# ANNUAL REPORT 2017

DIGIMARC

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

# FORM 10-K

**(Mark One)**

☒ **Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**

**For the fiscal year ended December 31, 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)**

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

| Title of Each Class | Name of Each Exchange on Which Registered |
|---|---|
| **Common Stock, $0.001 Par Value Per Share** | **The NASDAQ Stock Market LLC** |

**Securities registered pursuant to Section 12(g) of the Act: NONE**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

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 if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

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

| | | | |
|---|---|---|---|
| Large accelerated filer | ☐ | Accelerated filer | ☒ |
| Non-accelerated filer | ☐ (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 ☒

The aggregate market value of common stock, par value $0.001 per share, held by non-affiliates of the registrant, based on the closing price of our common stock on the Nasdaq Global Market on the last business day of the registrant's most recently completed fiscal second quarter (June 30, 2017), was approximately $435 million. Shares of common stock beneficially held by each officer and director have been excluded from this computation because these persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for any other purposes.

As of February 16, 2018, 11,859,284 shares of the registrant's common stock were outstanding.

**DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the registrant's proxy statement pursuant to Regulation 14A (the "Proxy Statement") for its 2018 annual meeting of shareholders are incorporated by reference into Items 10, 11, 12, 13 and 14 of Part III of this Annual Report on Form 10-K. The registrant intends to file the Proxy Statement not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

## Table of Contents

**PART I**

## PART I

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

*All dollar amounts are in thousands except per share amounts or unless otherwise noted. The percentages within the following tables may not sum to 100% due to rounding.*

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

## ITEM 1: BUSINESS

*The following discussion of Digimarc's business contains forward-looking statements relating to future events or the future financial performance of Digimarc. 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 Annual Report on Form 10-K in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations, under the caption "Forward-Looking Statements."*

*The following discussion of our business should be read in conjunction with our consolidated financial statements and the related notes and other financial information appearing elsewhere in this Annual Report on Form 10-K.*

### Overview

Digimarc Corporation, an Oregon corporation founded in 2008, enables governments, banks and businesses around the world to automatically and reliably identify and interact with virtually any media. We have pioneered the Digimarc® Intuitive Computing Platform (ICP™), a comprehensive set of technologies for identifying, discovering and interacting with digitally-enhanced media. The platform includes Digimarc Barcode, a proprietary method for imperceptibly enhancing packaging, print, images, thermal labels, audio and other objects with data that is detected by enabled devices, such as smart phones, computers, barcode scanners and machine-vision equipment. Digimarc Discover software enables an ecosystem of connected devices to easily identify content or materials and deliver information.

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 and at home;
- Provide efficient and reliable identification of consumer packaged goods by retail associates in stores for inventory management and restocking;
- 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 this 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 enabled with our proprietary reading software. We refer to this reading software as Digimarc Discover.

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 images, video, and audio 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 generally 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 content owners to give up valuable visual space on their media content; nor does it impact the overall layout or aesthetics of their media content. 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-modal use of various content identification technologies as needed, including Digimarc Barcode when present.

Banknote counterfeit deterrence was the first commercially successful large scale use of our technologies. Innovations based on our existing digital watermarking technology and experience have been leveraged to create new products to deter counterfeiting and tampering of driver licenses and other government-issued secure credentials. In parallel, our business partners, under patent or technology licenses from us, are delivering digital watermarking solutions to track and monitor the distribution of music, images, television and movies to consumers.

In November of 2007, we announced a relationship with The Nielsen Company (US) LLC ("Nielsen") to license our patents in support of Nielsen's industry leading television audience measurement solutions.

In October 2010, we entered into a patent licensing arrangement with IV Digital Multimedia Inventions, LLC, a Delaware limited liability company affiliated with Intellectual Ventures ("IV"), pursuant to which we granted an exclusive license to sublicense, subject to pre-existing encumbrances and a grant-back license, an aggregate of approximately 900 of the 1,200 patents and applications held by us at the time the agreement was entered into, as noted below in the section titled "Technology and Intellectual Property." The number of patents and applications licensed to IV is now approximately 520. Through ongoing development, our portfolio that was not licensed to IV has grown to over 620 patents and applications.

In December 2012, we entered into a renewal and extension through 2024 of the Counterfeit Deterrence System Development and License Agreement with the Central Banks, with a 5-year extension option.

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 making checkout faster and easier for both customers and cashiers. 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. 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.

In January 2016, Digimarc and GS1 US, the U.S. operation of the organization that maintains the global standards for barcodes, announced a broad collaboration to help the industries served by GS1 to make effective use of Digimarc Barcode. GS1 US educates, trains and provides access to services to their 300,000 member businesses. Among other things, Digimarc and GS1 US are working to improve product identification for retailers and consumers with brand-certified, accurate product information via Digimarc Barcodes. In September 2016, Digimarc announced a similar collaboration with GS1 Germany.

In January 2018, we introduced Digimarc Barcode for use in thermal labels for fresh food products. These Digimarc Barcodes contain GS1 Application Identifiers for fresh foods, allowing retailers to dynamically adjust pricing on soon-to-be-expired fresh foods or sell items at a discount, instead of discarding them. Retail thermal labels with Digimarc Barcode scan even when ripped, creased, smudged or damaged, making checkout faster and easier for both customers and cashiers. We have partnered with multiple industry leading retail scale label manufacturers to introduce thermal labels enabled with Digimarc Barcode to the retail industry. Thermal labels enabled with Digimarc Barcode can also provide consumers an engaging mobile experience similar to Digimarc Barcode for consumer product packaging.

**Financial Information About Geographic Areas**

Financial information about geographic areas is included in Note 3 of our Notes to Consolidated Financial Statements.

**Customers and Business Partners**

Our revenue is generated through commercial and government applications of our technology. We derive our revenue primarily from development services, subscriptions for products and services, and licensing of our technology and patents. During 2017, we generated the majority of our revenue from development services under a long-term contract with the Central Banks, subscriptions to our anti-piracy and copyright protection services, and license fees/royalties from licensees.

In 2017, revenue from government contracts accounted for 56% of our total revenue. The Central Banks accounted for substantially all revenue generated under our government contracts. Our government contracts typically span one or more base years and multiple option periods. Government customers generally have the right to not exercise option periods. As part of our work with government customers, we must comply with and are affected by laws and regulations relating to the award, administration and performance of government contracts. Government contract laws and regulations affect how we do business with our government customers and, in some instances, impose added costs on our business.

Information about customers to be listed under Regulation S-K, Item 101(c)(1)(vii) is included in Note 3 of our Notes to Consolidated Financial Statements.

**Products and Services**

We provide media identification and management solutions to commercial entities and government customers and license our technology and patented inventions to other solution providers. Our largest government customer is the Central Banks, with whom we have been developing, deploying, supporting and enhancing a system to deter digital counterfeiting of currency using personal computers and digital reprographics for the last 19 years. We license primarily to commercial entities who use our technology and patented inventions in the media and entertainment industry. Commercial customers use a range of solutions from our business partners and us to identify, track, manage and protect content as it is distributed and consumed—either digitally or physically—and to enable new consumer applications to access networks and information from personal computers and mobile devices. Many movie studios, record labels, broadcasters, creative professionals and other customers rely on our technology as a cost-effective means to:

- deter piracy and illegal use of movies, music, e-publications and images;
- protect entertainment content from copyright infringement;
- track and monitor entertainment content for rights usage and licensing compliance;
- monitor advertisements to verify ad placement and measure return on investment;
- enhance information access, search and provide marketing capabilities related to media content; and
- enable authorized use of content by consumers.

Digimarc Barcodes are easily embedded into all forms of media and are generally imperceptible to human senses, but quickly detected by computers, networks or other digital devices like smartphones. Unlike traditional barcodes and tags, our solution does not require content owners to give up valuable space on their media content; nor does it impact the overall layout or aesthetics of their media content. Our Digimarc Discover platform delivers a range of rich media experiences to smartphones across multiple media including print, audio, video and packaging. Unique to the Digimarc Discover platform is its ability to use various content identification technologies as needed, including our patented technology.

Digimarc Barcodes contain the same information found in traditional UPC codes used on consumer goods packing. The UPC information is invisibly repeated multiple times over the entire package surface making it easier to scan at front of store. 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. 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.

The market for patent licensing has become more challenging in recent years. As a result, we have shifted our focus from direct monetization through 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.

Our current patent licensees include, among others, AlpVision SA, IV, Kantar SAS, NexGuard Labs B.V., Nielsen, OverDrive, Inc., Signum Technologies, Teletrax B.V., Verance Corporation ("Verance") and Verimatrix, Inc.

**Technology and Intellectual Property**

We seek patent protection for our inventions to differentiate our products and technologies, mitigate infringement risks, and develop opportunities for licensing. Our broad patent portfolio covers a wide range of methods, applications, system architectures and processes.

Many of our patents relate to various methods for embedding and decoding digital information in images, video, and audio, whether the content is rendered in analog or digital formats. The digital information is generally embedded by making subtle modifications to the fundamental elements of the content itself, generally at a signal processing level. The changes necessary to embed this information are so subtle that they are generally not noticeable by people during normal use. Because the message is carried by the content itself, it is file-format independent. The embedded digital information generally survives most normal content transformations, including compression, edits, rotation, scaling, re-sampling, file-format transformations, copying, scanning and printing.

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 U.S. and foreign patents granted and applications pending as of December 31, 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.

For a discussion of activities and costs related to our research and development in the last three years, please read "Research, development and engineering" under Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations."

**Markets**

Our patented inventions are used in various media identification and management products and solutions supporting a variety of media objects, from movies and music to banknotes, secure credentials and consumer packaged goods. Each media object enabled by our inventions creates the potential for several applications, such as:

- counterfeiting and piracy deterrence;
- online e-publication piracy protection;
- content identification and media management;
- authentication and monitoring;
- retail point of sale transaction processing;
- linking to networks and providing access to information; and
- enhanced services in support of mobile commerce.

We believe the market for most of these applications is in the early stages of development and that existing solutions represent only a small portion of the potential market for our products, services and technology.

**Competition**

No single competitor or small number of competitors dominate our market. Our competitors vary depending on the application of our products and services. We generally compete with non-digital watermarking technologies for the security or marketing budgets of the producers and distributors of media objects, documents, products and advertising. These alternatives include, among other things, encryption-based security systems and technologies and solutions based on fingerprinting, pattern recognition, and traditional barcodes. Our competitive position in digital watermarking applications is strong because of our large, high-quality, sophisticated patent portfolio and our substantial and growing amount of intellectual property in related media security and management innovations that span basic technologies, applications, system designs and business processes. Our intellectual property portfolio allows us to use proprietary technologies that are well-regarded by our customers and partners, and not available to our competitors without a license. We compete based on the variety of features we offer and a traditional cost/benefit analysis against alternative technologies and solutions. We anticipate that our competitive position within some markets may be affected by factors such as reluctance to adopt new technologies and by changes in government regulations.

**Backlog**

Based on projected commitments we have for the periods under contract with our respective customers, we anticipate our current contracts as of December 31, 2017 will generate a minimum of $28 million in revenue, compared to $31 million as of December 31, 2016. We expect approximately $16 million of the $28 million to be recognized as revenue during 2018.

Some factors that lead to increased backlog include:

- contracts with new customers;
- renewals with current customers;
- add-on orders with customers; and
- contracts with longer contractual periods replacing contracts with shorter contractual periods.

Some factors that lead to decreased backlog include:

- recognition of revenue associated with existing backlog;
- contracts with shorter contractual periods replacing contracts with longer contractual periods;
- modifications to existing contracts;
- contract minimum payments ending; and
- expiration of contracts with existing customers.

The mix of these factors, among others, dictates whether our backlog increases or decreases for any given period. Our backlog may not result in actual revenue in any particular period, because the orders, awards and contracts included in our backlog may be subject to modification, cancellation or suspension. We may not realize revenue on certain contracts, orders or awards included in our backlog or the timing of any realization may change.

**Employees**

At December 31, 2017, we had 207 full-time employees, including 76 in sales, marketing, operations and customer support; 98 in research, development and engineering, including intellectual property; and 33 in finance, administration, information technology and legal.

Our employees are not covered by any collective bargaining agreement, and we have never experienced a work stoppage. We believe that our relations with our employees are good.

**Available Information**

We make available free of charge through our website at *www.digimarc.com* our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to these and other reports filed or furnished by us pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 as soon as reasonably practicable after we file these materials with the Securities and Exchange Commission.

## ITEM 1A: RISK FACTORS

Our business, financial condition, results of operations and cash flows may be affected by a number of factors. The following risk factors identify risks of which we are aware and that we consider to be material to our business. If any of the following risks and uncertainties develops into actual events, our business, financial condition, results of operations or cash flows could be materially adversely affected. In that case, the trading price of our common stock could decline.

## RISKS RELATED TO OUR BUSINESS

***(1) As a purveyor of disruptive technology, if our channel partners and potential customers defer or delay adopting and implementing our technology, or if competitors or other market participants successfully engage in campaigns to discredit our technology, our revenues will be negatively affected. In addition, there are new and expanded components of our revenue engine that will need to be tested and proven.***

While the Company's legacy business remains strong, our primary source of revenue growth—Digimarc Discover® and Digimarc Barcode—are subject to the market forces and adoption curves common to other disruptive technologies. The market is in early stages of development. The revenue model anticipates annual subscriptions will be the primary source of our income. If adoption of Digimarc Discover and Digimarc Barcode takes longer than anticipated, we will continue to experience operating losses.

We expect companies marketing competing technologies to compete vigorously in the marketplace, and to seek to preserve their market share. To the extent these companies succeed in defending their market position, our ability to achieve profitable operations will be impeded.

