in automotive solutions. Historically, we recognized such costs for brought-in automotive solutions upon acceptance of the software.

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

Expanding our initial automotive entry in the Chinese market is an important component of our global growth strategy. The automotive software market in China is 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 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 expand into 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 arrangements, such as our more recently established relationships with Toyota and FCA, customers may not elect to purchase automobile manufacturer and tier one navigation offerings that include our software and/or services 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 anticipated, 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 substantially longer than those associated with our mobile navigation services to customers of wireless carriers or our advertising platform services. 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. For example, design wins for vehicles may be awarded 12 to 36 months prior to the anticipated commercial launch of the vehicle. We also entered into a contract with GM in 2014 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. 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. GM has not provided us with any volume or revenue guarantees, and we cannot assure you that we will continue to receive material revenue from these products and services.

We have a partnership with Toyota for Toyota and Lexus vehicles and a separate partnership with Xevo for another navigation solution for Toyota and Lexus vehicles. While we have seen expansion of our latest version of Scout GPS Link solution across more Toyota and Lexus models in 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 recently announced it is offering across certain Toyota models, and the expanded offering of Google's Android Auto solution across more automobile manufacturers. 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, auto 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 map, POI and other content costs for our automotive navigation solutions are higher than those we have historically paid for our mobile phone-based navigation services and to date we have not been able to use OSM offerings for automotive navigation, other than our Scout GPS Link mobile application for Toyota. 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 and TomTom, are also becoming competitors through the offering of their own automotive navigation services.

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, 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, parts shortages and work stoppages, as well as general economic conditions. For example, in May 2018, Ford ceased production of certain of its pickup trucks for several weeks due to a fire at a third-party supplier.

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. 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.

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 advertising services depend on our ability to collect, store and use information related to mobile devices and the ads we place, including a device's geographic location for the purpose of targeting ads to the user of the device. Our automotive navigation services also 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 mobile advertising and navigation platforms. 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 practices. 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, require us to change our advertising services or disclosures, adversely affect the demand for our services and ultimately result in the imposition of monetary liability. 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.

The regulatory framework for privacy issues worldwide is still evolving. For example, the European Union's ("EU") General Data Protection Regulation ("GDPR") took effect in May 2018. The GDPR replaces 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. Complying with the GDPR may cause us to incur substantial operational costs or require us to change our business practices. Despite our efforts to bring practices into compliance before the effective date of the GDPR, we cannot assure you that we are fully compliant. The GDPR imposes significant penalties of up to the greater of 4% of worldwide turnover and €20 million for breaches of data protection rules. As a result, we may be subject to fines and penalties, litigation, reputational harm and our business may be seriously harmed if we fail to protect the privacy of third-party data or to comply with the GDPR or other applicable regimes. 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, collection or use of data to target ads 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, our reputation may suffer, and we could lose relationships with advertiser or developer partners.

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

There have been ongoing discussions and commentary regarding potential significant changes to the United States trade policies, treaties, tariffs and taxes, including trade policies and tariffs regarding China. Earlier this year, the Office of the U.S. Trade Representative, or the USTR, enacted tariffs on imports into the U.S. from China. In September 2018, the USTR enacted another tariff on the import of other Chinese products with an additional combined import value of approximately \$200 billion. The tariff became effective on September 24, 2018, with an initial rate of 10% until the end of the year when they are expected to increase to 25%. The current administration, along with 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. If significant tariffs or other restrictions are placed on Chinese imports or any related counter-measures are taken by China, our revenue and results of operations may be materially harmed. Furthermore, current or future tariffs imposed by the U.S. may also 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 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 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.

The advertising business is subject to seasonality, and we may not successfully grow our advertising revenue if we are unable to attract and retain advertisers.

We believe the advertising business is subject to varying buying patterns and seasonality, which can impact our ability to grow our revenue. For example, in the three months ended December 31, 2017, 2016 and 2015, we experienced higher advertising revenue as the second quarter is traditionally stronger due to seasonality; however, advertising revenue subsequently declined sequentially in the three months ended March 31, 2018, 2017 and 2016. In fact, our advertising revenue in the three months ended March 31, 2018 was the lowest it had been for any quarter in the last three years.

