Digimarc CORP
Form 10-Q
July 27, 2017

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

(Mark One)

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended June 30, 2017

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: 001-34108

DIGIMARC CORPORATION

(Exact name of registrant as specified in its charter)

Oregon	26-2828185
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

9405 SW Gemini Drive, Beaverton, Oregon 97008

(Address of principal executive offices) (Zip Code)

(503) 469-4800

(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 No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months
(or for such shorter period that the registrant was required to submit and post such files). Yes No

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

Large accelerated filer		Accelerated filer
Non-accelerated filer	(Do not check if a smaller reporting company)	Smaller reporting company
Emerging growth company		

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

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

As of July 21, 2017, there were 11,267,308 shares of the registrant's common stock, par value $0.001 per share, outstanding.

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements.
DIGIMARC CORPORATION

CONSOLIDATED BALANCE SHEETS

(In thousands, except per share data)

(UNAUDITED)

	June 30, 2017	December 31, 2016
ASSETS		
Current assets:		
Cash and cash equivalents	$34,242	$ 11,638
Marketable securities	33,513	44,496
Trade accounts receivable, net	3,897	5,078
Other current assets	1,858	1,695
Total current assets	73,510	62,907
Marketable securities	—	4,392
Property and equipment, net	3,846	3,570
Intangibles, net	6,416	6,422
Goodwill	1,114	1,114
Other assets	281	331
Total assets	$85,167	$ 78,736
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and other accrued liabilities	$1,731	$ 1,523
Deferred revenue	2,121	2,923
Total current liabilities	3,852	4,446
Deferred rent and other long-term liabilities	1,029	956
Total liabilities	4,881	5,402
Commitments and contingencies (Note 13)		
Shareholders' equity:		
Preferred stock (par value $0.001 per share, 2,500 authorized, 10 shares issued and outstanding at June 30, 2017 and December 31, 2016)	50	50
Common stock (par value $0.001 per share, 50,000 authorized, 11,263 and 10,523 shares issued and outstanding at June 30, 2017 and December 31, 2016, respectively)	11	11

Additional paid-in capital	141,123	120,985
Accumulated deficit	(60,898)	(47,712)
Total shareholders’ equity	80,286	73,334
Total liabilities and shareholders’ equity	$85,167	$ 78,736

The accompanying notes are an integral part of these consolidated financial statements.

DIGIMARC CORPORATION

CONSOLIDATED STATEMENTS OF OPERATIONS

(In thousands, except per share data)

(UNAUDITED)

	Three Months Ended June 30, 2017	Three Months Ended June 30, 2016	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016
Revenue:				
Service	$3,253	$3,148	$6,949	$6,398
Subscription	1,420	1,494	2,865	2,957
License	914	815	1,864	1,682
Total revenue	5,587	5,457	11,678	11,037
Cost of revenue:				
Service	1,464	1,401	3,099	2,833
Subscription	534	594	1,090	1,256
License	122	99	240	195
Total cost of revenue	2,120	2,094	4,429	4,284
Gross profit	3,467	3,363	7,249	6,753
Operating expenses:				
Sales and marketing	3,997	2,856	7,989	5,811
Research, development and engineering	3,936	3,379	7,395	6,684
General and administrative	2,239	1,976	4,624	4,146
Intellectual property	345	462	737	896
Total operating expenses	10,517	8,673	20,745	17,537
Operating loss	(7,050)	(5,310)	(13,496)	(10,784)
Other income, net	116	42	234	88
Loss before income taxes	(6,934)	(5,268)	(13,262)	(10,696)
Benefit (provision) for income taxes	(9)	(15)	101	(22)
Net loss	$(6,943)	$(5,283)	$(13,161)	$(10,718)
Earnings (loss) per common share:				
Loss per common share—basic	(0.68)	$(0.62)	(1.29)	$(1.25)
Loss per common share—diluted	(0.68)	$(0.62)	(1.29)	$(1.25)
Weighted average common shares outstanding—basic	10,266	8,587	10,214	8,560
Weighted average common shares outstanding—diluted	10,266	8,587	10,214	8,560

The accompanying notes are an integral part of these consolidated financial statements.

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DIGIMARC CORPORATION

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

(In thousands)

(UNAUDITED)

	Preferred Stock		Common Stock		Additional	Retained Earnings	Total
	Shares	Amount	Shares	Amount	Paid-in Capital	(Accumulated Deficit)	Shareholders' Equity
BALANCE AT DECEMBER 31, 2015	10	$ 50	8,919	$ 9	$ 77,439	$ (26,040)	$ 51,458
Exercise of stock options	—	—	32	—	309	—	309
Issuance of restricted common stock	—	—	177	—	—	—	—
Forfeiture of restricted common stock	—	—	(3)	—	—	—	—
Purchase and retirement of common stock	—	—	(40)	—	(1,104)	—	(1,104)
Stock-based compensation	—	—	—	—	2,782	—	2,782
Net loss	—	—	—	—	—	(10,718)	(10,718)
BALANCE AT JUNE 30, 2016	10	$ 50	9,085	$ 9	$ 79,426	$ (36,758)	$ 42,727
BALANCE AT DECEMBER 31, 2016	10	$ 50	10,523	$ 11	$ 120,985	$ (47,712)	$ 73,334
Issuance of common stock, net of issuance costs	—	—	500	—	17,702	—	17,702
Exercise of stock options	—	—	59	—	568	—	568
Issuance of restricted common stock	—	—	236	—	—	—	—
Forfeiture of restricted common stock	—	—	(7)	—	—	—	—
Purchase and retirement of common stock	—	—	(48)	—	(1,348)	—	(1,348)
Stock-based compensation	—	—	—	—	3,216	(25)	3,191
Net loss	—	—	—	—	—	(13,161)	(13,161)
BALANCE AT JUNE 30, 2017	10	$ 50	11,263	$ 11	$ 141,123	$ (60,898)	$ 80,286

The accompanying notes are an integral part of these consolidated financial statements.

DIGIMARC CORPORATION

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)

(UNAUDITED)

	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016
Cash flows from operating activities:		
Net loss	$(13,161)	$(10,718)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation, amortization and write-off of property and equipment	664	688
Amortization and write-off of intangibles	486	639
Stock-based compensation	3,093	2,707
Changes in operating assets and liabilities:		
Trade accounts receivable	1,181	2,139
Other current assets	(163)	52
Other assets	50	36
Accounts payable and other accrued liabilities	336	109
Deferred revenue	(835)	(917)
Net cash used in operating activities	(8,349)	(5,265)
Cash flows from investing activities:		
Purchase of property and equipment	(938)	(755)
Capitalized patent costs	(406)	(436)
Maturity of marketable securities	28,636	22,467
Purchase of marketable securities	(13,261)	(8,819)
Net cash provided by investing activities	14,031	12,457
Cash flows from financing activities:		
Issuance of common stock, net of issuance costs	17,702	—
Exercise of stock options	568	309
Purchase of common stock	(1,348)	(1,104)
Net cash provided by (used) in financing activities	16,922	(795)
Net increase in cash and cash equivalents	22,604	6,397
Cash and cash equivalents at beginning of period	11,638	3,160
Cash and cash equivalents at end of period	$34,242	$9,557
Supplemental disclosure of cash flow information:		
Cash paid for income taxes, net	$25	$14
Supplemental schedule of non-cash investing activities:		

Property and equipment and patent costs in accounts payable	$(22)	$61
Stock-based compensation capitalized to software and patent costs	$98	$75

The accompanying notes are an integral part of these consolidated financial statements.