With respect to anticipated sales growth and prospects for our Digimarc Discover and Digimarc Barcode products and services, our three major avenues for revenue generation include direct sales, web sales, and channel partners. Our growing direct sales force is relatively new, with an average tenure of less than two years with the Company. The redesign of our website to facilitate web-based sales is evolving. Most of our channel partners are new. Thus, the anticipated sources of revenue growth are new and unproven. We are executing strategies intended to make each of these means of revenue generation more effective, but we provide no assurance that we will execute these strategies successfully.

***(2) Our future growth will depend to a material extent on the successful advocacy of our technology by channel partners to their members and customers, and implementation of our technology in solutions propagated by channel partners and provided by third parties.***

Our business has long relied on the success of business partners. Our continuing success is largely dependent on a new generation of business partners supporting Digimarc Discover and Digimarc Barcode. We have entered into agreements with numerous channel partners to propagate and support Digimarc Discover and Digimarc Barcode, including brand deployment and pre-media service providers Southern Graphics Systems, LLC, Schawk, Inc., Sun Branding Solutions, and Diadeis, and consumer packaging solutions companies WestRock Company and Berry Plastics Group, Inc., all who offer Digimarc Barcode services to national and store brand owners and consumer products suppliers; HP, Inc., who can perform large scale serialization of unique identifiers; Perrigo Company, the world’s largest manufacturer of over-the-counter pharmaceutical products for the store brand market, to improve point-of-sale efficiency for retailers and provide consumers easier access to product information from enabled ‘smart’ labels; and platforms which provide unprecedented consumer engagement via smartphones, such as Shazam Entertainment Limited. Digimarc and GS1 US, the U.S. operation of the organization that maintains the global standards for barcodes, announced a broad collaboration to help the industries served by GS1 to make effective use of Digimarc Barcode. GS1 US educates, trains and provides access to services to their 300,000 member businesses. Among other things, Digimarc and GS1 US are working to improve product identification for retailers and consumers with brand-certified, accurate product information via Digimarc Barcodes. Digimarc has also entered into a similar collaboration with GS1 Germany.

If our channel partners are not successful in advocating and deploying our technology, we may not be able to achieve and sustain profitable operations. If other business partners who include our technology in their products or otherwise license our intellectual property for use in their products cease to do so, or we fail to obtain other partners who will incorporate, embed, integrate or bundle our technology, or these partners are unsuccessful in their efforts, expanding deployment of our technology and increasing revenues will be adversely affected. Consequently, our ability to increase revenue could be adversely affected and we may suffer other adverse effects to our business. In addition, if our technology does not perform according to market expectations, our future sales would suffer as customers seek and employ alternative technologies.

***(3) If leading companies in the retail and consumer products industries or standard-setting bodies or institutions downplay, minimize or reject the use of our technology, deployment may be slowed and we may be unable to achieve or sustain profitable operations.***

Many of our business endeavors, including the Digimarc Barcode, can be impeded or frustrated by larger, more influential companies or by standard-setting bodies or institutions downplaying, minimizing or rejecting the value or use of our technology. A negative position by such companies, bodies or institutions could result in obstacles for us that we would be incapable of overcoming and may block or impede the adoption of our technology. In addition, potential customers may delay or reject initiatives that relate to deployment of our technology. Such developments would make the achievement of our business objectives in this market difficult or impossible.

***(4) We are subject to risks encountered by companies developing and relying upon new technologies, products and services to achieve and sustain profitable operations.***

Our business and prospects must be considered in light of the risks and uncertainties to which companies with new and rapidly evolving technology, products and services are exposed. These risks include the following:

- we may be unable to develop sources of new revenue or sustainable growth in revenue because our current and anticipated technologies, products and services may be inadequate or may be unable to attract or retain customers;
- intense competition and rapid technological change could adversely affect the market's acceptance of our existing and new products and services;
- we may be unable to develop and maintain new technologies upon which our existing and new products and services are dependent, which may cause our products and services to be less sustainable and competitive or which could make it harder for us to expand our revenue and business; and
- our licensees may not be able to successfully enter new markets or grow their businesses, limiting royalties paid to us.

Some key technologies and solutions of our patent or technology licensees are in the development stage. Consequently, products incorporating our technology and solutions are undergoing technological change and are in the early stages of introduction in the marketplace. Delays in the adoption of these products or adverse competitive developments may result in delays in the development of new revenue sources or the growth in our existing revenue streams. We may be required to incur unanticipated expenditures if product changes or improvements are required. Moreover, new industry standards might redefine the products that we or our licensees are able to sell, especially if these products are only in the prototype stage of development. If product changes or improvements are required, success in marketing these products by us or our licensees and achieving or sustaining profitability from these products could be delayed or halted.

***(5) A significant portion of our current and potential future revenue is subject to commercial and government contracts and development of new markets that may involve unpredictable delays and other unexpected changes. Such volatility and uncertainty might limit our actual revenue in any given quarter or year.***

We derive a significant portion of our revenue from contracts tied to development schedules or development of new markets, which could shift for months, quarters or years as the needs of our customers and the markets in which they participate change. Government agencies and commercial customers also face budget pressures that introduce added uncertainty. Any shift in development schedules, the markets in which we or our licensees participate, or customer procurement processes, which are outside our control and may not be predictable, could result in delays in bookings forecasted for any particular period, could affect the predictability of our quarterly and annual results, and might limit our actual revenue in any given quarter or year, resulting in reduced and less predictable revenue and adversely affecting profitability.

We are expanding into new markets, which involve inherent risk and unpredictability. In recent years, particularly with the proliferation of smartphones and increased consumer demands for product information, we have investigated other technologies that may provide attractive future opportunities, for example, in the packaging and publishing markets. These generally include technologies that leverage our strength in signal processing and support our vision for intuitive, pervasive computing. As we seek to expand outside our areas of historical expertise, we lack the history and insight that benefited us in the watermarking field. Although we have extensive experience in the commercial application of digital watermarking, we are investing in but may not be as well-positioned in these other disciplines. Accordingly, it may be difficult for us to replicate our watermarking success in other technologies we might pursue.

***(6) A small number of customers account for a substantial portion of our revenue, and the loss of any large contract could materially disrupt our business.***

Historically, we have derived a significant portion of our revenue from a limited number of customers. Five customers represented approximately 78% of our revenue for the year ended December 31, 2017. Most of our revenue comes from long-term contracts generally having terms of at least three to ten years, with some licenses for the life of the associated patents, which could be up to 20 years from the effective date. The agreements with our licensees generally provide for minimum and/or variable payment obligations. Some contracts we enter into contain termination for convenience provisions. If we were to lose such a contract for any reason, or if revenue from variable payment obligations do not replace revenue under the existing fixed payment obligations, our financial results could be adversely affected.

We expect to continue to depend upon a small number of customers for a significant portion of our revenue for the foreseeable future. The loss of, or decline in, orders or backlog from one or more major customers could reduce our revenue and have a material adverse effect on our financial results.

***(7) We were not profitable in 2015, 2016 or 2017 and may not be able to return to or sustain profitability in the future, particularly if we were to lose large contracts or fail in our new market development initiatives. Sustained lack of profitability could cause us to incur asset impairment charges for long-lived assets and/or record valuation allowance against our deferred tax assets.***

We incurred net losses in 2015, 2016 and 2017 largely due to increased levels of investments in our business to support product development and sales growth initiatives.

Returning to and maintaining profitability in the future will depend upon a variety of factors, including our ability to maintain and obtain more significant partnerships like we have with the Central Banks and acquiring new customers for Digimarc Discover, Digimarc Barcode and Guardian. Profitability will also depend on our efficiency in executing our business strategy and capitalizing on new opportunities. Various adverse developments, including the loss of large contracts or cost overruns on our existing contracts, could adversely affect our revenue, margins and profitability.

If we continue to incur operating losses, an impairment to the carrying value of our long-lived assets, including goodwill, acquired intangible assets, patent assets and property and equipment could result. We test for impairment of our long-lived assets when a triggering event occurs that would indicate that the carrying value may not be recoverable. Our methodology for assessing impairment may require management to make judgments and assumptions regarding future cash flows. Our projections of future cash flows are largely based on historical experience, and these projections may not be achieved. Changes to these financial projections used in our impairment analysis could lead to an impairment of all or a portion of our long-lived assets. Any such impairment charge could adversely affect our results of operations and our stock price. We evaluated our long-lived assets for impairment as of December 31, 2017 and concluded there was no impairment. We cannot guarantee, however, that our long-lived assets will not become impaired in the future.

We record valuation allowances on our deferred tax assets if, based on available evidence, it is more-likely-than-not that all or some portion of the assets will not be realized. The determination of whether our deferred tax assets are realizable requires management to identify and weigh all available positive and negative evidence. Management considers recent financial performance, projected future taxable income, scheduled reversals of deferred tax liabilities, tax planning strategies and other evidence in assessing the realizability of our deferred tax assets. Adjustments to our deferred tax assets could adversely affect our results of operations and our stock price. In 2014, we recorded a full valuation allowance against our deferred tax assets largely due to the cumulative loss we had incurred over the previous three years, which is considered a significant piece of negative evidence in assessing the realizability of deferred tax assets. As of December 31, 2017, we determined a full valuation allowance was still appropriate given continued losses. We will not record tax benefits on any future losses until its determined that those tax benefits will be realized.

***(8) We may be adversely affected by variability of contracted arrangements.***

We periodically agree to modify the terms of contractual arrangements with our customers, partners and licensees in response to changes in circumstances underlying the original contractual arrangements, and it is likely that we will do so in the future. As a result of this practice, the terms of our contractual arrangements with our customers, partners and licensees may vary over time and, depending on the particular modification, could have a material adverse effect on our financial position, results of operations or cash flows.

Some of our customers and licensees report royalties to us based on their revenue and their interpretation and allocation of contracted royalty obligations. It is possible that we may not agree with the judgments of our customers on such matters, and such disagreement may lead to potential disputes and reduced revenue to us. These disputes could result in a distraction to our management and may not result in increased revenues to us but may nevertheless result in friction between us and our customers, and potentially the loss of customers, which may ultimately be harmful to our business.

***(9) The market for our products is highly competitive, and alternative technologies or larger companies that compete with us may be more successful than us in gaining market share, which would decrease our revenue and profits.***

The markets in which we compete for business are intensely competitive and rapidly evolving. We expect competition to continue from both existing competitors and new market entrants. We face competition from other companies and from alternative technologies, including some of our customers and licensees. We also may face competition from unexpected sources.

Alternative technologies that may directly or indirectly compete with particular applications of our watermarking technologies include:

- Traditional anti-counterfeiting technologies—a number of solutions used by many government agencies (that compete for budgetary outlays) designed to deter counterfeiting, including optically sensitive ink, magnetic threads and other materials used in the printing of currencies;
- Object and image recognition—one or several pre-specified or learned objects or object classes that can be recognized, usually together with their two-dimensional positions in the image or three-dimensional poses in the scene, such as Apple's Core ML, Amazon Rekognition API, Google Cloud Vision and TensorFlow APIs or PTC Vuforia;
- Radio frequency tags—embedding a chip that emits a signal when in close proximity with a receiver, used in some photo identification credentials, labels and tags;
- Internet technologies—numerous existing and potential Internet access and search methods are competitive with Digimarc mobile systems and the searching capabilities of Guardian;
- Digital fingerprints and signatures—a metric, or metrics, computed solely from a source image or audio or video track, that can be used to identify an image or track, or authenticate the image or track; and
- Barcodes or QR codes—data-carrying codes, typically visible in nature (but may be invisible if printed in ultraviolet- or infrared-responsive inks).

In the competitive environments in which we operate, product generation, development and marketing processes relating to technology are uncertain and complex, and require accurate prediction of demand as well as successful management of various risks inherent in technology development. In light of these uncertainties, it is possible that our failure to successfully accommodate future changes in technologies related to our technology could have a long-term negative effect on our growth and results of operations.

New developments are expected to continue, and discoveries by others, including current and potential competitors, possibly could render our services and products uncompetitive. Moreover, because of rapid technological changes, we may be required to expend greater amounts of time and money than anticipated to develop new products and services, which in turn may require greater revenue streams from those products and services to cover developmental costs. Many of the companies that compete with us for some of our business, as well as other companies with whom we may compete in the future, are larger and may have stronger brand recognition and greater technical, financial, marketing and political resources than we do. These attributes could enable these companies to have more success in the market than we have, either by providing better products or better pricing than we can provide. We may be unable to compete successfully against current or future participants in our market or against alternative technologies, and the competitive pressures we face may have a materially adverse effect on our financial position, results of operations or cash flows.

***(10) An increase in our operations outside of the U.S. subjects us to risks additional to those to which we are exposed in our domestic operations.***

We believe that revenue from sales of products and services to commercial, governmental and other customers outside the U.S. could represent a growing percentage of our total revenue in the future. Digimarc Discover is not bounded geographically, and we believe Digimarc Barcode will see global deployment. As such, certain contracts will be made and performed, in whole or in part, outside of the U.S. Similarly, for Guardian, we perform certain functions in various jurisdictions outside of the U.S. International operations are subject to a number of risks that can adversely affect our sales of products and services to customers outside of the U.S., or expose us to additional expense or liabilities, including the following:

- difficulties and costs of staffing, developing and managing foreign operations as a result of distance, language and cultural differences;
- the effect of laws governing employee and contractor relationships, and the existence of workers' councils and labor unions in some jurisdictions;
- changes in foreign government regulations and security requirements;
- export license requirements, tariffs and taxes;
- trade barriers;
- difficulty in protecting intellectual property;
- difficulty in collecting accounts receivable;
- currency fluctuations;
- longer payment cycles than those for customers in the U.S; and
- political and economic instability.

We do not have an extensive operational infrastructure for international business. We generally depend on local or international business partners and subcontractors for performance of substantial portions of our business. These factors may result in greater risk of performance problems or of reduced profitability with respect to our international programs in these markets. In addition, if foreign customers, in particular foreign government authorities, terminate or delay the implementation of our products and services, it may be difficult for us, or we may not be able, to recover our potential losses.