In order to grow our advertising business, we need to identify and attract a significant number of advertisers through our Thinknear platform. The mobile advertising market is highly competitive, and advertisers have many options through which to purchase mobile advertising. Our business will require us to attract and retain a large number of advertisers and will also require us to maintain the ability to purchase a large volume of inventory at competitively attractive rates. Increased competition from other mobile advertising companies and technology developers could impair our ability to secure advertiser revenue. Increased competition could also limit our ability to purchase inventory for advertising placements at an economically attractive rate. We do not have substantial experience in selling advertising and supporting advertisers and may not be able to develop these capabilities successfully. We may not be successful in retaining experienced sales personnel or recruiting the number of sales personnel we need to scale or effectively train them to sell mobile advertising. Sales personnel may also be slow to ramp up their sales pipelines, negatively impacting our ability to grow. We may not succeed in attracting and retaining a critical mass of advertisers and ad placements and may not be successful in demonstrating the value of mobile advertising. If we are unable to improve the margins of our advertising business, it may not become profitable and may impair our ability to invest in new opportunities or become profitable as a whole.

Mobile connected device users may choose not to allow tracking of their location information and therefore local advertising may not be feasible on their devices.

The growth of our advertising revenue will depend on our ability to deliver location targeted, highly relevant ads to consumers on their mobile connected devices. Our targeted advertising is highly dependent on the consumers allowing applications to have access to their location data. Users may elect not to allow location data sharing for a number of reasons, including personal privacy concerns. Mobile operating systems vendors and application developers are also promoting features that allow device users to disable device functionality that consumers may elect to invoke. In addition, companies may develop products that enable users to prevent ads from appearing on their mobile device screens. If any of these developments were to become widely used by consumers, our ability to deliver effective advertising campaigns on behalf of our advertiser clients would suffer, which could hurt our ability to generate advertising revenue.

Our legacy wireless carrier mobile navigation business is declining and may be eliminated altogether in the future. As it continues to decline, our revenue and net income or loss will continue to be adversely affected.

Although we historically received a majority of our revenue from wireless carriers whose subscribers received our services through bundles or by purchasing our navigation services, consistent with industry trends, our wireless carrier revenue has declined significantly. In the last three fiscal years, wireless carrier subscribers have materially decreased their subscriptions for, and usage of, our paid navigation services and our revenue from our relationship with wireless carriers has declined accordingly. We anticipate that wireless carrier subscribers will continue to decrease their subscriptions for paid navigation services in favor of free or freemium offerings and that revenue from our relationship with wireless carriers will continue to decline and may be eliminated altogether in the future. In the event that our mobile navigation business ceases to be profitable or we determine that it diverts resources from growing areas of our business, we may ultimately elect to terminate our legacy wireless carrier mobile navigation business. In addition, our wireless carrier customers may determine that the cost of offering our service to their subscribers outweighs the benefits and may decide to terminate our business relationship. Our other sources of revenue from our location-based platforms, including automotive navigation and location-based advertising, have substantially lower margins than wireless carrier mobile navigation revenue and, as a result, we would have to generate substantially more revenue from those services to replace the declining wireless carrier revenue.

Our customer requirements and content management obligations are complex. If we inadvertently include content for which we have liability to the vendor but may not be entitled to payment from our customer, our financial condition and results of operation could be harmed.

The nature and extent of content that is delivered as part of our navigation solutions is complex to manage. Matching the requirements of our customers with the content offered by our vendors may result in our inclusion of content which we believe is necessary to meet our customers' requirements for which the customer may not have agreed to make payment to us. In addition, our customers speak directly to our vendors and often those conversations influence the expected content for our end products; however, customers may not be fully informed as to the license costs

associated with the various components. Therefore, there is some risk that we may include content for which we have liability to the vendor but may not be entitled to payment from our customer. If these situations were to occur, our business, financial condition and results of operations could be adversely affected.