DIGIMARC CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(In thousands, except per share data)

(UNAUDITED)

1. Description of Business and Significant Accounting Policies

Description of Business

Digimarc Corporation ("Digimarc" or the "Company"), an Oregon corporation, enables governments and enterprises around the world to give digital identities to media and objects that computers can sense and recognize, and to which they can react. The Company has developed Digimarc Discover®, Digimarc Barcode and the Intuitive Computing Platform™ that are designed to optimize the identification of all consumer brand impressions, wherever and whenever they may appear, facilitating modern mobile-centric shopping. The platform includes means to embed "Digimarc Barcodes," invisible and inaudible barcode-like information that is recognizable by smartphones, tablets, industrial scanners, and other computer interfaces into virtually all forms of media content, including consumer product packaging. Digimarc Barcodes have many applications, including facilitating remarkably faster scanning of products at retail checkout as well as improved engagement with smartphone-equipped consumers. The Digimarc Barcode is robust yet imperceptible by people in ordinary use, allowing for reliable, efficient, economical, globally scalable, automatic identification of media without visible computer codes like traditional barcodes.

Interim Consolidated Financial Statements

The Company has adhered to the accounting policies set forth in its Annual Report on Form 10-K for the year ended December 31, 2016 in preparing the accompanying interim consolidated financial statements.

The accompanying interim consolidated financial statements have been prepared from the Company's records without audit and, in management's opinion, include all adjustments (consisting of only normal recurring adjustments) necessary to fairly reflect the financial condition and the results of operations for the periods presented. Certain information and note disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States ("U.S. GAAP") have been condensed or omitted in accordance with the rules and regulations of the U.S. Securities and Exchange Commission ("SEC").

These interim consolidated financial statements should be read in conjunction with the audited consolidated financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2016, which was filed with the SEC on February 23, 2017. The results of operations for the interim periods presented in these consolidated financial statements are not necessarily indicative of the results for the full year.

Reclassifications

Certain prior period amounts in the accompanying consolidated financial statements and notes thereto have been reclassified to conform to current period presentation. These reclassifications had no material effect on the results of operations or financial position for any period presented.

Contingencies

The Company evaluates all pending or threatened contingencies or commitments, if any, that are reasonably likely to have a material adverse effect on the Company’s operations or financial position. The Company assesses the probability of an adverse outcome and determines if it is remote, reasonably possible or probable as defined in accordance with the provisions of ASC 450 “Contingencies.” If information available prior to the issuance of the financial statements indicates that it is probable that an asset has been impaired or a liability has been incurred at the date of the financial statements, and the amount of the loss, or the range of probable loss can be reasonably estimated, then the loss is accrued and charged to operations. If no accrual is made for a loss contingency because one or both of the conditions pursuant to ASC 450 are not met, but the probability of an adverse outcome is at least reasonably possible, the Company will disclose the nature of the contingency and provide an estimate of the possible loss or range of loss, or state that such an estimate cannot be made.

Goodwill

The Company tests goodwill for impairment annually in June and whenever events or changes in circumstances indicate that the carrying value may exceed the fair value. The Company operates as a single reporting unit. The Company estimated the fair value of its single reporting unit using a market approach, which takes into account the Company’s market capitalization plus an estimated control premium.

In connection with the Company’s annual impairment test of goodwill as of June 30, 2017 and 2016, it was concluded that there was no impairment to goodwill as the estimated fair value of the Company’s reporting unit substantially exceeded the carrying value.

Accounting Pronouncements Adopted

In March 2016, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2016-09, “Compensation – Stock Compensation: Improvements to Employee Share-Based Payment Accounting (Topic 718).” ASU No. 2016-09 simplifies the accounting for share-based payment transactions, including accounting for income taxes, forfeitures, statutory tax withholding requirements, and classification in the statement of cash flows. The amendments in this update are effective for fiscal years beginning after December 31, 2016, and interim periods beginning in the first interim period within the year of adoption. Any adjustments should be reflected as of the beginning of the fiscal year that includes that interim period. The Company adopted the provisions of this standard effective January 1, 2017. On adoption, deferred tax assets of $6,219 was recorded for previously unrecognized excess tax benefits as of December 31, 2016, which was offset by $6,219 of valuation allowance. Future excess tax benefits will be recognized in the income tax provision when realized and would be offset by any required valuation allowance. The Company will no longer apply a forfeiture rate to share-based payment awards and instead account for forfeitures when they occur. This policy election resulted in a $25 adjustment to opening retained earnings. The Company also provided employees the option to elect the minimum or the maximum statutory tax-withholding rate to be applied on the exercise or vesting of share-based awards. The adoption of the standard did not have a material impact on the Company’s financial condition, results of operations, cash flows and disclosures.

In January 2017, the FASB issued ASU No. 2017-04, “Intangibles – Goodwill and Other (Topic 350).” ASU No. 2017-04 simplifies the subsequent measurement of goodwill by removing the second step of the two-step impairment test. The amendment requires an entity to perform its annual, or interim goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. The amendments in this update are effective for annual or any interim goodwill impairment tests in fiscal years beginning after December 31, 2019. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The Company elected to early adopt the amendments of this standard effective January 1, 2017. The early adoption of this standard resulted in no impact on the Company’s financial condition, results of operations, cash flows and disclosures.

Accounting Pronouncements Issued But Not Yet Adopted

In May 2014, the FASB issued ASU No. 2014-09, “Revenue from Contracts with Customers (Topic 606).” ASU No. 2014-09 provides specific guidance to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The ASU will replace most existing revenue recognition guidance in U.S. GAAP when it becomes effective. In August 2015, the FASB issued ASU No. 2015-14 to defer the effective date of the new revenue standard for public entities by one year to annual reporting periods beginning after December 31, 2017, and interim periods beginning in the first interim period within the year of adoption. Early adoption is permitted only as of annual reporting periods beginning after December 15, 2016, including interim reporting periods within that reporting period. The Company has developed an implementation plan to adopt this new guidance. As part of this plan, the Company is currently assessing the potential future impact of this standard on the Company’s financial condition, results of operations and disclosures. Based on procedures performed to date, the impact of this standard on service and license revenues is not expected to have a material impact on the Company aside from expanded disclosures; however, the Company will continue to evaluate this assessment. The Company is not far enough along in the evaluation of the impact of the standard on all of its subscription revenue streams to make any conclusions at this time. The guidance permits the use of either the retrospective or cumulative effect transition method. The Company plans to utilize the cumulative effect transition method and will adopt this standard effective January 1, 2018.