***(11) We depend on our management and key employees for our future success. If we are not able to retain, hire or integrate these employees, we may not be able to meet our commitments.***

Our success depends to a significant extent on the performance and continued service of our management and our intellectual property team. The loss of the services of any of these employees could limit our growth or undermine customer relationships.

Due to the high level of technical expertise that our industry requires, our ability to successfully develop, market, sell, license and support our products, services, and intellectual property depends to a significant degree upon the continued contributions of our key personnel in engineering, sales, marketing, operations, legal and licensing, many of whom would be difficult to replace. We believe our future success will depend in large part upon our ability to retain our current key employees and our ability to attract, integrate and retain new personnel in the future. It may not be practical for us to match the compensation some of our employees could be offered by other employers. In addition, we may encounter difficulties in hiring and retaining employees because of concerns related to our financial performance or operating results. These circumstances may have a negative effect on the market price of our common stock, and employees and prospective employees may factor in the uncertainties relating to our stability and the value of any equity-based incentives in their decisions regarding employment opportunities and decide to leave our employ or decline employment offers. Moreover, our business is based in large part on patented technology, which is a unique and sophisticated signal processing technology. New employees require substantial training, involving significant resources and management attention. Competition for experienced personnel in our business can be intense. If we do not succeed in attracting new, qualified personnel or in integrating, retaining and motivating our current personnel, our growth and ability to deliver products and services that our customers require may be hampered. Although our employees generally have executed agreements containing non-competition clauses, we do not assure you that a court would enforce all of the terms of these clauses or the agreements generally. If these clauses were not fully enforced, our employees could freely join our competitors. Although we generally attempt to control access to and distribution of our proprietary information by our employees, we do not assure you that the confidential nature of our proprietary information will be maintained in the course of such future employment. Any of these events could have a material adverse effect on our financial position, results of operations or cash flows.

***(12) We may acquire or invest in other companies or technologies in the future, which could divert management's attention, result in additional dilution to our stockholders, increase expenses, disrupt our operations and harm our operating results.***

We acquired Attributor Corporation ("Attributor") in December 2012, and we may in the future acquire, or invest in businesses, products or technologies that we believe could complement or expand our current product and service offerings, enhance our technical capabilities, expand our operations into new markets or otherwise offer growth opportunities. The pursuit of potential acquisitions may divert the attention of management and cause us to incur various expenses related to identifying, investigating and pursuing suitable acquisitions, whether or not they are consummated.

There are inherent risks in integrating and managing acquisitions. We may not be able to assimilate or integrate the acquired personnel, operations and technologies successfully or effectively manage the combined business following an acquisition. We also may not achieve the anticipated benefits from an acquired business due to a number of factors, including:

- unanticipated costs or liabilities associated with the acquisition;
- incurrence of acquisition-related costs, which would be recognized as a current period expense;
- inability to generate sufficient revenue to offset acquisition or investment costs;
- the inability to maintain relationships with customers and partners of the acquired business;
- the need to implement additional controls, procedures and policies;
- entry into geographic markets in which we have little or no prior experience, and challenges caused by distance, language and cultural differences;
- differences in foreign labor and employment laws, including classification of employees and contractors;
- disruption of our ongoing business;
- the potential loss of key employees; and
- use of substantial portions of our available cash to consummate the acquisition.

Acquisitions could also result in dilutive issuances of equity securities or the incurrence of debt, which could adversely affect our financial position. In addition, if an acquired business fails to meet our expectations, our operating results, business and financial condition may suffer.

***(13) (a) We may not be able to adequately secure patent or other protection for our technologies.***

Our business depends in part on securing protection for our proprietary technology and successfully licensing our technology to third parties. To protect our intellectual property portfolio, we rely on a combination of patent, copyright, trademark and trade secret rights, confidentiality procedures and licensing arrangements. Although we regularly apply for patents to protect our intellectual property, there is no guarantee that we will secure patent protection for any particular technology we develop.

Changes in the U.S. and foreign patent laws, or in the interpretation of existing laws, may adversely affect our ability to secure or enforce patents. For example, the U.S. Supreme Court issued a decision in 2014 limiting patent eligibility of computer implemented inventions. The Leahy-Smith America Invents Act of 2011 (the "America Invents Act") also codifies several changes to the U.S. patent laws, including the creation of a post-grant *inter partes* review process to challenge patents after they have issued. The America Invents Act allows third parties to petition the U.S. Patent and Trademark Office or comparable government authorities in other jurisdictions to review and reconsider the patentability of any of our inventions claimed in our issued patents. Any such proceeding may result in one or more of our patent claims becoming limited, or being invalidated altogether. A limitation or invalidation of our patent claims could adversely affect our financial position and our operating results.

Patents have finite lives, and our ability to continue to commercially exploit our patents is limited to the term of the patents. Our earliest patents began expiring in July 2012. The size and strength of our portfolio depends on the number of patents that have been granted, offset by the number of patents that expire, in any given year. We continue to develop our patent portfolio, but we do not assure you that we will be able to exploit newer patents to the extent that we have exploited our earlier patents.

As part of our confidentiality procedures, we generally enter into non-disclosure agreements with our employees, directors, consultants and corporate partners, and attempt to control access to and distribution of our technology, solutions, documentation and other proprietary information. Despite these procedures, third parties could copy or otherwise obtain and make unauthorized use of our technology, solutions or other proprietary information or independently develop similar technologies, solutions or information. The steps that we have taken to prevent misappropriation of our solutions, technology or other proprietary information may not succeed.

We do not assure you that the protection of our proprietary rights will be adequate or that our competitors will not independently develop similar technologies, duplicate our services or design around any of our patents or other intellectual property rights.

***(b) We may not be successful in enforcing our intellectual property rights against third parties.***

Unlicensed copying and use of our intellectual property or infringement of our intellectual property rights may result in the loss of revenue to us and cause us other harm. If we encounter a company that we believe is infringing our intellectual property rights, we may try to negotiate a license arrangement with such party. If we try and are unable to negotiate a license or secure the agreement of such alleged infringing party to cease its activities, we must make decisions as to how best to enforce our intellectual property rights, which may result in additional costs.

The process of negotiating a license with a third party can be lengthy, and may take months or even years in some circumstances. It is possible that third parties who we believe are infringing our intellectual property rights are unwilling to license our intellectual property from us on terms we can accept, or at all.

If we cannot persuade a third party who we believe is infringing our technology to enter into a license with us, we may be required to consider other alternatives to enforce our rights, including commencing litigation. The decision to commence litigation over infringement of a patent is complex and may lead to several risks to us, including the following, among others:

- the time, significant expense and distraction to management of managing such litigation;
- the uncertainty of litigation and its potential outcomes;
- the possibility that in the course of such litigation, the defendant may challenge the validity of our patents, which could result in a re-examination or post grant review of our patents and the possibility that our patents may be limited in scope or invalidated altogether;
- the potential that the defendant may successfully persuade a court that their technology or products do not infringe our intellectual property rights;
- the impact of such litigation on other licensing relationships we have or seek to establish, including the timing of renewing or entering into such relationships, as applicable, as well as the terms of such relationships; and
- adverse publicity to us or harm to relationships we have with customers or others.

Also, enforcement of patent protection throughout the world is generally established on a country-by-country basis and we may not be able to enforce our patents in foreign jurisdictions.

If we fail to protect our intellectual property rights adequately, if there are adverse changes in applicable laws, or if we become involved in litigation relating to our intellectual property rights or the intellectual property rights of others, our business could be seriously harmed. In such cases, the value ascribed to our intellectual property could diminish, we may incur significant legal expenses that could harm our results of operations and our patents or other intellectual property rights may be limited or invalidated. Any of the foregoing could have a negative effect on the value of our common stock.

***(c) We may be subject to infringement claims and other litigation, which could adversely affect our business.***

As more companies engage in business activities relating to digital watermarking, and develop corresponding intellectual property rights, it is increasingly likely that claims may arise which assert that some of our products or services infringe upon other parties' intellectual property rights. These claims could subject us to costly litigation and divert management resources. These claims may require us to pay significant damages, cease production of infringing products, terminate our use of infringing technology or develop non-infringing technologies. In these circumstances, continued use of our technology may require that we acquire licenses to the intellectual property that is the subject of the alleged infringement, and we might not be able to obtain these licenses on commercially reasonable terms or at all. Our use of protected technology may result in liability that threatens our continuing operation.

Some of our contracts include indemnity and similar provisions regarding our non-infringement of third-party intellectual property rights. As deployment of our technology increases, and more companies enter our markets, the likelihood of a third party lawsuit resulting from these provisions increases. If an infringement arose in a context governed by such a contract, we may have to refund to our customer amounts already paid to us or pay significant damages, or we may be sued by the party whose intellectual property has allegedly been infringed upon.

***(14) If our revenue models and pricing structures relating to products and services that are under development do not gain market acceptance, the products and services may fail to attract or retain customers and we may not be able to generate new revenue or sustain existing revenue.***

Some of our business involves embedding digital watermarks in traditional and digital media, including consumer product packaging and related marketing materials, secure documents, audio, video and imagery, and licensing our intellectual property. Our revenues result from a combination of development, consulting, subscription and license fees from a variety of media identification and management applications. We have not fully developed our revenue models for some applications related to Digimarc Discover and Discover Barcode. Because some of our products and services are not yet well-established in the marketplace, and because some of these products and services will not directly displace existing solutions, we cannot be certain that the pricing structure for these products and services will gain market acceptance or be sustainable over time or that the marketing for these products and services will be effective.

***(15) If we are unable to respond to regulatory or industry standards effectively, or if we are unable to develop and integrate new technologies effectively, our growth and the development of our products and services could be delayed or limited.***

Our future success will depend in part on our ability to enhance and improve the responsiveness, functionality and features of our products and services, and those of our business partners, in accordance with regulatory or industry standards. Our ability to remain competitive will depend in part on our ability to influence and respond to emerging industry and governmental standards in a timely and cost-effective manner. If we are unable to influence these or other standards or respond to these standards effectively, our growth and the development of various products and services could be delayed or limited.

Our market is characterized by new and evolving technologies. The success of our business will depend on our ability to develop and integrate new technologies effectively and address the increasingly sophisticated technological needs of our customers in a timely and cost-effective manner. Our ability to remain competitive will depend in part on our ability to:

- enhance and improve the responsiveness, functionality and other features of the products and services we offer or plan to offer;
- continue to develop our technical expertise; and
- develop and introduce new services, applications and technologies to meet changing customer needs and preferences and to integrate new technologies.

We do not assure you that we will be successful in responding to these technological and industry challenges in a timely and cost-effective manner. If we are unable to develop or integrate new technologies effectively or respond to these changing needs, our margins could decrease, and our release of new products and services and the deployment of our technology could be adversely affected.

***(16) We may need to retain additional employees or contract labor in the future in order to take advantage of new business opportunities arising from increased demand, which could increase costs and impede our ability to achieve or sustain profitability in the short term.***

We have staffed our company with the intent of accelerating our product development and sales growth initiatives while also focusing on achieving and sustaining profitability. Our current staffing levels could affect our ability to respond to increased demand for our services. In addition, to meet any increased demand and take advantage of new business opportunities in the future, we may need to increase our workforce through additional employees or contract labor. Although we believe that increasing our workforce would potentially support anticipated growth and profitability, it would increase our costs. If we experience such an increase in costs, we may not succeed in achieving or sustaining profitability in the short term.

***(17) The terms and conditions of our contracts could subject us to damages, losses and other expenses if we fail to meet delivery and other performance requirements.***

Our service contracts typically include provisions imposing:

- development, delivery and installation schedules;
- customer acceptance and testing requirements; and
- other performance requirements.

To the extent these provisions involve performance over extended periods of time, risks of noncompliance may increase. From time to time we have experienced delays in system implementation, timely acceptance of programs, concerns regarding program performance and other contractual disputes. If we fail to meet contractual performance requirements as promised, or to successfully resolve customer disputes, we could incur liability for damages, as well as increased costs, lower margins, or compensatory obligations in addition to other losses, such as harm to our reputation. Any unexpected increases in costs to meet our contractual obligations or any other requirements necessary to address claims and damages with regard to our customer contracts could have a material adverse effect on our business and financial results.

***(18) Products deploying our technology could have unknown defects or errors, which may give rise to claims against us, divert application of our resources from other purposes or increase our project implementation and support costs.***

Products and services as complex as those we offer or develop may contain undetected defects or errors. Furthermore, we often provide complex implementation, integration, customization, consulting and other technical services in connection with the implementation and ongoing maintenance of our products. Despite testing, defects or errors in our products and services may occur, which could result in delays in the development and implementation of products and systems, inability to meet customer requirements or expectations in a timely manner, loss of revenue or market share, increased implementation and support costs, failure to achieve market acceptance, diversion of development resources, injury to our reputation, increased insurance costs, increased service and warranty costs and warranty or breach of contract claims. Although we attempt to reduce the risk of losses resulting from warranty or breach of contract claims through warranty disclaimers and liability limitation clauses in our sales agreements when we can, these contractual provisions are sometimes limited and may not be enforceable in every instance. If a court refuses to enforce the liability limiting provisions of our contracts for any reason, or if liabilities arise that were not contractually limited or adequately covered by insurance, the expense associated with defending these actions or paying the resultant claims could be significant.

***(19) The security systems used in our product and service offerings may be circumvented or sabotaged by third parties, which could result in the disclosure of sensitive information or private personal information or cause other business interruptions that could damage our reputation and disrupt our business.***

Our business relies on computers and other information technologies, both internal and at customer locations. The protective measures that we use may not prevent all security breaches, and failure to prevent security breaches may disrupt our business, damage our reputation, and expose us to litigation and liability. A party who is able to circumvent security measures could misappropriate sensitive or proprietary information or materials or cause interruptions or otherwise damage our products, services and reputation, and the property of our customers. If unintended parties obtain sensitive data and information, or create bugs or viruses or otherwise sabotage the functionality of our systems, we may receive negative publicity, incur liability to our customers or lose the confidence of our customers, any of which may cause the termination or modification of our contracts. Further, our insurance coverage may be insufficient to cover losses and liabilities that may result from these events.