We face intense competition in our market, especially from competitors that offer their mobile 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 mobile 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. If our wireless carrier customers can offer these mobile location services to their subscribers for free, they may elect to cease their relationships with us, similar to Sprint, alter or reduce the manner or extent to which they market or offer our services or require us to substantially reduce our fees or pursue other business strategies that may not prove successful. In addition, new car buyers may not value navigation solutions built in to their vehicles if they believe that free (brought-in) offerings, such as Apple 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. While we have seen expansion of our latest version of Scout GPS Link solution across more Toyota and Lexus models in 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 recently 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 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. We compete in the advertising network services business with mobile platform providers, including Google, Facebook, Inc., AOL Inc., Oath, Inc., GroundTruth, Inc., Verve Wireless, Inc., PlaceIQ, Inc. and NinthDecimal, Inc., among others. 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, tier one, advertising agency and advertiser 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 acquisitions successfully, our operating results and prospects could be harmed. In the future, we may make acquisitions to improve 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. Mergers and acquisitions are inherently risky, and any mergers and acquisitions we complete may not be successful. Future mergers and acquisitions we may pursue would involve, numerous risks, including the following:

difficulties in integrating and managing the operations, technologies and products of the companies we acquire, that are geographically remote from our existing operations;

• 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; our inability to retain key personnel of the companies 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 to offset our increased expenses associated with acquisitions;

our responsibility for the liabilities of the businesses we acquire, including those which we may not anticipate; and our inability to maintain internal standards, controls, procedures and policies.

We may be unable to secure the equity or debt funding necessary to finance future acquisitions 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, 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.

We may be required to recognize a significant charge to earnings if our goodwill or other intangible assets become impaired.

We have recorded goodwill related to our prior acquisitions and may do so in connection with any potential future acquisitions. Goodwill and other intangible assets with indefinite lives are not amortized, but are reviewed for impairment annually or on an interim basis whenever events or changes in circumstances indicate that the carrying value of these assets may not be recoverable. Factors that may indicate that the carrying value of our goodwill or other intangible assets 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 or other intangible assets is determined, which would adversely impact our results of operations. We report results in three business segments, which requires the allocation of goodwill and intangibles to each of these segments. As a result, we conduct our impairment review each year or on an interim basis by segment, which can result in a different outcome than if assessed on an overall consolidated basis. For example, during the three months ended March 31, 2018, certain mobile navigation customer contracts were amended and certain other customers indicated their intent with respect to terminating services in the near term. Based upon a qualitative assessment indicating that it was more likely than not that the fair value of the mobile navigation reporting unit was less than its carrying value, we performed an interim goodwill impairment test for our mobile navigation segment during the three months ended March 31, 2018. Based on the results of our test, the carrying value of our mobile navigation business exceeded its estimated fair value. Accordingly, during the three months ended March 31, 2018, we recognized a \$2.7 million impairment of all of the goodwill associated with our mobile navigation segment. We may make similar determinations regarding the impairment of goodwill in the future, which could have a material and adverse effect on our profitability.

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 customer 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 and damages caused by viruses, worms and other malicious software. The term of these indemnity provisions is generally perpetual after execution of the corresponding agreement, 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 any rejection of their indemnity demands constitutes a material breach of our agreements with them, allowing them to terminate such agreements. Our agreements with certain customers may be terminated in the event an infringement claim is made against us and it is reasonably determined 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 investment portfolio may become impaired by deterioration of the financial markets.

Our cash equivalent and short-term investment portfolio as of September 30, 2018 consisted of corporate bonds, asset-backed securities, municipal securities, U.S. agency securities, commercial paper 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.

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, any deterioration of the capital markets could cause our other income and expense to vary from expectations. As of September 30, 2018, 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.

Our effective tax rate may fluctuate, which could 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 and forecasted withholding taxes; 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

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 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 losses in previous years and expected losses in fiscal 2019 and potentially future years in the United States, we maintained 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, we continued to maintain a full valuation allowance for our foreign deferred tax assets in the United Kingdom. In the event deferred tax assets in Germany cannot be realized based upon the ability to generate future income in Germany, our effective tax rate would 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, such as ASC 606 and ASC 842, Leases, 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.

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 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 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. 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. We are in the process of amending our agreement with TomTom to extend the term of our license to TomTom map data for voice-guided turn by turn GPS navigation service for our existing mobile navigation products, which is scheduled to expire on December 31, 2018. The license to other data from TomTom under the same agreement will continue for the period set forth in the agreement. Our master data license agreement with HERE was automatically renewed under its existing terms through January 31, 2020, and automatically 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 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 and advertising platform services. Our operations rely to a significant degree on the efficient and uninterrupted operation of the third-party data centers we use. 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 have not yet completed 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 advertising services platform and to continue to develop and introduce new navigation services, advertising services and other location-based product offerings and enhanced performance features and functionality on a timely basis 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.