In February 2016, the FASB issued ASU No. 2016-02, “Leases (Topic 842),” which supersedes Topic 840, Leases. ASU No. 2016-02 increases the transparency and comparability of organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. This guidance requires that operating leases recognize a right-of-use asset and a lease liability measured at the present value of the lease payments in the statement of financial position, recognize a single lease cost allocated over the lease term on a generally straight-line basis, and classify all cash payments within operating activities in the statement of cash flows. The amendments in this update are effective for fiscal years beginning after December 31, 2018, and interim periods beginning in the first interim period within the year of adoption. Early adoption is permitted. In transition, lessees and lessors are required to recognize and measure leases at the beginning of the earliest period presented using a modified retrospective approach, which includes a number of optional practical expedients that entities may elect to apply. While the Company is currently assessing the potential future impact of adopting this standard, the Company expects the primary impact will be the recognition, on a discounted basis, of its minimum commitments under non-cancelable operating leases on its consolidated balance sheets, resulting in the recording of right of use assets and lease obligations. The Company’s minimum commitments under non-cancelable operating leases are disclosed in Note 7 in the Company’s Annual Report on Form 10-K for the year ended December 31, 2016.

In August 2016, the FASB issued ASU No. 2016-15, “Statement of Cash Flows – Classification of Certain Cash Receipts and Cash Payments (Topic 230).” ASU No. 2016-15 adds or clarifies guidance on specific cash flow issues to reduce diversity in practice in how certain transactions are classified in the statement of cash flows. The amendments in this update are effective for fiscal years beginning after December 31, 2017, and interim periods beginning in the first interim period within the year of adoption. Early adoption is permitted. Any adjustments should be reflected as of the beginning of the fiscal year that includes that interim period. The amendments in this update are to be applied retrospectively to all periods presented but may be applied prospectively from the earliest date practicable if retrospective application would be impracticable. The Company is currently assessing the potential future impact of this standard on its cash flows and disclosures.

2. Fair Value of Financial Instruments

The estimated fair values of the Company’s financial instruments, which include cash equivalents, accounts receivable, accounts payable and other accrued liabilities approximate their carrying values due to the short-term nature of these instruments. The Company records marketable securities at amortized cost, which approximates fair value.

The Company’s fair value hierarchy for its cash equivalents and marketable securities as of June 30, 2017 and December 31, 2016, respectively, was as follows:

June 30, 2017	Level 1	Level 2	Level 3	Total
Money market securities	$561	$—	$ —	$561
Commercial paper	—	30,776	—	30,776
Federal agency notes	—	20,090	—	20,090
Corporate notes	—	7,826	—	7,826
Pre-refunded municipal bonds (1)	—	2,509	—	2,509
Total	$561	$61,201	$ —	$61,762

December 31, 2016	Level 1	Level 2	Level 3	Total
Money market securities	$1,218	$—	$ —	$1,218
Federal agency notes	—	16,810	—	16,810
Commercial paper	—	16,757	—	16,757
Corporate notes	—	15,753	—	15,753
Pre-refunded municipal bonds (1)	—	6,716	—	6,716
U.S. treasuries	—	2,515	—	2,515
Total	$1,218	$58,551	$ —	$59,769

(1) Pre-refunded municipal bonds are collateralized by U.S. treasuries.

The fair value maturities of the Company’s cash equivalents and marketable securities as of June 30, 2017 are as follows:

	Maturities by Period				
	Total	Less than 1 year	1-5 years	5 - 10 years	More than 10 years
Cash equivalents and marketable securities	$61,762	$ 61,762	$ —	$ —	$ —

The Company considers all highly liquid marketable securities with original maturities of 90 days or less at the date of acquisition to be cash equivalents. Cash equivalents include money market funds and commercial paper totaling $28,249 and $10,881 at June 30, 2017 and December 31, 2016, respectively. Cash equivalents are carried at cost or amortized cost, which approximates fair value.

3. Revenue Recognition

The Company derives its revenue primarily from professional services, subscriptions and licensing of its intellectual property:

- Service revenue consists primarily of software development and consulting services. The majority of service revenue arrangements are structured as time and materials consulting agreements.
- Subscription revenue includes Digimarc Discover, Digimarc Barcode and Guardian products and services, is generally recurring, paid in advance and recognized over the term of the subscription.
- License revenue originates primarily from licensing the Company's intellectual property, where the Company receives license fees and/or royalties as its income stream.

Revenue is recognized in accordance with ASC 605 "Revenue Recognition" and ASC 985 "Software" when the following four criteria are met:

(i) persuasive evidence of an arrangement exists,
(ii) delivery has occurred,
(iii) the fee is fixed or determinable, and
(iv) collection is reasonably assured or probable.

Some customer arrangements encompass multiple deliverables, such as professional services, software licenses, and maintenance and support fees. For arrangements that include multiple deliverables, the Company identifies separate units of accounting at inception based on the consensus reached under ASC 605-25 "Multiple-Element Arrangements," which provides that revenue arrangements with multiple deliverables should be divided into separate units of accounting if certain criteria are met. The Company applies ASC 985 to software deliverables when relevant. The consideration for the arrangements under ASC 605-25 is allocated to the separate units of accounting using the relative selling price method.

The relative selling price method allocates the consideration based on the Company's specific assumptions rather than assumptions of a marketplace participant, and allocates any discount in the arrangement proportionally to each deliverable on the basis of each deliverable's selling price.

Applicable revenue recognition criteria are considered separately for each separate unit of accounting as follows:

- Service revenue is generally determined based on time and materials. Revenue for development and consulting services is recognized as the services are performed. Billing for services rendered generally occurs within one month after the services are provided.
- Subscription revenue, which includes revenue from the sale of Digimarc Discover, Digimarc Barcode and Guardian products and services, is generally paid in advance and recognized over the term of the subscription, which is generally one to three years.
- License revenue is recognized when amounts owed to the Company have been earned, are fixed or determinable (within the Company's normal 30 to 60 day payment terms), and collection is reasonably assured. If the payment terms extend beyond the normal 30 to 60 days, the fee may not be considered to be fixed or determinable, and the revenue would then be recognized when installments are due.
- The Company records revenue from certain license agreements upon cash receipt as a result of collectability not being reasonably assured.
- The Company's standard payment terms for license arrangements are 30 to 60 days. Extended payment terms on patent license arrangements are not considered to be fixed or determinable if payments are due beyond the Company's standard payment terms, primarily because of the risk of substantial modification present in the Company's patent licensing business. As such, revenue on license arrangements with extended payment terms is recognized as fees become fixed or determinable.

Deferred revenue consists of billings in advance for professional services, subscriptions and licenses for which revenue has not been earned.

4. Segment Information

Geographic Information

The Company derives its revenue from a single reporting segment: media management solutions. Revenue is generated in this segment through development services, subscriptions and licensing of intellectual property. The Company markets its products in the U.S. and in non-U.S. countries through its sales and licensing personnel.

Revenue by geographic area, based upon the "bill-to" location, was as follows:

	Three Months Ended June 30, 2017	Three Months Ended June 30, 2016	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016
Domestic	$ 1,253	$ 1,151	$ 2,754	$ 2,284
International (1)	4,334	4,306	8,924	$ 8,753
Total	$ 5,587	$ 5,457	$ 11,678	$ 11,037

(1) Revenue from the Central Banks, consisting of a consortium of central banks around the world, is classified as international revenue. Reporting revenue by country for this customer is not practicable.