In addition, we may be required to expend significant capital and other resources to protect ourselves against the threat of security breaches or to alleviate problems caused by these breaches. Any protection or remedial measures may not be available at a reasonable price or at all, or may not be entirely effective if commenced.

***(20) We may experience outages and disruptions of our infrastructure that may harm our business, prospects, financial condition and results of operations.***

We may be subject to outages or disruptions of our infrastructure, including information technology system failures and network disruptions. Substantially all of our computer and communications hardware is located at a single facility. System redundancy may be ineffective or inadequate, and our disaster recovery planning may not be sufficient for all eventualities.

If a natural disaster, cyber incident, weather event, power disruption, telecommunications failure, act of terrorism or other event occurred that prevented us from using all or a significant portion of our facility and/or damaged critical infrastructure, it could harm our ability to conduct normal business operations.

***(21) We are periodically involved in the ordinary course of business in litigation, and an adverse resolution of such litigation may adversely affect our business, financial condition, results of operations, and cash flows.***

From time to time, in our normal course of business, we are a party to various legal claims, actions and complaints. For example, as part of our patent licensing program, we may bring claims or counterclaims of patent infringement to enforce our patent rights. Given the uncertain nature of litigation, we are not able to estimate the amount or range of gain or loss that could result from an outcome of litigation. Litigation can be expensive, lengthy, and disruptive to normal business operations. The results of complex legal proceedings are often uncertain and difficult to predict. We could incur costs in excess of any established accruals and, to the extent available, excess liability insurance. An unfavorable outcome in any legal proceedings could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

***(22) Consolidation of consumer product companies and/or retailers or brands, or other concentration of market share among a few consumer products companies and/or retailers or brands, may reduce the number of potential customers for our technology and put pressure on our pricing structure.***

The brands, consumer products and retailer markets in some geographic regions are dominated by a few large companies. These companies have in the past increased their market share and may continue to do so in the future by expanding through acquisitions. In the future, if significant acquisitions were to occur there may be fewer potential customers for our technology. Additionally, larger companies have strengthened purchasing power, which could force a decline in our pricing structure and decrease the margins we can realize.

## RISKS RELATED TO OUR CAPITAL STOCK

***(23) Our common stock price may be volatile, and you could lose all or part of your investment in shares of our common stock.***

The price of shares of our common stock may fluctuate as a result of changes in our operating performance or prospects and other factors. Some specific factors that may have a significant effect on the price of shares of our common stock include:

- the public’s reaction to our public disclosures;
- actual or anticipated changes in our operating results or future prospects;
- potential unfavorable changes from originally reported royalties by customers resulting from an audit performed by us or a third party, or self-corrected by the customer;
- strategic actions by us or our competitors, such as acquisitions or restructurings;
- impact of acquisitions on our liquidity and financial performance;
- new laws or regulations or new interpretations of existing laws or regulations applicable to our business;
- changes in accounting standards, policies, guidance, interpretations or principles applicable to us;
- conditions of the industry as a result of changes in financial markets or general economic or political conditions;

- the failure of securities analysts to cover our common stock in the future, or changes in financial estimates by analysts;
- changes in analyst recommendations or earnings estimates regarding us, other comparable companies or the industry generally, and our ability to meet those estimates;
- changes in the amount of dividends paid, if any;
- future issuances of our common stock or the perception that future sales could occur; and
- volatility in the equity securities market.

***(24) Our common stock price may increase or decrease on material news or developments.***

As a thinly-traded microcap company, volatility in the equity securities market may disproportionately cause swings in our stock price, upward and downward, on positive and negative developments. We believe that computerized trading exacerbates fluctuations in our stock price.

***(25) Our corporate governance documents, our rights agreement and Oregon law may delay or prevent an acquisition of us that shareholders may consider favorable, which could decrease the value of your shares.***

Our articles of incorporation and bylaws and Oregon law contain provisions that could make it more difficult for a third party to acquire us without the consent of our Board of Directors. These provisions include supermajority voting requirements for shareholders to amend our organizational documents and limitations on actions by our shareholders by written consent. In addition, our Board of Directors has the right to issue preferred stock without shareholder approval, which could be used to dilute the stock ownership of a potential hostile acquirer. In July 2008, our Board of Directors adopted a rights agreement pursuant to which one one-hundredth (1/100) of a preferred stock purchase right will be issued for each outstanding share of our common stock. In general terms, our rights agreement works by imposing a significant penalty upon any person or group that acquires 15% or more of our outstanding common stock without the approval of our Board of Directors. Oregon law also restricts the ability to vote shares of stock acquired in a transaction that causes the acquiring person to control at least one-fifth, one-third or one-half of the votes entitled to be cast in the election of directors (a “control share acquisition”). Shares acquired in a control share acquisition have no voting rights except as authorized by a vote of the shareholders. Although we believe these provisions protect our shareholders from coercive or otherwise unfair takeover tactics and thereby provide for an opportunity to receive a higher bid by requiring potential acquirers to negotiate with our Board of Directors, these provisions apply even if the offer may be considered beneficial by some shareholders.

## ITEM 1B: UNRESOLVED STAFF COMMENTS

None.

## ITEM 2: PROPERTIES

We lease our principal administrative, marketing, research, and intellectual property development facility, which is approximately 47,000 square feet in size and located in Beaverton, Oregon. In July 2015, we entered into an amendment with the landlord of our corporate offices in Beaverton, Oregon to extend the lease term through March 2024 for rent payments totaling $5.5 million, payable in monthly installments.

In February 2015, we entered into a new facilities lease agreement for a facility in San Mateo, California, which is approximately 5,400 square feet in size, with a lease term through March 2020 for rent payments totaling $1.0 million, payable in monthly installments. We lease this facility for sales, marketing and engineering staff in support of our Guardian products and services.

We believe that our existing facilities are suitable and adequate for our current and foreseeable future needs. See Note 7 of our Notes to Consolidated Financial Statements for further lease related disclosures.

## ITEM 3: LEGAL PROCEEDINGS

We are 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 4: MINE SAFETY DISCLOSURES

Not applicable.

## PART II

### ITEM 5: MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock began trading on the Nasdaq Stock Market LLC in October 2008 under the symbol "DMRC." The closing price of our common stock on the Nasdaq Global Market was $31.15 on February 16, 2018. The following table lists the high and low sales prices of our common stock for the periods indicated, as reported by the Nasdaq Global Market.

| | Years Ended December 31, | | | |
|---|---|---|---|---|
| | 2017 | | 2016 | |
| | High | Low | High | Low |
| First quarter | $ 30.60 | $ 24.20 | $ 44.94 | $ 26.23 |
| Second quarter | $ 41.75 | $ 26.00 | $ 32.03 | $ 25.04 |
| Third quarter | $ 40.30 | $ 27.35 | $ 40.13 | $ 30.39 |
| Fourth quarter | $ 39.15 | $ 32.55 | $ 38.58 | $ 26.70 |

At February 16, 2018, we had 275 shareholders of record of our common stock, as shown in the records of our transfer agent. Since many holders hold shares in "street name," we believe that there is a significantly larger number of beneficial owners of our common stock than the number of record holders.

In August 2016, we sold 1,233,333 shares of our common stock in an underwritten public offering, plus an additional 185,000 shares in full exercise of the underwriters' option to purchase additional shares of common stock, at the price to the public of $30.00 per share. We received $39,953 of cash proceeds, net of discount of $2,447 and underwriter fees of $150, from the offering, and paid $253 in stock issuance costs for legal and accounting fees.

In June 2017, we sold 500,000 shares of our 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. We received $17,775 of cash proceeds from the offering, and paid $77 in stock issuance costs.

In November 2017, we sold 331,034 shares of our common stock in a registered direct offering to a certain investor at a price of $36.25 per share. The offering was made without an underwriter or placement agent. We received $12,000 of cash proceeds from the offering, and paid $21 in stock issuance costs.

We withhold (repurchase) shares of common stock in connection with the vesting of restricted shares to satisfy required tax withholding obligations.

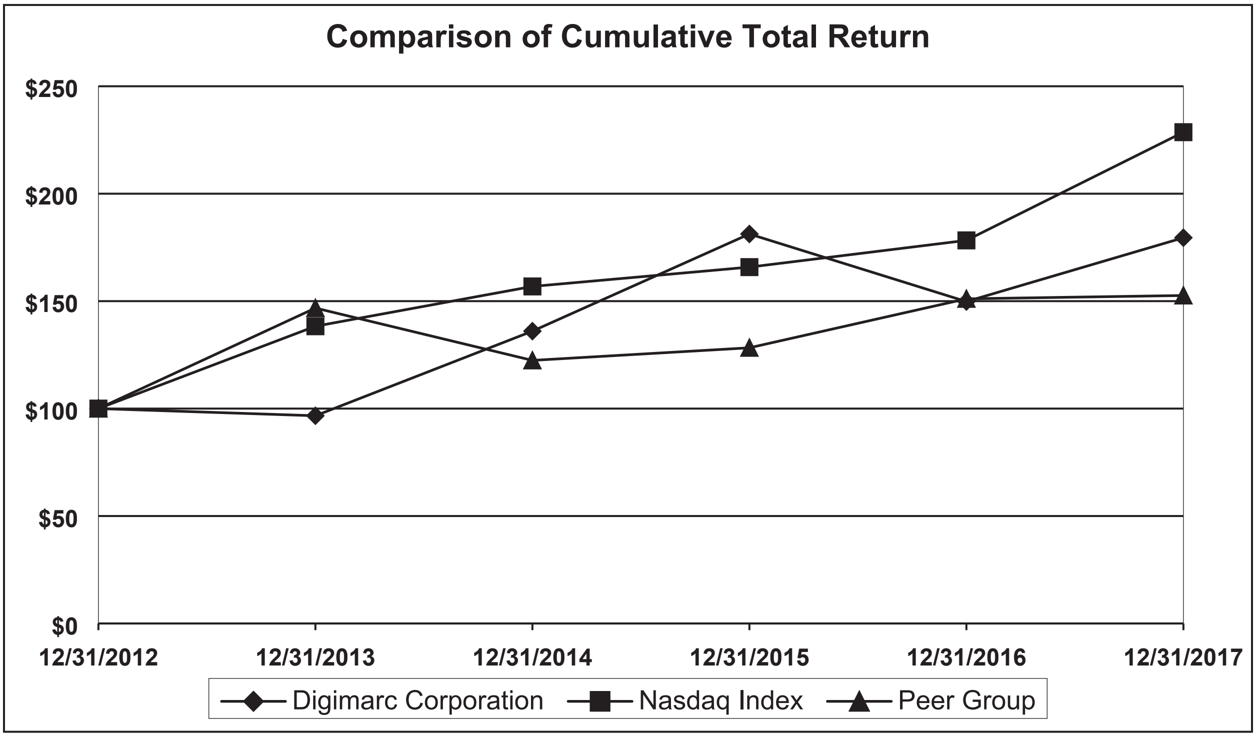
The following table sets forth information regarding purchases of our equity securities during the three-month period ended December 31, 2017:

| Period | (a) Total number of shares purchased (1) | (b) Average price paid per share (1) | (c) Total number of shares purchased as part of publicly announced plans or programs | (d) Approximate dollar value of shares that may yet be purchased under the plans or programs |
|---|---|---|---|---|
| Month 1 | | | | |
| October 1, 2017 to October 31, 2017 | — | $ — | — | $ — |
| Month 2 | | | | |
| November 1, 2017 to November 30, 2017 | 24,058 | $ 36.35 | — | $ — |
| Month 3 | | | | |
| December 1, 2017 to December 31, 2017 | 2,548 | $ 36.25 | — | $ — |
| Total | 26,606 | $ 36.34 | — | $ — |

(1) Fully vested shares of common stock withheld (purchased) by us in satisfaction of required withholding tax liability upon vesting of restricted stock.

## STOCK PERFORMANCE GRAPH

The following graph compares the performance of our common stock with the performance of (i) the Nasdaq U.S. Index and (ii) a peer group selected by our Compensation Committee. The comparison assumes $100 was invested in our common stock on December 31, 2012 and in each of the two indices at the closing price on that date, and assumes reinvestment of any dividends. We believe that the companies in the peer group are comparable to us in terms of line-of-business, market capitalization, revenue, and number of employees, and therefore, comprise an appropriate peer group for purposes of comparing stock performance. The comparisons in the graph are based on historical data and are not indicative of, nor intended to forecast, future performance of our common stock.




**Companies included in the Peer Group index of the stock performance graph are as follows:**

AMERICAN SOFTWARE, INC.
BAZAARVOICE
BRIGHTCOVE INC.
CARBONITE, INC.
GLU MOBILE INC.
IMMERSION CORPORATION
THE MEET GROUP, INC.
MITEK SYSTEMS, INC.
ORBCOMM, INC.
PARK CITY GROUP, INC.
PDF SOLUTIONS, INC.
TELENAV, INC.
VIRNETX HOLDING CORPORATION
ZIX CORPORATION

(1) The Compensation Committee reviews our peer group periodically for continued appropriateness. Our peer group changed from our peer group in 2016 due to consolidating acquisitions in the intervening period and changes in our market capitalization. Our peer group in 2017 also included Amber Road Inc. and Guidance Software but they were not included in the stock performance graph above as these two companies were not publicly traded companies during the entire 5-year period.

## ITEM 6: SELECTED FINANCIAL DATA

The selected financial data set forth below should be read in conjunction with the consolidated financial statements and the notes to the consolidated financial statements and "Management's Discussion and Analysis of Financial Condition and Results of Operations," which are included elsewhere in this report.