A large percentage of our research and development operations are conducted in China and Romania, and our ability to introduce new services and support our existing services cost effectively depends on our ability to manage those remote development sites successfully.

Our success depends on our ability to enhance our current services and develop new services and products rapidly and cost effectively. A majority of our research and development personnel are in China and Romania. Although we have sought to retain certain key personnel, we may be unable to retain them over the long-term. In addition, we have been experiencing significant increases in compensation costs in China and Romania due to competitive market conditions for qualified staff, as well as higher risk of employee turnover in those markets.

We also expect that we may continue to consolidate certain of our operations or reduce our workforce if we are unable to continue to replace wireless carrier revenue with other sources of high gross margin revenue. These reorganizations or reductions in force could result in unexpected costs or delays in product development that could impair our ability to meet market windows or cause us to forego certain new product opportunities.

Because our long-term success depends on our ability to increase the number of end users located outside of the United States, our business will be susceptible to risks associated with international operations.

As of September 30, 2018, we had international operations in China, Romania, Germany, Japan and South Korea. Our experience with wireless carriers, automobile manufacturers and tier ones, and advertisers outside the United States is limited. Our revenue from customers in the United States comprised 85% and 94% of our total revenue in the three months ended September 30, 2018 and 2017, respectively. However, our product is distributed globally in many different regions outside the United States, including South America, Europe, Australia, China and New Zealand. Our limited experience in operating our business outside the United States increases the risk that our current and future international expansion efforts may not be successful. In particular, our business model may not be successful in certain countries or regions outside the United States for reasons that we currently do not anticipate. In addition, conducting international operations subjects us to risks that we have not generally faced in the United States. These include:

fluctuations in currency exchange rates;

unexpected changes in foreign regulatory requirements or delays in obtaining necessary foreign regulatory approvals; difficulties in managing the staffing of remote operations;

potentially adverse tax consequences, including the complexities of foreign value added tax systems, foreign tax withholding, restrictions on the repatriation of earnings and changes in tax rates;

difficulties in collecting accounts receivable balances in a timely manner;

dependence on foreign wireless carriers with different pricing models;

roaming charges to end users;

availability of reliable mobile networks in those countries;

requirements that we comply with local telecommunication regulations and automobile hands free laws in those countries;

requirements that we comply with local privacy regulations;

the burdens of complying with a wide variety of foreign laws and different legal standards;

increased financial accounting and reporting burdens and complexities;

political, social and economic instability in some jurisdictions;

terrorist attacks and security concerns in general; and

reduced or varied protection for intellectual property rights in some countries.

The occurrence of any one of these risks could negatively affect our international business and, consequently, our operating results. Additionally, operating in international markets requires significant management attention and financial resources. We cannot be certain that the investment and additional resources required to establish, acquire or integrate operations in other countries will produce desired levels of revenue or profitability and we may incur larger losses as a result.

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, including the previously announced planned departure of our Chief Financial Officer in January 2019, as well as the departure of our General Counsel in October 2018. Our future performance will depend on our ability to recruit permanent successors to these departing executives and continue to retain other members of our senior management, particularly in the growth areas of our business, such as automotive and advertising.

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 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.

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.

Mergers, consolidations or other strategic transactions in the mapping data industry could weaken our competitive position, reduce the number of our map providers and adversely affect our business.

The mapping data industry continues to experience consolidation. Should one of our map providers consolidate or enter into an alliance with another navigation provider, this could have a material adverse impact on our business. Currently, two of our map suppliers are owned by competitors in the navigation space. Such a consolidation may cause us to lose a map supplier or require us to increase the royalties we pay to map vendors as a result of enhanced supplier leverage, which would have a negative effect on our business. In the event that we lose a map supplier, we may be unable to replace our map suppliers, and the remaining map suppliers may increase license fees. In addition, as we continue to use more OSM-based maps and no longer purchase maps from those suppliers, we may be unable to purchase other data that is integral to our navigation products from our existing map suppliers.