Major Customers

Customers who accounted for 10% or more of the Company's revenue are as follows:

	Three Months Ended June 30, 2017	Three Months Ended June 30, 2016	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016
Central Banks	63 %	63 %	63 %	63 %

Long-lived assets by geographical area

The Company's long-lived assets are all domestic, domiciled in the U.S.

5. Stock-Based Compensation

Stock-based compensation includes expense charges for all stock-based awards to employees and directors. These awards include option grants and restricted stock awards.

Stock-based compensation expense related to internal labor is capitalized to software and patents based on direct labor hours charged to capitalized software and patent costs.

Determining Fair Value

Stock Options

The Company estimates the fair value of stock options granted using the Black-Scholes option valuation model. The fair value of stock options is determined on the date of the grant (measurement date), and is amortized on a straight-line method over the requisite service periods, which are generally the vesting periods.

There were no stock options granted during the three and six months ended June 30, 2017 and 2016.

Restricted Stock

The fair value of restricted stock awarded is based on the fair market value of the Company’s common stock on the date of the grant (measurement date), and is recognized over the vesting period of the award using the straight-line method.

Stock-based Compensation

	Three Months Ended June 30, 2017	Three Months Ended June 30, 2016	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016
Stock-based compensation:				
Cost of revenue	$ 175	$ 184	$ 351	$ 357
Sales and marketing	342	238	710	450
Research, development and engineering	354	379	662	704
General and administrative	637	544	1,210	1,045
Intellectual property	82	79	160	151
Stock-based compensation expense	1,590	1,424	3,093	2,707
Capitalized to software and patent costs	53	43	98	75
Total stock-based compensation	$ 1,643	$ 1,467	$ 3,191	$ 2,782

The following table sets forth total unrecognized compensation cost related to non-vested stock-based awards granted under all equity compensation plans, including stock options and restricted stock:

	As of June 30, 2017	As of December 31, 2016
Total unrecognized compensation costs	$12,577	$ 9,728

Total unrecognized compensation costs will be adjusted for any future forfeitures.

The Company expects to recognize the unrecognized compensation costs as of June 30, 2017 for stock options and restricted stock over weighted average periods through June 2021 as follows:

	Stock Options	Restricted Stock
Weighted average period	0.0 years	1.52 years

As of June 30, 2017, under all of the Company’s stock-based compensation plans, equity awards to purchase an additional 1,144 shares were authorized for future grants under the plans. The Company issues new shares upon option exercises.

Stock Option Activity

The following table reconciles the outstanding balance of stock options:

Three months ended June 30, 2017:	Options	Weighted Average Exercise Price	Weighted Average Grant Date Fair Value	Aggregate Intrinsic Value
Outstanding at March 31, 2017	402	$ 19.49	$ 9.13	
Granted	—	—	—	
Exercised	(40)	9.64	6.30	
Forfeited or expired	—	—	—	
Outstanding at June 30, 2017	362	$ 20.60	$ 9.45	$ 7,071

Six months ended June 30, 2017:	Options	Weighted Average Exercise Price	Weighted Average Grant Date Fair Value	Aggregate Intrinsic Value
Outstanding at December 31, 2016	421	$ 19.06	$ 9.01	
Granted	—	—	—	
Exercised	(59)	9.64	6.30	
Forfeited or expired	—	—	—	
Outstanding at June 30, 2017	362	$ 20.60	$ 9.45	$ 7,071
Exercisable at June 30, 2017	362	$ 20.60		$ 7,071

The aggregate intrinsic value is based on the closing price of $40.15 per share of Digimarc common stock on June 30, 2017, which would have been received by the optionees had all of the options with exercise prices less than $40.15 per share been exercised on that date.

Restricted Stock Activity

The following table reconciles the unvested balance of restricted stock:

Three months ended June 30, 2017:	Number of Shares	Weighted Average Grant Date Fair Value
Unvested balance, March 31, 2017	511	$ 25.91
Granted	58	$ 30.39
Vested	(72)	$ 17.40
Forfeited	(5)	$ 26.35
Unvested balance, June 30, 2017	492	$ 27.67

Six months ended June 30, 2017:	Number of Shares	Weighted Average Grant Date Fair Value
Unvested balance, December 31, 2016	385	$ 26.28
Granted	236	$ 26.43
Vested	(122)	$ 21.08
Forfeited	(7)	$ 24.32
Unvested balance, June 30, 2017	492	$ 27.67

The following table indicates the fair value of all restricted stock awards that vested during the three and six months ended June 30, 2017 and 2016:

	Three Months Ended June 30, 2017	Three Months Ended June 30, 2016	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016
Fair value of restricted stock awards vested	$ 2,214	$ 1,839	$ 3,491	$ 3,117

6. Shareholders' Equity

During the three months ended June 30, 2017, the Company sold 500 shares of its common stock in a registered direct offering to a certain investor at a price of $35.55 per share. The offering was made without an underwriter or placement agent. The Company received $17,775 of cash proceeds from the offering, and paid $72 in stock issuance costs.

7. Earnings Per Common Share

The Company calculates basic and diluted earnings per common share in accordance with ASC 260 "Earnings Per Share," using the two-class method because the Company's unvested restricted stock is a participating security since these awards contain non-forfeitable rights to receive dividends. Under the two-class method, earnings are allocated to each class of common stock and participating security as if all of the earnings for the period had been distributed.

Basic earnings per common share excludes dilution and is calculated by dividing earnings to common shares by the weighted-average number of common shares outstanding for the period. Diluted earnings per common share is calculated by dividing earnings to common shares by the weighted-average number of common shares, as adjusted for the potentially dilutive effect of stock options.

The following table reconciles earnings (loss) per common share for the three and six months ended June 30, 2017 and 2016:

	Three Months Ended June 30, 2017	Three Months Ended June 30, 2016	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016
Basic Earnings (Loss) per Common Share:				
Numerator:				
Net loss	$(6,943)	$(5,283)	$(13,161)	$(10,718)
Distributed earnings to common shares	—	—	—	—
Distributed earnings to participating securities	—	—	—	—
Total distributed earnings	—	—	—	—
Undistributed loss allocable to common shares	(6,943)	(5,283)	(13,161)	(10,718)
Undistributed earnings allocable to participating securities	—	—	—	—
Total undistributed loss	(6,943)	(5,283)	(13,161)	(10,718)
Loss to common shares—basic	$(6,943)	$(5,283)	$(13,161)	$(10,718)
Denominator				
Weighted average common shares outstanding—basic	10,266	8,587	10,214	8,560
Basic earnings (loss) per common share	(0.68)	$(0.62)	(1.29)	$(1.25)

	Three Months Ended June 30, 2017	Three Months Ended June 30, 2016	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016
Diluted Earnings (Loss) per Common Share:				
Numerator:				
Loss to common shares—basic	$(6,943)	$(5,283)	$(13,161)	$(10,718)
Undistributed earnings allocated to participating securities	—	—	—	—
Undistributed earnings reallocated to participating securities	—	—	—	—
Loss to common shares—diluted	$(6,943)	$(5,283)	$(13,161)	$(10,718)
Denominator				
Weighted average common shares outstanding—basic	10,266	8,587	10,214	8,560
Dilutive effect of stock options	—	—	—	—
Weighted average common shares outstanding—dilutive	10,266	8,587	10,214	8,560
Diluted earnings (loss) per common share	(0.68)	$(0.62)	(1.29)	$(1.25)

There were 0 and 75 common stock equivalents related to stock options that were anti-dilutive and excluded from diluted earnings per common share calculations for the three and six months ended June 30, 2017, respectively, because their exercise prices were higher than the average market price of the underlying common stock for the periods.