The following tables set forth our selected financial information as of and for each of the years in the five-year period ended December 31, 2017, which has been derived from audited financial statements as of December 31, 2017, 2016, 2015, 2014 and 2013 and for the years ended December 31, 2017, 2016, 2015, 2014 and 2013.

### Statement of Operations Data

| | Years Ended December 31, | | | | |
|---|---|---|---|---|---|
| | 2017 | 2016 | 2015 | 2014 | 2013 |
| Revenue | $ 25,213 | $ 21,793 | $ 22,189 | $ 25,658 | $34,964 |
| Gross profit percentage | 66% | 61% | 60% | 67% | 77% |
| Operating loss | $(26,565) | $(21,920) | $(17,977) | $(15,223) | $ (2,412) |
| Net loss | $(25,771) | $(21,672) | $(17,934) | $(15,820) | $ (507) |
| Earnings (loss) per common share: | | | | | |
| Loss per common share—basic | $ (2.44) | $ (2.36) | $ (2.19) | $ (0.22) | $ (0.10) |
| Loss per common share—diluted | $ (2.44) | $ (2.36) | $ (2.19) | $ (0.22) | $ (0.10) |
| Weighted average common shares outstanding—basic (in thousands) | 10,571 | 9,188 | 8,198 | 7,187 | 6,866 |
| Weighted average common shares outstanding—diluted (in thousands) | 10,571 | 9,188 | 8,198 | 7,187 | 6,866 |
| Cash dividends declared per common share | $ — | $ — | $ — | $ 0.22 | $ 0.44 |

### Balance Sheet Data

| | As of December 31, | | | | |
|---|---|---|---|---|---|
| | 2017 | 2016 | 2015 | 2014 | 2013 |
| Cash, cash equivalents and short-term marketable securities | $ 67,738 | $ 56,134 | $ 36,187 | $ 38,323 | $ 29,662 |
| Long-term marketable securities | $ — | $ 4,392 | $ 2,999 | $ 749 | $ 5,302 |
| Total assets | $ 88,370 | $ 78,736 | $ 56,364 | $ 57,416 | $ 57,197 |
| Long-term liabilities | $ 985 | $ 956 | $ 226 | $ 203 | $ 496 |
| Redeemable preferred stock | $ 50 | $ 50 | $ 50 | $ 50 | $ 50 |

## ITEM 7: 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, which 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 at the end of this discussion, under the caption "Forward-Looking Statements," and Item 1A, "Risk Factors" for a discussion of some of the uncertainties, risks and assumptions associated with these statements.*

*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 Annual Report on Form 10-K.*

*All dollar amounts are in thousands except per share amounts or unless otherwise noted. The percentages within the following tables included in this section may not sum to 100% due to rounding.*

### Overview

Digimarc Corporation enables governments, banks and businesses around the world to automatically and reliably identify and interact with virtually any media. We have pioneered the Digimarc® Intuitive Computing Platform (ICP™), a comprehensive set of technologies for identifying, discovering and interacting with digitally-enhanced media. The platform includes Digimarc Barcode, a proprietary method for imperceptibly enhancing packaging, print, images, thermal labels, audio and other objects with data that is detected by enabled devices, such as smart phones, computers, barcode scanners and machine-vision equipment. Digimarc Discover software enables an ecosystem of connected devices to easily identify content or materials and deliver information.

Our growth strategy encompasses both our government and commercial businesses. We plan to continue investing in research and development and sales and marketing to develop and market our products, including Digimarc Discover, Digimarc Barcode and Guardian, and to continue to expand our intellectual property portfolio. To protect our significant efforts in creating our technology, 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 U.S. and foreign patents granted and applications pending as of December 31, 2017. We continue to develop and broaden our portfolio of patented technology 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.

### Critical Accounting Policies and Estimates

The preparation of financial statements in accordance with accounting principles generally accepted in the U.S. ("U.S. GAAP") requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingent assets and liabilities. On an on-going basis, we evaluate our estimates, including those related to bad debts, contingencies, goodwill, income taxes, intangible assets, marketable securities, property and equipment and revenue recognition. We base our estimates on historical experience and on other assumptions we believe to be reasonable in the circumstances. Actual results may differ from these estimates under different assumptions or conditions.

Some of our accounting policies require higher degrees of judgment than others in their application. We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our consolidated financial statements.

**Revenue recognition:** We account for customer arrangements that encompass multiple deliverables, such as patent licenses, professional services, software licenses, and maintenance and support fees, under ASC 605-25 "*Multiple-Element Arrangements.*" For arrangements that include multiple deliverables, we identify and divide the deliverables into separate units of accounting at inception if certain criteria are met. We apply 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 our 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 derived 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 Digimarc have been earned, are fixed or determinable, and collection is reasonably assured. Our standard payment terms for license arrangements are 30 to 60 days. Extended payment terms on patent license arrangements may not be fixed or determinable when payments are due beyond our standard payment terms and there is substantial risk of future modification to the license terms. In these cases, revenue is recognized as fees become due and payable rather than when the license rights are transferred.

**Results of Operations—the Years Ended December 31, 2017 and December 31, 2016**

The following tables present our consolidated statements of operations data for the periods indicated.

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 |
|---|---|---|
| Revenue: | | |
| Service | $ 12,936 | $ 12,667 |
| Subscription | 5,519 | 5,808 |
| License | 6,758 | 3,318 |
| Total revenue | 25,213 | 21,793 |
| Cost of revenue: | | |
| Service | 5,792 | 5,673 |
| Subscription | 2,264 | 2,410 |
| License | 502 | 414 |
| Total cost of revenue | 8,558 | 8,497 |
| Gross profit | 16,655 | 13,296 |
| Operating expenses: | | |
| Sales and marketing | 16,636 | 11,888 |
| Research, development and engineering | 15,435 | 13,394 |
| General and administrative | 9,680 | 8,298 |
| Intellectual property | 1,469 | 1,636 |
| Total operating expenses | 43,220 | 35,216 |
| Operating loss | (26,565) | (21,920) |
| Other income, net | 588 | 258 |
| Loss before income taxes | (25,977) | (21,662) |
| Benefit (provision) for income taxes | 206 | (10) |
| Net loss | $ (25,771) | $ (21,672) |

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 |
|---|---|---|
| | Percentages are percent of total revenue | |
| Revenue: | | |
| Service | 51% | 58% |
| Subscription | 22 | 27 |
| License | 27 | 15 |
| Total revenue | 100 | 100 |
| Cost of revenue: | | |
| Service | 23 | 26 |
| Subscription | 9 | 11 |
| License | 2 | 2 |
| Total cost of revenue | 34 | 39 |
| Gross profit | 66 | 61 |
| Operating expenses: | | |
| Sales and marketing | 66 | 55 |
| Research, development and engineering | 61 | 61 |
| General and administrative | 38 | 38 |
| Intellectual property | 6 | 8 |
| Total operating expenses | 171 | 162 |
| Operating loss | (105) | (101) |
| Other income, net | 2 | 1 |
| Loss before income taxes | (103) | (99) |
| Benefit (provision) for income taxes | 1 | — |
| Net loss | (102%) | (99%) |

***Summary***

Total revenue increased $3.4 million or 16% to $25.2 million, primarily as the result of higher license revenue driven by a one-time $3.5 million license fee from an existing licensee.

Total operating expenses increased $8.0 million or 23% to $43.2 million, reflecting higher investment in sales, marketing and engineering, primarily additional headcount, as we continue to address important opportunities in market development and delivery for Digimarc Discover and Digimarc Barcode.

***Revenue***

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Revenue: | | | | |
| Service | $ 12,936 | $ 12,667 | $ 269 | 2% |
| Subscription | 5,519 | 5,808 | (289) | (5)% |
| License | 6,758 | 3,318 | 3,440 | 104% |
| Total | $ 25,213 | $ 21,793 | $ 3,420 | 16% |
| Revenue (as % of total revenue): | | | | |
| Service | 51% | 58% | | |
| Subscription | 22% | 27% | | |
| License | 27% | 15% | | |
| Total | 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 increase in service revenue was primarily due to higher billable rates under our agreement with the Central Banks.

*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 decrease in subscription revenue was primarily due to lower Guardian revenue, partially offset by higher 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 increase in license revenue was primarily due to the recognition of a one-time $3.5 million license fee from an existing licensee. In exchange for the upfront license fee, we waived any future royalty obligations from this licensee in one of the licensed fields of use. The license fee was paid in two equal installments of $1.75 million in October 2017 and January 2018.

***Revenue by geography***

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Revenue by geography: | | | | |
| Domestic | $ 5,116 | $ 4,776 | $ 340 | 7% |
| International | 20,097 | 17,017 | 3,080 | 18% |
| Total | $ 25,213 | $ 21,793 | $ 3,420 | 16% |
| Revenue (as % of total revenue): | | | | |
| Domestic | 20% | 22% | | |
| International | 80% | 78% | | |
| Total | 100% | 100% | | |

The increase in domestic revenue was primarily due to Digimarc Barcode revenue from domestic customers and higher license revenue from a domestic licensee, partially offset by lower Guardian revenue from domestic customers.

The increase in international revenue was primarily due to the recognition of a one-time $3.5 million license fee from an existing international licensee and higher service revenue from the Central Banks, partially offset by lower Guardian revenue from international customers.

***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 for machinery, equipment and software directly used by customers;
- travel costs directly attributable to development and consulting 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***

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Gross Profit: | | | | |
| Service | $ 7,144 | $ 6,994 | $ 150 | 2% |
| Subscription | 3,255 | 3,398 | (143) | (4)% |
| License | 6,256 | 2,904 | 3,352 | 115% |
| Total | $ 16,655 | $ 13,296 | $ 3,359 | 25% |
| Gross Profit (as % of related revenue components): | | | | |
| Service | 55% | 55% | | |
| Subscription | 59% | 59% | | |
| License | 93% | 88% | | |
| Total | 66% | 61% | | |

The increase in total gross profit was primarily due to the recognition of a one-time $3.5 million license fee from an existing licensee.

The increase in license gross profit as a percentage of license revenue was due to the recognition of a one-time $3.5 million license fee from an existing licensee.

### *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*

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Sales and marketing | $ 16,636 | $ 11,888 | $ 4,748 | 40% |
| Sales and marketing (as % of total revenue) | 66% | 55% | | |

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 was due primarily to:

- increased headcount and compensation-related expenses of $3.2 million;
- increased travel expenses of $0.4 million due to increased headcount;
- increased marketing and professional fees of $0.3 million related to market initiatives;
- increased charges for infrastructure and centralized costs of $0.3 million due to increased costs and headcount; and
- increased recruiting costs of $0.3 million.

*Research, development and engineering*

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Research, development and engineering | $ 15,435 | $ 13,394 | $ 2,041 | 15% |
| Research, development and engineering (as % of total revenue) | 61% | 61% | | |

Research, development and engineering expenses arise primarily from three areas that support our business model:

- Fundamental Research:
  - investigation of new digital watermarking algorithms to increase robustness and/or computational efficiency;
  - mobile device usage models and imaging sub-systems in camera-phones;
  - industry conference participation and authorship of papers for industry journals;
  - survey and study of human and computer interaction models with a focus on mobile devices and modeling of intent;

- development of new intellectual property, including documentation of claims and production of supporting diagrams and materials;
- research in multi-spectral analyses, machine learning, barcodes, QR codes, fingerprinting, and other content identification technologies;
- metadata ranking algorithms for matching Internet file content against reference database; and
- investigation of substrates, printing techniques, and printing technology relating to consumer packaged goods and thermal labels.

- Platform Development:
  - tuning and optimization of implementation models to improve resistance to non-malicious attacks and routine transformations, such as JPEG, cropping and printing;
  - mobile platform creation to leverage device-specific capabilities (e.g., instruction sets and Graphics Processing Units);
  - mobile platform optimization involving usage of multiple sensors simultaneously;
  - embedded systems platform creation and tuning for barcode scanners, thermal label printers, and machine vision environments;
  - tuning big data analytics transformation and metrics aggregation engine;
  - tuning data-driven Internet crawling infrastructure with policy-driven feedback loop; and
  - assembly of master book publishing catalog based on aggregation and reconciliation of multiple public data sources.
- Product Development:
  - deliver and enhance Digimarc Barcode for an expanding list of applications including packaging for consumer packaged goods and thermal labels for fresh foods;
  - maintaining the Digimarc Barcode Manager to provide campaign management and routing services for the Digimarc Discover platform;
  - maintaining the web-hosted image enhancement service in support of Digimarc Discover platform;
  - development and optimization of production level image enhancement tools and quality control services;
  - iterative development and release of the Digimarc Discover application for the iOS and Android platforms; and
  - real-time analytics portal to support anti-piracy services for the publishing industry.

Research, development and engineering expenses consist primarily of:

- compensation, benefits, incentive compensation in the form of stock-based compensation 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 was due primarily to:

- increased headcount and compensation-related expenses of $1.6 million; and
- increased charges for infrastructure and centralized costs of $0.2 million due to increased costs and headcount.

*General and administrative*

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| General and administrative | $ 9,680 | $ 8,298 | $ 1,382 | 17% |
| General and administrative (as % of total revenue) | 38% | 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 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 was due primarily to:

- increased compensation-related expenses of $0.8 million;
- increased professional consulting fees of $0.3 million;
- increased facilities related expenses of $0.3 million; and
- increased legal and accounting expenses of $0.2 million; partially offset by
- decreased charges for infrastructure and centralized costs of $0.5 million, which were allocated to sales and marking and research, development and engineering due to increased headcount in those areas.

*Intellectual property*

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Intellectual property | $ 1,469 | $ 1,636 | $ (167) | (10)% |
| Intellectual property (as % of total revenue) | 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 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;
- charges to write off previously capitalized patent costs for patent assets we abandon;
- consulting costs related to marketing our intellectual property portfolio; 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 decrease in intellectual property expenses was due primarily to lower write-offs of abandoned patent costs of $0.2 million.