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 our intellectual property and regulation

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. As of the date of this Quarterly Report on Form 10-Q, we were named as a defendant in certain cases alleging that our services infringe other parties' patents, as well as other matters. See Part II, Item 1, "Legal Proceedings," for a description of these matters. These cases 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, 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 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 attacks or breaches could result in unexpected control of or changes to the vehicles' functionality 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 security and privacy breaches.

Our business involves the collection, storage, processing and transmission of users' personal data including information about location, routes mapped and taken. Additionally, our apps transmit information to users' personal devices, which creates opportunities for hackers to exploit vulnerabilities, if any, 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 are investing 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 the disclosure of user information or been maliciously exploited. A breach of security or privacy could have negative consequences to our reputation, which could result in users discontinuing or reducing their use of our products and our automotive and advertising 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 our 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 breach 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 breaches or to redress problems caused by breaches. These issues are 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 breaches, 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. Changes in government regulation of the wireless communications, automobile or mobile advertising 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 mobile advertising industry, including laws and regulations regarding lawful interception of personal data, hands free use of mobile phones or navigation services within autos, autonomous driving or the control of such use, privacy, 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 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.

Government regulation designed to protect end user privacy may make it difficult for us to provide our services or adopt advertising-based revenue models.

We transmit and store a large volume of personal information in the course of providing our products and services. This information is increasingly subject to legislation and regulations in numerous jurisdictions around the world. This government action is typically intended to protect the privacy and security of personal or sensitive information that is collected, stored and transmitted in or from the governing jurisdiction.

Legislation may also be adopted in various jurisdictions that prohibits the use of personal information and search histories to target end users with tailored advertising, or provide advertising at all. Although our advertising revenue to date is not significant, we anticipate we will continue to grow advertising revenue in the future to improve average revenue per user in certain markets.

We could be adversely affected if domestic or international legislation or regulations are expanded to require changes in our business practices or if governing jurisdictions 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 storage and transmission of personal or sensitive 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 sensitive issues, we may also become exposed to potential liabilities as a result of differing views on the privacy of personal or sensitive 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 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 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.

If we are unable to protect our intellectual property and proprietary rights, our competitive position and our business could be harmed.

We rely primarily on a combination of patent laws, trademark laws, copyright laws, trade secrets, confidentiality procedures and contractual provisions to protect our proprietary technology. However, our issued patents and any future patents that may be issued may not survive a legal challenge to their scope, validity or enforceability, or provide significant protection for us. The failure of our patents to adequately protect our technology might make it easier for our competitors to offer similar products or technologies. In addition, patents may not be issued from any of our current or future applications.

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.

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 service 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 many of the risks associated with usage of open source cannot be eliminated, and could, if not properly addressed, 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.

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. For example, as of June 30, 2018, we performed system and process evaluation and testing of our internal control over financial reporting to allow management and our independent registered public accounting firm to report on the effectiveness of our internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act. Our compliance with Section 404 requires that we incur substantial expense and expend significant management time on compliance-related issues. Moreover, if we are not able to comply with the requirements of Section 404 in the future, or if we or our independent registered public accounting firm identify deficiencies in our internal control over financial reporting that are deemed to be material weaknesses, the market price of our stock may decline and we could be subject to sanctions or investigations by the NASDAQ Global Market, the SEC or other regulatory authorities, which would require significant additional financial and management resources.

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.

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 gualified 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.

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, 2018, only four research analysts published 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 its price to decline. In addition, if any analysts who may elect to cover us downgrade their evaluations of our stock, the price of our stock could decline. For example, in late July 2011, following our earnings release for the three months and fiscal year ended June 30, 2011, several financial analysts published research reports lowering their price targets of our stock. After our announcement and the publication of these reports, our stock price fell more than 40%. 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. Our stock has recently 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 may 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.

Our common stock was sold in our IPO at \$8.00 per share. Although our common stock has traded at prices as high as \$22.07 per share, it has also traded at prices as low as \$4.32 and has tended to have significant downward and upward price movements in a relatively short time period. 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; announcement by automobile manufacturers regarding use of free, third-party navigation platforms in their vehicles; 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, 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 IPO price, or, depending on market conditions, at all.