There were 75 and 0 common stock equivalents related to stock options that were anti-dilutive and excluded from diluted earnings per common share calculations for the three and six months ended June 30, 2016, respectively, because their exercise prices were higher than the average market price of the underlying common stock for the periods.

There were 131 and 125 common stock equivalents related to stock options that were anti-dilutive and excluded from diluted earnings per common share for the three and six months ended June 30, 2017, respectively, as the Company incurred a net loss for the periods.

There were 169 and 188 common stock equivalents related to stock options that were anti-dilutive and excluded from diluted earnings per common share for the three and six months ended June 30, 2016, respectively, as the Company incurred a net loss for the periods.

8. Trade Accounts Receivable

Trade Accounts Receivable

Trade accounts receivable are recorded at the invoiced amount.

	June 30, 2017	December 31, 2016
Trade accounts receivable	$ 3,912	$ 5,093
Allowance for doubtful accounts	(15)	(15)
Trade accounts receivable, net	$ 3,897	$ 5,078
Unpaid deferred revenue included in trade accounts receivable	$ 747	$ 2,245

Allowance for doubtful accounts

The allowance for doubtful accounts is the Company's best estimate of the amount of probable credit losses in the Company's existing trade accounts receivable. The Company determines the allowance based on historical write-off experience and current information. The Company reviews its allowance for doubtful accounts each reporting period. Account balances are charged against the allowance after all means of collection have been exhausted and the potential for recovery is considered remote.

Unpaid deferred revenue

The unpaid deferred revenue that is included in trade accounts receivable is billed in accordance with the provisions of the contracts with the Company's customers. Unpaid deferred revenue from the Company's cash-basis customers is not included in trade accounts receivable nor deferred revenue.

Major customers

Customers who accounted for 10% or more of trade accounts receivable, net are as follows:

	June 30, 2017	December 31, 2016
Central Banks	55 %	57 %

9. Property and Equipment

Property and equipment are stated at cost. Repairs and maintenance are charged to expense when incurred.

Depreciation on property and equipment is calculated using the straight-line method over the estimated useful lives of the assets, generally two to ten years. Leasehold improvements are amortized using the straight-line method over the shorter of the estimated useful life or the lease term.

	June 30, 2017	December 31, 2016
Office furniture and fixtures	$ 1,194	$ 1,168
Software	2,661	2,146
Equipment	4,366	4,071
Leasehold improvements	1,620	1,617
Gross property and equipment	9,841	9,002
Less accumulated depreciation and amortization	(5,995)	(5,432)
Property and equipment, net	$ 3,846	$ 3,570

10. Intangibles

Intangible assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable.

Amortization of capitalized patent costs associated with the application and award of patents in the U.S. and various other countries are capitalized and amortized on a straight-line basis over the term of the patents as determined at the award date, which varies depending on the pendency period of the application, generally approximating seventeen years.

Amortization of intangible assets acquired is calculated using the straight-line method over the estimated useful lives of the assets.

	Estimated Life (years)	June 30, 2017	December 31, 2016
Capitalized patent costs	17-20	$7,650	$ 7,281
Intangible assets acquired:			
Purchased patents and intellectual property	3-10	250	250
Existing technology	5	1,560	1,560
Customer relationships	7	290	290
Backlog	2	760	760
Tradenames	3	290	290
Non-solicitation agreements	1	120	120
Gross intangible assets		10,920	10,551
Accumulated amortization		(4,504)	(4,129)
Intangibles, net		$6,416	$ 6,422

11. Joint Ventures and Related Party Transactions

In March 2012, Digimarc and Nielsen reduced the investments in their two joint ventures, TVaura LLC (in which Digimarc holds a 51% ownership interest) and TVaura Mobile LLC (in which Digimarc holds a 49% ownership interest), to minimal levels while assessing alternative approaches to achieving each of their goals in the emerging market opportunity of synchronized second screen television.

In October 2015, Digimarc and Nielsen reactivated the TVaura Mobile LLC joint venture to develop solutions for programmers and advertisers to engage with consumers on second screens and otherwise provide enhanced flexibility to brand strategies targeting modern consumers. The enhanced cooperation represents another building block in developing the market for Digimarc Discover and Digimarc Barcode. Neither Digimarc nor Nielsen has contributed any capital to the joint venture upon reactivation.

As of June 30, 2017, both Digimarc and Nielsen continued to assess the market opportunities of the TVaura LLC joint venture.

Summarized financial information for the joint ventures has not been provided because the disclosures are immaterial to the Company’s filing. TVaura LLC and TVaura Mobile LLC had no revenue or expenses for the six months ended June 30, 2017 and 2016.

The Company’s investment in each joint venture was $0 as of June 30, 2017 and December 31, 2016.

12. Income Taxes

The benefit (provision) for income taxes for the six months ended June 30, 2017 and 2016 reflects current taxes, deferred taxes, and withholding taxes. The effective tax rate for the six months ended June 30, 2017 and 2016 was 1% and 0%, respectively. The valuation allowance against net deferred tax assets as of June 30, 2017 was $36,937, an increase of $12,049 from $24,888 as of December 31, 2016.

The Company adopted the provisions of ASU No. 2016-09 effective January 1, 2017. Deferred tax assets of $6,219 were recorded for previously unrecognized excess tax benefits as of December 31, 2016, which were offset by $6,219 of valuation allowance. Excess tax benefits of $923 and $1,101 were recognized in the provision for income taxes for the three and six months ended June 30, 2017, respectively, which were offset by $923 and $1,101 of valuation allowance, respectively.

13. Commitments and Contingencies

Certain of the Company’s product license and services agreements include an indemnification provision for claims from third parties relating to the Company’s intellectual property. These indemnification provisions are accounted for in accordance with ASC 450 “Contingencies.” To date, there have been no claims made under such indemnification provisions.

The Company is subject from time to time to other legal proceedings and claims arising in the ordinary course of business. At this time, we do not believe that the resolution of any such matters will have a material adverse effect on our financial position, results of operations or cash flows.

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

The following Management's Discussion and Analysis of Financial Condition and Results of Operations contains forward-looking statements relating to future events or the future financial performance of Digimarc that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements. Please see the discussion regarding forward-looking statements included in this Quarterly Report on Form 10-Q under the caption "Safe Harbor Statement under the Private Securities Litigation Reform Act of 1995."

The following discussion should be read in conjunction with our consolidated financial statements and the related notes and other financial information appearing elsewhere in this Quarterly Report on Form 10-Q. Readers are also urged to carefully review and consider the disclosures made in Part II, Item 1A (Risk Factors) of this Quarterly Report on Form 10-Q and in the audited consolidated financial statements and related notes included in our Annual Report on Form 10-K for the year ended December 31, 2016 filed on February 23, 2017 (our "2016 Annual Report"), and other reports and filings made with the U.S. Securities and Exchange Commission ("SEC").