*Stock-based compensation*

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Cost of revenue | $ 663 | $ 709 | $ (46) | (6)% |
| Sales and marketing | 1,440 | 975 | 465 | 48% |
| Research, development and engineering | 1,359 | 1,381 | (22) | (2)% |
| General and administrative | 2,974 | 2,182 | 792 | 36% |
| Intellectual property | 321 | 306 | 15 | 5% |
| Total | $ 6,757 | $ 5,553 | $ 1,204 | 22% |

The increase in stock-based compensation expense was due primarily to increased headcount and the amount and timing of stock awards for existing personnel. We anticipate incurring an additional $13,669 in stock-based compensation expense through December 2021 for unvested restricted stock awards as of December 31, 2017.

***Other income, net***

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Other income, net | $ 588 | $ 258 | 330 | 128% |
| Other income, net (as % of total revenue) | 2% | 1% | | |

The increase in other income, net was primarily due to higher interest income as a result of higher cash and investment balances, higher interest rates on cash and investments, and changes in foreign currency.

***Provision for income taxes***

The provision for income taxes reflects current taxes, deferred taxes and withholding taxes in certain foreign jurisdictions.

For the year ended December 31, 2017, our effective tax rate was 1% reflecting the recognition of alternative minimum tax ("AMT") credit carryforwards and a full valuation allowance recorded against our deferred tax assets. The valuation allowance against deferred tax assets as of December 31, 2017 was $32.3 million, an increase of $7.4 million from $24.9 million as of December 31, 2016. We continually assess the applicability of a valuation allowance against our deferred tax assets. Based upon the positive and negative evidence available as of December 31, 2017, and largely due to the cumulative loss incurred by us over the preceding three years, which is considered a significant piece of negative evidence when assessing the realizability of deferred tax assets, a full valuation allowance is recorded against our deferred tax assets. We will not record tax benefits on any future losses until its determined that those tax benefits will be realized. All future reversals of the valuation allowance would result in a tax benefit in the period recognized.

For the year ended December 31, 2016, our effective tax rate was 0% reflecting a full valuation allowance recorded against our deferred tax assets. The valuation allowance against deferred tax assets as of December 31, 2016 was $24.9 million, an increase of $9.5 million from $15.4 million as of December 31, 2015.

The United States ("U.S.") enacted tax reform legislation on December 22, 2017 commonly known as the Tax Cuts and Jobs Act ("the Act"), resulting in significant modifications to existing U.S. tax law. Accounting for the income tax effects of the Act has been completed and included in our financial statements as of December 31, 2017. As a result of the Act, we recorded a one-time tax provision and corresponding reduction to valuation allowance of $10,529, which consisted primarily of the remeasurement of deferred tax assets and liabilities from a tax rate of 35% to a tax rate of 21%. The future impact of the Act is not expected to have a material effect on our financial results and cash flows in the foreseeable future because we have a full valuation allowance recorded against our deferred tax assets.

**Results of Operations—the Years Ended December 31, 2016 and December 31, 2015**

The following tables present our consolidated statements of operations data for the periods indicated.

| | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|
| Revenue: | | |
| Service | $ 12,667 | $ 12,517 |
| Subscription | 5,808 | 6,377 |
| License | 3,318 | 3,295 |
| Total revenue | 21,793 | 22,189 |
| Cost of revenue: | | |
| Service | 5,673 | 5,488 |
| Subscription | 2,410 | 3,113 |
| License | 414 | 346 |
| Total cost of revenue | 8,497 | 8,947 |
| Gross profit | 13,296 | 13,242 |
| Operating expenses: | | |
| Sales and marketing | 11,888 | 9,275 |
| Research, development and engineering | 13,394 | 12,465 |
| General and administrative | 8,298 | 7,954 |
| Intellectual property | 1,636 | 1,525 |
| Total operating expenses | 35,216 | 31,219 |
| Operating loss | (21,920) | (17,977) |
| Other income, net | 258 | 109 |
| Loss before income taxes | (21,662) | (17,868) |
| Provision for income taxes | (10) | (66) |
| Net loss | $ (21,672) | $ (17,934) |

| | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|
| | Percentages are percent of total revenue | |
| Revenue: | | |
| Service | 58% | 56% |
| Subscription | 27 | 29 |
| License | 15 | 15 |
| Total revenue | 100 | 100 |
| Cost of revenue: | | |
| Service | 26 | 25 |
| Subscription | 11 | 14 |
| License | 2 | 2 |
| Total cost of revenue | 39 | 40 |
| Gross profit | 61 | 60 |
| Operating expenses: | | |
| Sales and marketing | 55 | 42 |
| Research, development and engineering | 61 | 56 |
| General and administrative | 38 | 36 |
| Intellectual property | 8 | 7 |
| Total operating expenses | 162 | 141 |
| Operating loss | (101) | (81) |
| Other income, net | 1 | — |
| Loss before income taxes | (99) | (81) |
| Provision for income taxes | — | — |
| Net loss | (99%) | (81%) |

***Summary***

Total revenue decreased $0.4 million or 2% to $21.8 million, primarily the result of lower subscription revenue.

Total operating expenses increased $4.0 million or 13% to $35.2 million, reflecting higher investment in sales, marketing and engineering, primarily increased headcount, as we continue to address important opportunities in market development and delivery for Digimarc Discover and Digimarc Barcode.

***Revenue***

| | Year Ended December 31, 2016 | Year Ended December 31, 2015 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Revenue: | | | | |
| Service | $ 12,667 | $ 12,517 | $ 150 | 1% |
| Subscription | 5,808 | 6,377 | (569) | (9)% |
| License | 3,318 | 3,295 | 23 | 1% |
| Total | $ 21,793 | $ 22,189 | $ (396) | (2)% |
| Revenue (as % of total revenue): | | | | |
| Service | 58% | 56% | | |
| Subscription | 27% | 29% | | |
| License | 15% | 15% | | |
| Total | 100% | 100% | | |

The increase in service revenue was primarily due to more program work with the Central Banks, partially offset by the expiration of minimum support services to IV.

The decrease in subscription revenue was primarily due to lower software license revenue, which is recognized over the associated 12-month support period, partially offset by higher Digimarc Barcode revenue.

***Revenue by geography***

| | Year Ended December 31, 2016 | Year Ended December 31, 2015 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Revenue by geography: | | | | |
| Domestic | $ 4,776 | $ 6,304 | $ (1,528) | (24)% |
| International | 17,017 | 15,885 | 1,132 | 7% |
| Total | $ 21,793 | $ 22,189 | $ (396) | (2)% |
| Revenue (as % of total revenue): | | | | |
| Domestic | 22% | 28% | | |
| International | 78% | 72% | | |
| Total | 100% | 100% | | |

The decrease in domestic revenue was primarily due to lower software license revenue from a domestic customer and the expiration of minimum support services to IV.

The increase in international revenue was primarily due to more program work from the Central Banks and higher license revenue from international licensees.

***Gross profit***

| | Year Ended December 31, 2016 | Year Ended December 31, 2015 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Gross Profit: | | | | |
| Service | $ 6,994 | $ 7,029 | $ (35) | (0)% |
| Subscription | 3,398 | 3,264 | 134 | 4% |
| License | 2,904 | 2,949 | (45) | (2)% |
| Total | $ 13,296 | $ 13,242 | $ 54 | 0% |
| Gross Profit (as % of related revenue components): | | | | |
| Service | 55% | 56% | | |
| Subscription | 59% | 51% | | |
| License | 88% | 89% | | |
| Total | 61% | 60% | | |

The increase in total gross profit was due primarily to higher margins on subscription revenue.

The increase in subscription gross profit as a percentage of subscription revenue was primarily due to lower operations and contractor costs in support of our Guardian products and services.

***Operating expenses***

*Sales and marketing*

| | Year Ended December 31, 2016 | Year Ended December 31, 2015 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Sales and marketing | $ 11,888 | $ 9,275 | $ 2,613 | 28% |
| Sales and marketing (as % of total revenue) | 55% | 42% | | |

The increase in sales and marketing expenses was due primarily to:

- increased headcount and compensation-related expenses of $1.8 million;
- increased charges for infrastructure and centralized costs of $0.3 million due to increased headcount;
- increased travel expenses of $0.2 million; and
- increased marketing and professional fees of $0.2 million related to market development activities.

*Research, development and engineering*

| | Year Ended December 31, 2016 | Year Ended December 31, 2015 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Research, development and engineering | $ 13,394 | $ 12,465 | $ 929 | 7% |
| Research, development and engineering (as % of total revenue) | 61% | 56% | | |

The increase in research, development and engineering expenses was due primarily to increased headcount and compensation-related expenses of $0.7 million.

*General and administrative*

| | Year Ended December 31, 2016 | Year Ended December 31, 2015 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| General and administrative | $ 8,298 | $ 7,954 | $ 344 | 4% |
| General and administrative (as % of total revenue) | 38% | 36% | | |

The increase in general and administrative expenses was due primarily to:

- increased compensation-related expenses of $0.5 million; and
- increased professional consulting fees of $0.2 million, partially offset by
- decreased charges for infrastructure and centralized costs of $0.3 million, which were allocated out to sales and marking due to increased headcount in that area.

*Intellectual property*

| | Year Ended December 31, 2016 | Year Ended December 31, 2015 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Intellectual property | $ 1,636 | $ 1,525 | $ 111 | 7% |
| Intellectual property (as % of total revenue) | 8% | 7% | | |

The increase in intellectual property expenses was due primarily to increased compensation-related expenses of $0.1 million.

*Stock-based compensation*

| | Year Ended December 31, 2016 | Year Ended December 31, 2015 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Cost of revenue | $ 709 | $ 740 | $ (31) | (4)% |
| Sales and marketing | 975 | 775 | 200 | 26% |
| Research, development and engineering | 1,381 | 1,308 | 73 | 6% |
| General and administrative | 2,182 | 1,978 | 204 | 10% |
| Intellectual property | 306 | 276 | 30 | 11% |
| Total | $ 5,553 | $ 5,077 | $ 476 | 9% |

The increase in stock-based compensation expense was due primarily to increased headcount.

***Other income, net***

| | Year Ended December 31, 2016 | Year Ended December 31, 2015 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Other income, net | $ 258 | $ 109 | 149 | 137% |
| Other income, net (as % of total revenue) | 1% | * | | |

* Less than 1%

The increase in other income, net was primarily due to higher interest income as a result of higher cash and investment balances, higher interest rates on cash and investments, and changes in foreign currency.

***Provision for income taxes***

For the year ended December 31, 2016, our effective tax rate was 0% reflecting a full valuation allowance recorded against our deferred tax assets. The valuation allowance against deferred tax assets as of December 31, 2016 was $24.9 million, an increase of $9.5 million from $15.4 million as of December 31, 2015.

For the year ended December 31, 2015, our effective tax rate was 0% reflecting a full valuation allowance recorded against our deferred tax assets. The valuation allowance against deferred tax assets as of December 31, 2015 was $15.4 million, an increase of $8.1 million from $7.3 million as of December 31, 2014.

## Liquidity and Capital Resources

| | December 31, 2017 | December 31, 2016 |
|---|---|---|
| Working capital | $ 71,275 | $ 58,461 |
| Current ratio (1) | 15.1:1 | 14.1:1 |
| Cash, cash equivalents and short-term marketable securities | $ 67,738 | $ 56,134 |
| Long-term marketable securities | $ — | $ 4,392 |
| Total cash, cash equivalents and marketable securities | $ 67,738 | $ 60,526 |

(1) The current (liquidity) ratio is calculated by dividing total current assets by total current liabilities.

The $7.2 million increase in cash, cash equivalents and marketable securities at December 31, 2017 from December 31, 2016 resulted primarily from:

- proceeds from the sale of common stock in registered public offerings, and
- proceeds from stock option exercises; partially offset by
- cash used in operations,
- purchases of common stock related to the vesting of restricted stock, and
- purchases of property and equipment and capitalized patent costs.

Financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash and cash equivalents, marketable securities, and trade accounts receivable. We place our cash and cash equivalents with major banks and financial institutions and at times deposits may exceed insured limits. Marketable securities include commercial paper, federal agency notes, U.S. treasuries and corporate notes. Our investment policy requires the portfolio to be invested to ensure that the greater of $3 million or 7% of the invested funds will be available within 30 days' notice.

Other than cash used for operating needs, which may include short-term marketable securities, our investment policy limits our credit exposure to any one financial institution or type of financial instrument by limiting the maximum of 5% of our cash and cash equivalents and marketable securities or $1 million, whichever is greater, to be invested in any one issuer except for the U.S. government, U.S. federal agencies and U.S. backed securities, which have no limits, at the time of purchase. Our investment policy also limits our credit exposure by limiting to a maximum of 40% of our cash and cash equivalents and marketable securities, or $15 million, whichever is greater, to be invested in any one industry category, (e.g., financial or energy industries), at the time of purchase. As a result, we believe our credit risk associated with cash and investments to be minimal. A decline in the market value of any security below cost that is deemed to be other-than-temporary results in a reduction in carrying amount to fair value. To determine whether an impairment is other-than-temporary, we consider whether we have the ability and intent to hold the investment until a market price recovery and evidence indicating that the cost of the investment is recoverable outweighs evidence to the contrary. There have been no other-than-temporary impairments identified or recorded by us in the years ended December 31, 2017, 2016 and 2015.