In addition, our stock has recently traded at prices below \$5.00 per share. If the market price of our common stock falls below \$5.00 per share for an extended period of time, under stock exchange rules, our stockholders will not be able to use such shares as collateral for borrowing in margin accounts. Further, certain institutional investors are restricted from investing in shares priced below \$5.00 per share. This inability to use shares of our common stock as collateral and the inability of certain institutional investors to invest in our shares may depress demand and lead to sales of such shares creating downward pressure on and increased volatility in the market price of our common stock. In the past, the market price for our common stock has traded only slightly above the cash value of our common stock. 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, directors, current 5% or greater stockholders and entities affiliated with them beneficially owned (as determined in accordance with the rules of the SEC) approximately 41.6% of our common stock outstanding as of September 30, 2018. This significant concentration of share ownership may adversely affect the trading price for our common stock because investors often perceive disadvantages in owning stock in companies with controlling stockholders. Also, 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. Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

Unregistered Sales of Equity Securities None.

Item 6. Exhibits.

Exhibit Number	Description	Incorporated by Reference From Form	by Reference From	ate iled
<u>10.4.5</u>	2009 Equity Incentive Plan, amended and restated as of July 30, 2018.	Filed herewith		
<u>10.16.46+</u>	Territory License No. 13, dated August 15, 2018, by and among HERE North America, LLC, HERE Europe B.V., HERE Solutions Korea Co. Ltd. and Telenav, Inc. Sixth Amendment dated September 6, 2018 to Territory	Filed herewith		
<u>10.16.47+</u>	License No. 10, dated March 15, 2016, by and between Telenav, Inc., HERE North America, LLC (formerly NAVTEQ North America, LLC), HERE Europe B.V. (formerly NAVTEQ Europe B.V.) and HERE Solutions Korea Co. Ltd.	Filed herewith		
<u>10.26.26+</u>	Amendment No. 26, effective July 1, 2018, to the SYNC Generation 2 on-Board Navigation Agreement dated October 12, 2009, by and between Telenav, Inc. and Ford Motor Company	Filed herewith		
<u>10.27+</u>	Services Agreement, dated March 7, 2017, by and between General Motors Holdings LLC and Telenav, Inc.	Filed herewith		
<u>10.27.1+</u>	Amendment No. 1 effective May 22, 2018 to Services Agreement, dated March 7, 2017, by and between General Motors Holdings LLC and Telenav, Inc.	Filed herewith		
<u>10.27.2+</u>	Services Agreement, dated June 13, 2014, by and between General Motors Holdings LLC and Telenav, Inc.	Filed herewith		
<u>10.27.3+</u>	Amendment No. 1 effective December 5, 2014 to Services Agreement, dated June 13, 2014, by and between General Motors Holdings LLC and Telenav, Inc.	Filed herewith		
<u>10.27.4+</u>	Amendment No. 2 effective March 18, 2015 to Services Agreement, dated June 13, 2014, by and between General Motors Holdings LLC and Telenav, Inc.	Filed herewith		
<u>10.27.5+</u>	Amendment No. 3 effective December 24, 2015 to Services Agreement, dated June 13, 2014, by and between General Motors Holdings LLC and Telenav, Inc.	Filed herewith		
<u>10.27.6+</u>	Amendment No. 4 effective May 30, 2016 to Services Agreement, dated June 13, 2014, by and between General Motors Holdings LLC and Telenav, Inc.	Filed herewith		
<u>31.1</u>	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		
<u>31.2</u>	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		
<u>32.1~</u>	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		

<u>32.2~</u>	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	XBRL Instance Document	Filed herewith
101.SCH	XBRL Taxonomy Extension Schema Document	Filed herewith
101.CAL	XBRL Taxonomy Calculation Linkbase Document	Filed herewith
101.DEF	XBRL Taxonomy Definition Linkbase Document	Filed herewith
71		

Table of Contents

101.LABXBRL Taxonomy Label Linkbase DocumentFiled herewith101.PREXBRL Taxonomy Extension Presentation Linkbase DocumentFiled herewith

+ Portions of the exhibit have been omitted pursuant to a request for confidential treatment filed with the Securities and Exchange Commission.

~ 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 9, 2018 By: /s/ Dr. HP JIN Dr. HP Jin President and Chief Executive Officer

Dated: November 9, 2018 By: /s/ MICHAEL STRAMBI Michael Strambi Chief Financial Officer and Treasurer (Principal Financial and Accounting Officer)