Unless the context otherwise requires, references in this Quarterly Report on Form 10-Q to "Digimarc," "we," "our" and "us" refer to Digimarc Corporation.

All dollar amounts are in thousands except per share amounts or unless otherwise noted. Percentages within the following tables may not foot due to rounding.

Digimarc, Digimarc Discover and Guardian are registered trademarks of Digimarc Corporation. This Quarterly Report on Form 10-Q also includes trademarks and trade names owned by other parties, and all other such trademarks and trade names mentioned in this Quarterly Report on Form 10-Q are the property of their respective owners.

Overview

Digimarc Corporation, an Oregon corporation founded in 2008, enables governments and enterprises around the world to give digital identities to media and objects that computers can sense and recognize and to which they can react. We have developed Digimarc Discover®, Digimarc Barcode and the Intuitive Computing Platform™ that are designed to optimize the identification of all consumer brand impressions, wherever and whenever they may appear, facilitating modern mobile-centric shopping. The platform includes means to embed "Digimarc Barcodes," invisible and inaudible barcode-like information that is recognizable by smartphones, tablets, industrial scanners, and other computer interfaces into virtually all forms of media content, including consumer product packaging. Digimarc Barcodes have many applications, including facilitating remarkably faster scanning of products at retail checkout as well as improved engagement with smartphone-equipped consumers. The Digimarc Barcode is robust yet imperceptible by people in ordinary use, allowing for reliable, efficient, economical, globally scalable, automatic identification of media without visible computer codes like traditional barcodes.

Our media identification and discovery innovations enable our business partners to create numerous applications across a wide range of media content, including solutions that:

- Improve the speed of retail checkout;
- Provide simple and intuitive mobile customer engagement experiences in stores;
- Quickly and reliably identify and effectively manage music, movies, television programming, digital images, e-publications, documents and other printed materials, especially in light of non-linear distribution over the Internet;
- Deter counterfeiting of money, media and goods, and piracy of e-publications, movies and music;
- Support new digital media distribution models and methods to monetize media content;
- Leverage the power of ubiquitous computing to instantly link consumers to a wealth of information and/or interactive experiences related to the media and objects they encounter each day;

- Provide consumers with more choice and access to media content when, where and how they want it;
- Enhance imagery and video by associating metadata or authenticating media content for government and commercial uses; and
- Better secure identity documents to enhance national security and combat identity theft and fraud.

Our Intuitive Computing Platform has a proprietary foundation in signal processing innovation known as "digital watermarking," which allows imperceptible digital information to be embedded in all forms of digitally designed, produced or distributed media content and many physical objects, including photographs, movies, music, television, personal identification documents, financial instruments, industrial parts and product packages. We refer to the embedded information as the Digimarc Barcode. This digital information can be detected and read by a wide range of computers, smartphones, tablets and other digital devices.

Our inventions allow our business partners and customers to provide persistent digital identities for virtually any media content that is digitally processed at some point during its lifecycle. Our technology can be applied to printed materials, video, audio, and images to supply a wide range of consumer engagement, media management and security solutions across multiple consumer and government industry sectors. Over the years our enabling software and business processes, and associated intellectual property portfolio have grown to encompass many related technologies.

We provide our solutions directly and through our business partners. Our inventions provide a powerful element of document security, giving rise to a long-term relationship with a consortium of central banks (the "Central Banks"), and many leading companies in the information technology industry. We and our business partners have successfully propagated the use of our technology in music, movies, television broadcasts, digital images, e-publications and printed materials. Digimarc Barcodes have been used in these applications to improve media rights and asset management, reduce piracy and counterfeiting losses, improve marketing programs, permit more efficient and effective distribution of valuable media content and enhance consumer entertainment and commercial experiences.

Digimarc Barcodes can be used to enhance all forms of media and are imperceptible to human senses, but quickly detected by computers, networks or other digital devices like smartphones and tablets. Unlike traditional barcodes and tags, our solution does not require publishers to give up valuable visual space in magazines and newspapers; nor does it impact the overall layout or aesthetics of the publication for readers. Digimarc Barcodes are generally imperceptible in normal use and do all that visible barcodes do, but perform better. Our Digimarc Discover platform delivers a range of rich media experiences to its readers on their smartphones or tablets across multiple media formats, including print, audio, video and packaging. Unique to the Digimarc Discover platform is its seamless multi-model use of various content identification technologies as needed, including Digimarc Barcode when present.

In January 2014, we introduced Digimarc Barcodes for use in consumer product packaging. These Digimarc Barcodes can contain the same information found in traditional universal product codes ("UPC"). The UPC information is invisibly repeated multiple times over the entire package surface. We partnered with Datalogic, a global leader in automatic data capture and industrial automation markets and producer of barcode readers, in introducing the Digimarc Barcode to the consumer product packaging market. The first retail scanner enabled was Datalogic's Magellan™ 9800i multi-plane imaging scanner. Since then additional scanner vendors and other channel partners have announced support for the Digimarc Barcode platform. Digimarc Barcodes can also connect mobile-enabled consumers directly from packaging to engaging mobile experiences such as additional product information, special offers, recommendations, reviews, social networks and more.

Our intellectual property contains many innovations in digital watermarking, content recognition (sometimes referred to as "fingerprinting"), digital rights management and related fields. To protect our inventions, we have implemented an extensive intellectual property protection program that relies on a combination of patent, copyright, trademark and trade secret laws, and nondisclosure agreements and other contracts. As a result, we believe we have one of the world's most extensive patent portfolios in digital watermarking and related fields, with over 1,100 granted and pending patents as of June 30, 2017. We continue to develop and broaden our portfolio in the fields of media identification and management technology and related applications and systems. We devote significant resources to developing and protecting our inventions and continuously seek to identify and evaluate potential licensees for our patents. The patents in our portfolio have a life of approximately 20 years from the effective filing date, and up to 17 years after the patent has been granted.

The market for patent licensing has become more challenging in recent years. As a result, we have shifted our focus from direct monetization via enforcement and licensing to facilitating progress toward the realization of our vision to enrich everyday living via pervasive, intuitive computing by:

- encouraging large scale adoption of our technologies by industry leaders;
- improving our financial performance by enhancing our competitive differentiation;
- increasing the scale and rate of growth of our products and services business; and
- laying a foundation for continuing innovation.

For a discussion of activities and costs related to our research and development, see “Results of Operations –Summary – Research, development and engineering.”

Critical Accounting Policies and Estimates

Detailed information about our critical accounting policies and estimates is set forth in Part II, Item 7 of our 2016 Annual Report (“Management’s Discussion and Analysis of Financial Condition and Results of Operations”), under the caption “Critical Accounting Policies and Estimates,” which is incorporated by reference into this Quarterly Report on Form 10-Q.

Results of Operations

The following table presents statements of operations data for the periods indicated as a percentage of total revenue. Unless otherwise indicated, all references in this Management’s Discussion and Analysis of Financial Condition and Results of Operations to the three and six month periods relate to the three and six months ended June 30, 2017 and all changes discussed with respect to such periods reflect changes compared to the three and six months ended June 30, 2016.