### *Cash flows from operating activities*

The components of operating cash flows were:

| | Twelve Months Ended December 31, 2017 | Twelve Months Ended December 31, 2016 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Net loss | $ (25,771) | $ (21,672) | $ (4,099) | (19)% |
| Non-cash items | 9,183 | 8,010 | 1,173 | 15% |
| Changes in operating assets and liabilities | (1,023) | (202) | (821) | (406)% |
| Net cash used in operating activities | $ (17,611) | $ (13,864) | $ (3,747) | (27)% |

| | Year Ended December 31, 2016 | Year Ended December 31, 2015 | Dollar Increase (Decrease) | Percent Increase (Decrease) |
|---|---|---|---|---|
| Net loss | $ (21,672) | $ (17,934) | $ (3,738) | (21)% |
| Non-cash items | 8,010 | 7,503 | 507 | 7% |
| Changes in operating assets and liabilities | (202) | 691 | (893) | (129)% |
| Net cash used in operating activities | $ (13,864) | $ (9,740) | $ (4,124) | (42)% |

Cash flows used in operating activities in 2017 compared to 2016 increased by $3.7 million, primarily as a result of a higher net loss and changes in operating assets and liabilities, partially offset by higher non-cash items. The higher net loss was primarily due to higher operating expenses, partially offset by higher license revenue. The changes in operating assets and liabilities were primarily due to higher accounts receivable reflecting the second installment of the $3.5 million license fee billed in December 2017 and paid in January 2018. The higher non-cash items were primarily due to higher stock-based compensation expense.

Cash flows used in operating activities in 2016 compared to 2015 increased by $4.1 million, primarily as a result of a higher net loss and changes in operating assets and liabilities, partially offset by higher non-cash items. The higher net loss was primarily due to higher operating expenses. The changes in operating assets and liabilities were primarily due to changes in other current assets, and deferred rent due to the terms of our amended lease agreement. The higher non-cash items were primarily due to higher stock-based compensation expense.

### *Cash flows from investing activities*

Cash flows from investing activities in 2017 compared to 2016 increased by $34.5 million, from $15.5 million used to $19.0 million provided, primarily as a result of higher net maturities of marketable securities.

Cash flows used in investing activities in 2016 compared to 2015 increased by $10.3 million, from $5.2 million to $15.5 million, primarily as a result of higher net purchases of marketable securities from cash received in our underwritten public offering.

### *Cash flows from financing activities*

Cash flows provided by financing activities in 2017 compared to 2016 decreased by $10.0 million, from $37.8 million to $27.8 million, primarily as a result of lower sales of common stock.

Cash flows provided by financing activities in 2016 compared to 2015 increased $25.9 million, from $12.0 million to $37.8 million, primarily as a result of higher cash proceeds from the sale of common stock in our underwritten public offering.

***Future cash expectations***

We believe that our current cash, cash equivalents, and short-term marketable securities balances will satisfy our projected working capital and capital expenditure requirements for at least the next 12 months. We have a $100 million shelf registration statement in place, of which $17.8 million and $12.0 million were allocated for sales of our common stock in connection with our registered direct public offerings in June 2017 and November 2017, respectively. This shelf registration statement has $70.2 million remaining for future issuance and expires in June 2020. We may use similar or other financing means to raise working capital in the future, if necessary, to support continued investment in our growth initiatives. We may also raise capital in the future to fund acquisitions and/or investments in complementary businesses, technologies or product lines. If it becomes necessary to obtain additional financing, we may not be able to do so, or if these funds are available, they may not be available on satisfactory terms.

**Contractual Obligations**

In July 2015, we entered into an amendment with the landlord of our corporate offices in Beaverton, Oregon to extend the lease term through March 2024 for rent payments totaling $5.5 million, payable in monthly installments.

In February 2015, we entered into a new facilities lease agreement in San Mateo, California with a lease term through March 2020 for rent payments totaling $1.0 million, payable in monthly installments.

The following table presents our contractual obligations as of December 31, 2017:

| | Maturities by Period | | | | |
|---|---|---|---|---|---|
| | Total | Less than 1 year | 1-3 years | 3 - 5 years | More than 5 years |
| Total operating lease obligations .................................. | $ 5,565 | $ 992 | $ 1,871 | $ 1,632 | $ 1,070 |

We cannot make a reasonably reliable estimate of the period of potential cash settlement of our unrecognized tax benefits of $0.5 million and, therefore, have not included the unrecognized tax benefits in the table of contractual obligations as of December 31, 2017.

**Off-Balance Sheet Arrangements**

Other than the contractual obligations noted above, we do not have any off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenue or expenses, results of operations, liquidity, capital expenditures or capital resources that is material to investors.

**Forward-Looking Statements**

This Annual Report on Form 10-K includes "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act of 1934 and Section 27A of the Securities Act of 1933. Words such as "may," "might," "plan," "should," "could," "expect," "anticipate," "intend," "believe," "project," "forecast," "estimate," "continue," and variations of such terms or similar expressions are intended to identify such forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements, or other statements made by us, are made based on our expectations and beliefs concerning future events impacting us, and are subject to uncertainties and factors (including those specified below), which are difficult to predict and, in many instances, are beyond our control. As a result, our actual results could differ materially from those expressed in or implied by any such forward-looking statements, and investors are cautioned not to place undue reliance on such statements. We believe that the following factors, among others (including those described in Item 1A. "Risk Factors"), could affect our future performance and the liquidity and value of our securities and cause our actual results to differ materially from those expressed or implied by forward-looking statements made by us. Forward-looking statements include but are not limited to statements relating to:

- concentration of revenue with few customers comprising a large majority of the revenue;
- revenue trends and expectations;
- anticipated successful advocacy of our technology by our channel partners;

- our future level of investment in our business, including investment in research, development and engineering of products and technology, development of our intellectual property, sales growth initiatives and development of new market opportunities;
- our ability to improve margins;
- anticipated expenses, costs, margins, provision for income taxes and investment activities in the foreseeable future;
- anticipated effect of our adoption of accounting pronouncements;
- anticipated revenue to be generated from current contracts, renewals, and as a result of new programs;
- variability of contracted arrangements;
- our profitability in future periods;
- business opportunities that could require that we seek additional financing;
- the size and growth of our markets;
- the existence of international growth opportunities and our future investment in such opportunities;
- the sources of our future revenue;
- our expected short-term and long-term liquidity positions;
- our capital expenditure and working capital requirements and our ability to fund our capital expenditure and working capital needs through cash flow from operations;
- capital market conditions, interest rate volatility and other limitations on the availability of capital, which could have an impact on our cost of capital and our ability to access the capital markets;
- our use of cash, cash equivalents and marketable securities in upcoming quarters;
- anticipated levels of backlog in future periods;
- the success of our products, including Digimarc Discover, Digimarc Barcode and Guardian;
- our ability to innovate and enhance our competitive differentiation;
- protection, development and monetization of our intellectual property portfolio;
- our plans and intentions with respect to our joint ventures; and
- other risks detailed in our filings with the Securities and Exchange Commission, including the risk factors set forth in Item 1A. “Risk Factors.”

We believe that the factors specified above and the risk factors contained in Item 1A, “Risk Factors,” among others, could affect our future performance and the liquidity and value of our securities and cause our actual results to differ materially from those expressed or implied by forward-looking statements made by us or on our behalf. Investors should understand that it is not possible to predict or identify all risk factors and that there may be other factors that may cause our actual results to differ materially from the forward-looking statements. All forward-looking statements made by us or by persons acting on our behalf apply only as of the date of this Annual Report. We do not undertake any obligation to publicly update or revise any forward-looking statements to reflect future events, information or circumstances that arise after the date of the filing of this Annual Report on Form 10-K.

## ITEM 7A: QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our exposure to market risk for changes in interest rates relates primarily to the increase or decrease in the amount of interest income we can earn on our investment portfolio. We do not use derivative financial instruments in our investment portfolio. We attempt to ensure the safety and preservation of our invested principal funds by limiting default risk, market risk and investment risk. We mitigate default risk by investing in low-risk securities. At December 31, 2017, we had an investment portfolio of commercial paper, federal agency notes, money market securities, U.S. treasuries, and corporate notes, including those classified as cash equivalents, and short- and long-term marketable securities, totaling \$66.7 million. The original maturities of our investment portfolio range from 22 to 520 plus days with an average interest rate of 1.8%. If market interest rates were to decrease immediately and uniformly by 10% from levels as of December 31, 2017, the decline of the fair market value of the fixed income portfolio would not be material.

## ITEM 8: FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Our Consolidated Financial Statements and the accompanying Notes that are filed as part of this Annual Report are listed under Part III, Item 15, Exhibits and Financial Statement Schedules and are set forth beginning on page F-1 immediately following the signature page of this Form 10-K.

## ITEM 9: CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None

## ITEM 9A: CONTROLS AND PROCEDURES

### Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, have carried out an evaluation of the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934) as of the end of the period covered by this Form 10-K.

Based on our evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures, as of the end of the period covered by this Form 10-K, were effective in ensuring that information required to be disclosed by us in reports that we file or submit under the Securities Exchange Act of 1934 is (i) recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and (ii) accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

### Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. GAAP.

Any control system, no matter how well conceived and operated, and because of inherent limitations, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Management is committed to continue monitoring our internal controls over financial reporting and will modify or implement additional controls and procedures that may be required to ensure the ongoing integrity of our consolidated financial statements.

With the participation of our Chief Executive Officer and Chief Financial Officer, management conducted an evaluation of the effectiveness of internal control over financial reporting based on the framework established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, (COSO). Based on this evaluation, management has concluded that internal control over financial reporting was effective as of the end of the period covered by this Form 10-K based on those criteria. There was no change in our internal control over financial reporting that occurred during the quarter ended December 31, 2017, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Our independent auditors have issued an audit report on the effectiveness of our internal control over financial reporting as of December 31, 2017, which is included herein.

## Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Digimarc Corporation:

*Opinion on Internal Control Over Financial Reporting*

We have audited Digimarc Corporation and subsidiaries' (the "Company") internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. . In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets of the Company as of December 31, 2017 and 2016, the related consolidated statements of operations, shareholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2017, and the related notes (collectively, the consolidated financial statements), and our report dated February 22, 2018 expressed an unqualified opinion on those consolidated financial statements.

*Basis for Opinion*

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

*Definition and Limitations of Internal Control Over Financial Reporting*

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG LLP

Portland, Oregon
February 22, 2018

## ITEM 9B: OTHER INFORMATION

None

# PART III

Certain information required by Part III of this Annual Report on Form 10-K is incorporated herein by reference to the Proxy Statement for our 2018 annual meeting of shareholders, which we intend to file no later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

## ITEM 10: DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

**Code of Ethics**

We have adopted a Code of Business Conduct that applies to our principal executive officer, principal financial officer and controller, as well as a Code of Ethics for Financial Professionals that applies to our principal financial officer and controller. We have made these codes available in the Corporate Governance section of our website at *www.digimarc.com/about/company/corporate-governance*. If we waive, or implicitly waive, any material provision of the codes, or substantively amend the codes, we will disclose that fact on our website within four business days.

The other information required by this item is incorporated herein by reference to the information in the Proxy Statement, which we intend to file with the SEC no later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K under the captions “Election of Directors,” “Management,” “Report of the Governance and Nominating Committee of the Board of Directors—Audit Committee,” and “Other Matters—Section 16(a) Beneficial Ownership Reporting Compliance.”

## ITEM 11: EXECUTIVE COMPENSATION

The information required by this item is incorporated herein by reference to the information in the Proxy Statement, which we intend to file with the SEC no later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K, under the captions “Director Compensation,” “Executive Compensation,” “Compensation Committee Interlocks and Insider Participation” and “Compensation Committee Report.”

## ITEM 12: SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this item is incorporated herein by reference to the information in the Proxy Statement, which we intend to file with the SEC no later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K, under the captions “Security Ownership of Certain Beneficial Owners and Management” and “Equity Compensation Plan Information.”

## ITEM 13: CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item is incorporated herein by reference to the information in the Proxy Statement, which we intend to file with the SEC no later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K under the caption “Election of Directors—Determination of Independence,” and “Related Person Transactions.”

## ITEM 14: PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this item is incorporated herein by reference to the information in the Proxy Statement, which we intend to file with the SEC no later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K, under the caption “Audit Fees.”

## ITEM 15: EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

### (a)(1) Financial Statements

The following documents are filed as part of this Annual Report on Form 10-K:

(i) Report of Independent Registered Public Accounting Firm
Consolidated Balance Sheets as of December 31, 2017 and 2016
Consolidated Statements of Operations for the years ended December 31, 2017, 2016 and 2015
Consolidated Statements of Shareholders' Equity for the years ended December 31, 2017, 2016 and 2015
Consolidated Statements of Cash Flows for the years ended December 31, 2017, 2016 and 2015

(ii) Notes to Consolidated Financial Statements

### (a)(2) Financial Statement Schedules

All schedules have been omitted since they are not required or are not applicable or the required information is shown in the consolidated financial statements or related notes.

### (a)(3) Exhibits

## EXHIBIT INDEX

The agreements included or incorporated by reference as exhibits to this report may contain representations and warranties by each of the parties to the applicable agreement. These representations and warranties have been made solely for the benefit of the other party or parties to the applicable agreement and:

- were not intended to be treated as categorical statements of fact, but rather as a means of allocating the risk to one of the parties if those statements prove to be inaccurate;
- were qualified by disclosures that were made to the other party or parties in connection with the negotiation of the applicable agreement, which disclosures are not necessarily reflected in the agreement;
- may apply standards of "materiality" that are different from "materiality" under the securities laws; and
- were made only as of the date of the applicable agreement or other date or dates that may be specified in the agreement.