	Three Months Ended June 30, 2017		Three Months Ended June 30, 2016		Six Months Ended June 30, 2017		Six Months Ended June 30, 2016	
	Percentages are percent of total revenue				Percentages are percent of total revenue			
Revenue:								
Service	58	%	58	%	60	%	58	%
Subscription	25		27		25		27	
License	16		15		16		15	
Total revenue	100		100		100		100	
Cost of revenue:								
Service	26		26		27		26	
Subscription	10		11		9		11	
License	2		2		2		2	
Total cost of revenue	38		38		38		39	
Gross profit	62		62		62		61	
Operating expenses:								
Sales and marketing	72		52		68		53	
Research, development and engineering	70		62		63		61	
General and administrative	40		36		40		38	
Intellectual property	6		8		6		8	
Total operating expenses	188		159		178		159	
Operating loss	(126	)	(97	)	(116	)	(98	)
Other income, net	2		1		2		1	
Loss before income taxes	(124	)	(97	)	(114	)	(97	)
	—		—		1		—	

Benefit (provision) for income taxes				
Net loss	(124 %)	(97 %)	(113 %)	(97 %)

Summary

Total revenue for the three and six month periods ended June 30, 2017 increased 2% to $5.6 million and 6% to $11.7 million, respectively, compared to the corresponding three and six month periods ended June 30, 2016, primarily as a result of higher service and license revenue.

Total operating expenses for the three and six month periods ended June 30, 2017 increased 21% to $10.5 million and 18% to $20.7 million, respectively, compared to the corresponding three and six month periods ended June 30, 2016, primarily reflecting higher investment in sales, marketing, and engineering as we continue to address important opportunities in market development and delivery of Digimarc Discover and Digimarc Barcode.

Revenue

	Three Months Ended June 30, 2017	Three Months Ended June 30, 2016	Dollar Increase (Decrease)	Percent Increase (Decrease)	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016	Dollar Increase (Decrease)	Percent Increase (Decrease)
Revenue:								
Service	$ 3,253	$ 3,148	$ 105	3 %	$ 6,949	$ 6,398	$ 551	9 %
Subscription	1,420	1,494	(74)	(5)%	2,865	2,957	(92)	(3)%
License	914	815	99	12 %	1,864	1,682	182	11 %
Total	$ 5,587	$ 5,457	$ 130	2 %	$ 11,678	$ 11,037	$ 641	6 %
Revenue (as % of total revenue):								
Service	58 %	58 %			60 %	58 %		
Subscription	25 %	27 %			25 %	27 %		
License	16 %	15 %			16 %	15 %		
Total	100 %	100 %			100 %	100 %		

Service. Service revenue consists primarily of software development and consulting services. The majority of service revenue arrangements are structured as time and materials consulting agreements. Most of our service revenue is derived from contracts with the Central Banks and government agency contractors. The agreements range from several months to several years in length, and our longer term contracts are subject to work plans that are reviewed and agreed upon at least annually. These contracts generally provide for billing hours worked at predetermined rates and, to a lesser extent, reimbursement for third party costs and services. Increases or decreases in the services provided under these contracts are generally subject to both volume and price changes. The volume of work is generally negotiated at least annually and can be modified as the customer's needs change. We also have provisions in our longer term contracts that allow for specific hourly rate price increases on an annual basis to account for cost of living variables. Contracts with government agency contractors are generally shorter term in nature, less linear in billings and less predictable than our longer term contracts because the contracts with government agency contractors are subject to government budgets and funding.

The increases in service revenue for the three and six month periods ended June 30, 2017, compared to the corresponding three and six month periods ended June 30, 2016, were primarily due to more program work with the Central Banks and with a government agency contractor.

Subscription. Subscription revenue includes Digimarc Discover, Digimarc Barcode and Guardian products and services, and is generally recurring in nature, paid in advance and recognized over the term of the subscription.

The decreases in subscription revenue for the three and six month periods ended June 30, 2017, compared to the corresponding three and six month periods ended June 30, 2016, were primarily due to lower Guardian revenue, partially offset by higher Digimarc Discover and Digimarc Barcode revenue.

License. License revenue originates primarily from licensing our intellectual property, where we receive license fees and/or royalties as our income stream.

The increases in license revenue for the three and six month periods ended June 30, 2017, compared to the corresponding three and six month periods ended June 30, 2016, were primarily due to higher royalty revenue reported by our licensees.

Revenue by Geography

	Three Months Ended June 30, 2017	Three Months Ended June 30, 2016	Dollar Increase (Decrease)	Percent Increase (Decrease)	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016	Dollar Increase (Decrease)	Percent Increase (Decrease)
Revenue by geography:								
Domestic	$ 1,253	$ 1,151	$ 102	9 %	$ 2,754	$ 2,284	$ 470	21 %
International	4,334	4,306	28	1 %	8,924	8,753	171	2 %
Total	$ 5,587	$ 5,457	$ 130	2 %	$ 11,678	$ 11,037	$ 641	6 %
Revenue (as % of total revenue):								
Domestic	22 %	21 %			24 %	21 %		
International	78 %	79 %			76 %	79 %		
Total	100 %	100 %			100 %	100 %		

The increases in domestic revenue for the three and six month periods ended June 30, 2017, compared to the corresponding three and six month periods ended June 30, 2016, was primarily the result of higher service revenue from a government agency contractor and higher royalty revenue from a domestic licensee.

The increases in international revenue for the three and six month periods ended June 30, 2017, compared to the corresponding three and six month periods ended June 30, 2016, was primarily due to more program work with the Central Banks.

Cost of Revenue

Service. Cost of service revenue primarily includes costs that are allocated from research, development and engineering, sales and marketing and intellectual property that relate directly to performing services under our customer contracts and direct costs of program delivery. Costs include:

- compensation, benefits, incentive compensation in the form of stock-based compensation and related costs of our software developers, quality assurance personnel, product managers, business development managers and other personnel where we bill our customers for time and materials costs;
- payments to outside contractors that are billed to customers;
- charges for equipment directly used by customers;
- depreciation and other charges for machinery, equipment and software directly used by customers;
- travel costs directly attributable to service and development contracts; and
- charges for infrastructure and centralized costs of facilities and information technology.

Subscription. Cost of subscription revenue primarily includes:

- compensation, benefits, incentive compensation in the form of stock-based compensation and related costs of operations personnel;
- cost of outside contractors that provide operational support;
- amortization of existing technology acquired in the acquisition of Attributor Corporation; and

- Internet service provider connectivity charges and image search data fees to support the services offered to our subscription customers.

License. Cost of license revenue primarily includes:

- amortization of capitalized patent costs; and
- amortization of patent maintenance fees.

Gross Profit

	Three Months Ended June 30, 2017	Three Months Ended June 30, 2016	Dollar Increase (Decrease)	Percent Increase (Decrease)	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016	Dollar Increase (Decrease)	Percent Increase (Decrease)
Gross Profit:								
Service	$ 1,789	$ 1,747	$ 42	2 %	$ 3,850	$ 3,565	$ 285	8 %
Subscription	886	900	(14)	(2)%	1,775	1,701	74	4 %
License	792	716	76	11 %	1,624	1,487	137	9 %
Total	$ 3,467	$ 3,363	$ 104	3 %	$ 7,249	$ 6,753	$ 496	7 %
Gross Profit (as % of related revenue components):								
Service	55 %	55 %			55 %	56 %		
Subscription	62 %	60 %			62 %	58 %		
License	87 %	88 %			87 %	88 %		
Total	62 %	62 %			62 %	61 %		

The increase in total gross profit for the three and six month periods ended June 30, 2017, compared to the corresponding three and six month periods ended June 30, 2016, was due primarily to higher revenues and lower operations costs for our subscription products and services.

The change in service gross profit as a percentage of service revenue for the three and six month periods ended June 30, 2017, compared to the corresponding three and six month periods ended June 30, 2016, was insignificant.

The increase in subscription gross profit as a percentage of subscription revenue for the three and six month periods ended June 30, 2017, compared to the corresponding three and six month periods ended June 30, 2016, was due primarily to lower operations costs.

The decrease in license gross profit as a percentage of license revenue was insignificant for the three and six month periods ended June 30, 2017, compared to the corresponding three and six month periods ended June 30, 2016.

Operating Expenses

We allocate certain costs of research, development and engineering, sales and marketing, and intellectual property to cost of revenue when they relate directly to our customer contracts. We record all remaining, or "residual," costs as sales and marketing, research, development and engineering, general and administrative, and intellectual property expenses.

Sales and marketing

	Three Months Ended June 30, 2017	Three Months Ended June 30, 2016	Dollar Increase (Decrease)	Percent Increase (Decrease)	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016	Dollar Increase (Decrease)	Percent Increase (Decrease)
Sales and marketing	$ 3,997	$ 2,856	$ 1,141	40 %	$ 7,989	$ 5,811	$ 2,178	37 %
Sales and marketing (as % of total revenue)	72 %	52 %			68 %	53 %		

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Sales and marketing expenses consist primarily of:

- compensation, benefits, incentive compensation in the form of stock-based compensation and related costs of sales and marketing employees and product managers;
- travel and market research costs, and costs associated with marketing programs, such as trade shows, public relations and new product launches;
- professional services and outside contractors for product and marketing initiatives; and
- charges for infrastructure and centralized costs of facilities and information technology.

The increase in sales and marketing expenses for the three month period ended June 30, 2017, compared to the corresponding three month period ended June 30, 2016, was primarily due to:

- increased headcount and compensation-related expenses of $0.8 million;
- increased recruiting costs of $0.1 million; and
- increased travel expenses of $0.1 million.

The increase in sales and marketing expenses for the six month period ended June 30, 2017, compared to the corresponding six month period ended June 30, 2016, was primarily due to:

- increased headcount and compensation-related expenses of $1.4 million;
- increased marketing and professional fees of $0.3 million related to market development activities;
- increased travel expenses of $0.2 million; and
- increased recruiting costs of $0.2 million.

Research, development and engineering

	Three Months Ended June 30, 2017	Three Months Ended June 30, 2016	Dollar Increase (Decrease)	Percent Increase (Decrease)	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016	Dollar Increase (Decrease)	Percent Increase (Decrease)
Research, development and engineering	$ 3,936	$ 3,379	$ 557	16 %	$ 7,395	$ 6,684	$ 711	11 %
Research, development and engineering (as % of total revenue)	70 %	62 %			63 %	61 %		

Research, development and engineering expenses consist primarily of:

- compensation, benefits, incentive compensation in the form of stock-based compensation expense, recruiting and related costs of software and hardware developers and quality assurance personnel;
- payments to outside contractors;
- the purchase of materials and services for product development; and
-

charges for infrastructure and centralized costs of facilities and information technology.

The increase in research, development and engineering expenses for the three month period ended June 30, 2017, compared to the corresponding three month period ended June 30, 2016, was primarily due to:

- increased headcount and compensation-related expenses of $0.3 million; and
- increased recruiting costs of $0.1 million.

The increase in research, development and engineering expenses for the six month period ended June 30, 2017, compared to the corresponding six month period ended June 30, 2016, was primarily due to:

- increased headcount and compensation-related expenses of $0.5 million; and
- increased recruiting costs of $0.1 million.

General and administrative

	Three Months Ended June 30, 2017	Three Months Ended June 30, 2016	Dollar Increase (Decrease)	Percent Increase (Decrease)	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016	Dollar Increase (Decrease)	Percent Increase (Decrease)
General and administrative	$ 2,239	$ 1,976	$ 263	13 %	$ 4,624	$ 4,146	$ 478	12 %
General and administrative (as % of total revenue)	40 %	36 %			40 %	38 %		

We incur general and administrative costs in the functional areas of finance, legal, human resources, executive and board of directors. Costs for facilities and information technology are also managed as part of the general and administrative processes and are allocated to this area as well as each of the areas in cost of revenue, sales and marketing, research, development and engineering and intellectual property.

General and administrative expenses consist primarily of:

- compensation, benefits and incentive compensation in the form of stock-based compensation expense and related costs of general and administrative personnel;
- third party and professional fees associated with legal, accounting and human resources;
- costs associated with being a public company; and
- charges for infrastructure and centralized costs of facilities and information technology.

The increase in general and administrative expenses for the three month period ended June 30, 2017, compared to the corresponding three month period ended June 30, 2016, was primarily due to:

- increased professional fees of $0.1 million; and
- increased legal and accounting expenses of $0.1 million.

The increase in general and administrative expenses for the six month period ended June 30, 2017, compared to the corresponding six month period ended June 30, 2016, was primarily due to:

- increased professional fees of $0.2 million; and
- increased legal and accounting expenses of $0.1 million.

Intellectual property

	Three Months Ended June 30, 2017	Three Months Ended June 30, 2016	Dollar Increase (Decrease)	Percent Increase (Decrease)	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016	Dollar Increase (Decrease)	Percent Increase (Decrease)
Intellectual property	$ 345	$ 462	$ (117)	(25)%	$ 737	$ 896	$ (159)	(18)%
Intellectual property (as % of total revenue)	6 %	8 %			6 %	8 %		

We incur intellectual property expenses that arise primarily from costs associated with documenting, applying for, and maintaining domestic and international patents and trademarks.

Gross expenditures for intellectual property costs, before reflecting the effect of capitalized patent costs, primarily consist of:

- compensation, benefits and incentive compensation in the form of stock-based compensation expense and related costs of attorneys and legal assistants;
- third party costs, including filing and governmental regulatory fees and fees for outside legal counsel and translation costs, each incurred in the patent process;
- consulting costs related to marketing our intellectual property portfolio;
- charges to write off previously capitalized patent costs for patent assets we abandon; and
- charges for infrastructure and centralized costs of facilities and information technology.

Intellectual property expenses can vary from period to period based on the level of capitalized patent activity.

The decreases in intellectual property expenses for the three and six month periods ended June 30, 2017, compared to the corresponding three and six month periods ended June 30, 2016, were primarily due to lower write-offs of abandoned patent costs.

Stock-based compensation

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