Accordingly, these representations and warranties may not describe the actual state of affairs as of the date they were made or at any other time. Additional information about Digimarc may be found elsewhere in this Annual Report on Form 10-K and in Digimarc's other public filings, which are available without charge through the SEC's website at *http://www.sec.gov*.

| Exhibit Number | Exhibit Description |
|---|---|
| 2.1 | Separation Agreement among DMRC Corporation, DMRC LLC, Digimarc Corporation and, with respect to certain sections, L-1 Identity Solutions, Inc. (incorporated by reference to Exhibit 2.1 to Amendment No. 2 to the Company's Registration Statement on Form 10, filed with the Commission on August 13, 2008 (File No. 001-34108))† |
| 2.2 | Agreement and Plan of Merger dated April 30, 2010 between Digimarc Corporation, a Delaware corporation, and Digimarc Oregon Corporation, an Oregon corporation (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K, filed with the Commission on May 4, 2010 (File No. 001-34108)) |
| 3.1 | Articles of Incorporation of Digimarc Corporation (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K, filed with the Commission on May 4, 2010 (File No. 001-34108)) |
| 3.2 | Bylaws of Digimarc Corporation (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K, filed with the Commission on May 4, 2010 (File No. 001-34108)) |

| Exhibit Number | Exhibit Description |
|---|---|
| 4.1 | Specimen common stock certificate of Digimarc Corporation (incorporated by reference to Exhibit 4.1 to the Company's Quarterly Report on Form 10-Q, filed with the Commission on July 25, 2014 (File No. 001-34108)) |
| 4.2 | Rights Agreement, dated July 31, 2008, between Digimarc Corporation and Computershare Trust Company, N.A. as Rights Agent (incorporated by reference to Exhibit 4.2 to the Company's Annual Report on Form 10-K, filed with the Commission on February 27, 2009 (File No. 001-34108)) |
| 4.3 | Second Amendment of Rights Agreement, effective as of November 5, 2013, made by Digimarc Corporation and acknowledged by Broadridge Corporate Issuer Solutions, Inc., as Rights Agent (incorporated by reference to Exhibit 4.2 to the Company's Quarterly Report on Form 10-Q, filed with the Commission on July 25, 2014 (File No. 001-34108)) |
| 4.4 | Form of Certificate of Designation of Series R Preferred Stock (attached as an exhibit to the Rights Agreement), dated July 31, 2008, between Digimarc Corporation and Computershare Trust Company, N.A. as Rights Agent (incorporated by reference to Exhibit 4.2 to the Company's Annual Report on Form 10-K, filed with the Commission on February 27, 2009 (File No. 001-34108)) |
| 4.5 | Form of Rights Certificate (attached as an exhibit to the Rights Agreement, dated July 31, 2008, between Digimarc Corporation and Computershare Trust Company, N.A. as Rights Agent (incorporated by reference to Exhibit 4.2 to the Company's Annual Report on Form 10-K, filed with the Commission on February 27, 2009 (File No. 001-34108)) filed as Exhibit 4.2 hereto) |
| 10.1 | License Agreement between DMRC Corporation and L-1 Identity Solutions Operating Company (incorporated by reference to Exhibit 10.2 to Amendment No. 4 to the Company's Registration Statement on Form 10, filed with the Commission on October 2, 2008 (File No. 001-34108))(1) |
| 10.2 | Counterfeit Deterrence System Development and License Agreement, dated as of December 6, 2012, between Digimarc Corporation and the Bank for International Settlements (incorporated by reference to Exhibit 10.2 to the Company's amended Annual Report on Form 10-K/A, filed with the Commission on August 7, 2013 (File No. 001-34108))(5) |
| *10.3 | Form of Indemnification Agreement between DMRC Corporation and each of its executive officers and directors (incorporated by reference to Exhibit 10.5 to Amendment No. 2 to the Company's Registration Statement on Form 10, filed with the Commission on August 13, 2008 (File No. 001-34108)) |
| *10.5 | Digimarc Corporation 2008 Incentive Plan, as amended (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q, filed with the Commission on April 25, 2014 (File No. 001-34108)) |
| *10.6 | Form of Notice of Stock Option Award and Stock Option Award Agreement under the Digimarc Corporation 2008 Incentive Plan (incorporated by reference to Exhibit 10.8 to the Company's Quarterly Report on Form 10-Q, filed with the Commission on November 24, 2008 (File No. 001-34108)) |
| *10.7 | Equity Compensation Program for Nonemployee Directors under the Digimarc Corporation 2008 Incentive Plan (as amended on February 21, 2011, February 20, 2014 and March 27, 2015) (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q, filed with the Commission on April 28, 2015 (File No. 001-34108)) |
| *10.8 | Form of Indemnification Agreement between Digimarc Corporation and each of its executive officers and directors (incorporated by reference to Exhibit 10.1 to Digimarc Corporation's Annual Report on Form 10-K, as filed by Digimarc Corporation with the Securities and Exchange Commission on March 13, 2006 (File No. 000-28317)) |
| *10.9 | Form of Change of Control Retention Agreement entered into by and between Digimarc Corporation and each of Messrs. Chamness, Meyer, Beck, Rodriguez and Arana (incorporated by reference to Exhibit 10.9 to the Company's Annual Report on Form 10-K, filed with the Commission on February 25, 2016 (File No. 001-34108)) |

| Exhibit Number | Exhibit Description |
|---|---|
| 10.10 | Patent License Agreement, dated as of June 11, 2009 between Digimarc Corporation and The Nielsen Company (US), LLC (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q, filed with the Commission on July 31, 2009 (File No. 001-34108))(2) |
| 10.11 | Limited Liability Company I Agreement, dated June 11, 2009 between Digimarc Corporation and The Nielsen Company (US), LLC (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q, filed with the Commission on July 31, 2009 (File No. 001-34108))(2) |
| 10.12 | Limited Liability Company II Agreement, dated June 11, 2009 between Digimarc Corporation and The Nielsen Company (US), LLC (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q, filed with the Commission on July 31, 2009 (File No. 001-34108))(2) |
| 10.13 | Lease Agreement, dated March 22, 2004, between Digimarc Corporation and PS Business Parks, L.P., as amended on May 13, 2010 (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q, filed with the Commission on July 30, 2010 (File No. 001-34108)) |
| 10.14 | Second Amendment to Lease, dated July 31, 2015, by and between PD Office Owner 9, L.P. and Digimarc Corporation (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q, filed with the Commission on October 30, 2015 (File No. 001-34108)) |
| 10.15 | Patent License Agreement, effective as of October 5, 2010, between Digimarc Corporation and IV Digital Multimedia Inventions, LLC (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q, filed with the Commission on April 28,2016 (File No. 001-34108))(4) |
| 10.16 | Grant-Back License Agreement, dated October 5, 2010, between Digimarc Corporation and IV Digital Multimedia Inventions, LLC (incorporated by reference to Exhibit 10.13 to the Company's Annual Report on Form 10-K, filed with the Commission on March 3, 2011 (File No. 001-34108))(3) |
| 10.17 | Patent Rights Agreement, dated October 5, 2010, between Digimarc Corporation and IV Digital Multimedia Inventions, LLC (incorporated by reference to Exhibit 10.14 to the Company's Annual Report on Form 10-K, filed with the Commission on March 3, 2011 (File No. 001-34108)) |
| 10.18 | Work Agreement, dated October 5, 2010, by and among Digimarc Corporation, Invention Law Group, P.C. and IV Digital Multimedia Inventions, LLC (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-K, filed with the Commission on April 28, 2016 (File No. 001-34108))(4) |
| 10.18 | Purchase Agreement between Digimarc Corporation and a Purchaser, dated June 23, 2017 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed with the Commission on June 26, 2017 (File No. 001-34108)) |
| 10.19 | Employment Agreement, effective as of September 1, 2017, between Digimarc Corporation and Bruce Davis (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed with the Commission on September 6, 2017 (File No. 001-34108)) |
| 10.20 | Purchase Agreement between Digimarc Corporation and a Purchaser, dated November 9, 2017 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed with the Commission on November 13, 2017 (File No. 001-34108)) |
| 21.1 | List of Subsidiaries |
| 23.1 | Consent of Independent Registered Public Accounting Firm |
| 31.1 | Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer |
| 31.2 | Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer |
| 32.1 | Section 1350 Certification of Chief Executive Officer |
| 32.2 | Section 1350 Certification of Chief Financial Officer |

| Exhibit Number | Exhibit Description |
|---|---|
| 101.INS | XBRL Instance Document |
| 101.SCH | XBRL Taxonomy Extension Schema Document |
| 101.CAL | XBRL Taxonomy Extension Calculation Linkbase Document |
| 101.DEF | XBRL Taxonomy Extension Definition Linkbase Document |
| 101.LAB | XBRL Taxonomy Extension Label Linkbase Document |
| 101.PRE | XBRL Taxonomy Extension Label Linkbase Document |

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* Management contract or compensatory plan or arrangement.

† Schedules and certain exhibits to this agreement have been omitted pursuant to Item 601(b)(2) of Regulation S-K. Digimarc hereby undertakes to furnish to the Securities and Exchange Commission (the "Commission") copies of the omitted schedules and exhibits upon request by the Commission.

(1) Confidential treatment has been granted for certain portions omitted from this exhibit pursuant to an order granted by the Commission on October 21, 2008, under Rule 24b-2 of the Securities Exchange Act of 1934, as amended. Confidential portions of this exhibit have been separately filed with the Securities and Exchange Commission.

(2) Confidential treatment has been granted for certain portions omitted from this exhibit pursuant to an order granted by the Commission on September 10, 2009, under Rule 24b-2 under the Securities Exchange Act of 1934, as amended. Confidential portions of this exhibit have been separately filed with the Securities and Exchange Commission.

(3) Confidential treatment has been granted for certain portions omitted from this exhibit pursuant to an order granted by the Commission on March 17, 2011, under Rule 24b-2 under the Securities Exchange Act of 1934, as amended. Confidential portions of this exhibit have been separately filed with the Securities and Exchange Commission.

(4) Confidential treatment has been granted for certain portions omitted from this exhibit pursuant to an order granted by the Commission on May 6, 2016, under Rule 24b-2 under the Securities Exchange Act of 1934, as amended. Confidential portions of this exhibit have been separately filed with the Securities and Exchange Commission.

(5) Confidential treatment has been granted for certain portions omitted from this exhibit pursuant to an order granted by the Commission on September 3, 2013, under Rule 24b-2 under the Securities Exchange Act of 1934, as amended. Confidential portions of this exhibit have been separately filed with the Securities and Exchange Commission.

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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.

DIGIMARC CORPORATION

Date: February 22, 2018 By: /s/ CHARLES BECK

**Charles Beck**

***Title: Chief Financial Officer***

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

| Signature | Title | Date |
|---|---|---|
| /s/ BRUCE DAVIS<br>**Bruce Davis** | Chief Executive Officer and Chairman of the Board of Directors<br>(Principal Executive Officer) | February 22, 2018 |
| /s/ CHARLES BECK<br>**Charles Beck** | Chief Financial Officer and Treasurer<br>(Principal Financial and Accounting Officer) | February 22, 2018 |
| /s/ GARY DESTEFANO<br>**Gary DeStefano** | Director | February 22, 2018 |
| /s/ RICHARD L. KING<br>**Richard L. King** | Director | February 22, 2018 |
| /s/ JAMES T. RICHARDSON<br>**James T. Richardson** | Director | February 22, 2018 |
| /s/ ANDREW WALTER<br>**Andrew Walter** | Director | February 22, 2018 |
| /s/ BERNARD WHITNEY<br>**Bernard Whitney** | Director | February 22, 2018 |

## INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

## Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Digimarc Corporation:

*Opinion on the Consolidated Financial Statements*

We have audited the accompanying consolidated balance sheets of Digimarc Corporation and subsidiaries (the “Company”) as of December 31, 2017 and 2016, the related consolidated statements of operations, shareholders’ equity, and cash flows for each of the years in the three-year period ended December 31, 2017 and the related notes (collectively, the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the Company’s internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 22, 2018 expressed an unqualified opinion on the effectiveness of the Company’s internal control over financial reporting.

*Basis for Opinion*

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

We have served as the Company’s auditor since 2010.

/s/ KPMG LLP

Portland, Oregon
February 22, 2018

## DIGIMARC CORPORATION

## CONSOLIDATED BALANCE SHEETS
**(In thousands, except per share data)**

| | December 31, 2017 | December 31, 2016 |
|---|---|---|
| **ASSETS** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 40,823 | $ 11,638 |
| Marketable securities | 26,915 | 44,496 |
| Trade accounts receivable, net | 6,404 | 5,078 |
| Other current assets | 2,171 | 1,695 |
| Total current assets | 76,313 | 62,907 |
| Marketable securities | — | 4,392 |
| Property and equipment, net | 4,236 | 3,570 |
| Intangibles, net | 6,381 | 6,422 |
| Goodwill | 1,114 | 1,114 |
| Other assets | 326 | 331 |
| Total assets | $ 88,370 | $ 78,736 |
| **LIABILITIES AND SHAREHOLDERS' EQUITY** | | |
| Current liabilities: | | |
| Accounts payable and other accrued liabilities | $ 1,914 | $ 1,523 |
| Deferred revenue | 3,124 | 2,923 |
| Total current liabilities | 5,038 | 4,446 |
| Deferred rent and other long-term liabilities | 985 | 956 |
| Total liabilities | 6,023 | 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 December 31, 2017 and 2016) | 50 | 50 |
| Common stock (par value $0.001 per share, 50,000 authorized, 11,651 and 10,523 shares issued and outstanding at December 31, 2017 and 2016, respectively) | 12 | 11 |
| Additional paid-in capital | 155,793 | 120,985 |
| Accumulated deficit | (73,508) | (47,712) |
| Total shareholders' equity | 82,347 | 73,334 |
| Total liabilities and shareholders' equity | $ 88,370 | $ 78,736 |

See Notes to Consolidated Financial Statements.

## DIGIMARC CORPORATION

## CONSOLIDATED STATEMENTS OF OPERATIONS
**(In thousands, except per share data)**

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|---|
| Revenue: | | | |
| Service | $ 12,936 | $ 12,667 | $ 12,517 |
| Subscription | 5,519 | 5,808 | 6,377 |
| License | 6,758 | 3,318 | 3,295 |
| Total revenue | 25,213 | 21,793 | 22,189 |
| Cost of revenue: | | | |
| Service | 5,792 | 5,673 | 5,488 |
| Subscription | 2,264 | 2,410 | 3,113 |
| License | 502 | 414 | 346 |
| Total cost of revenue | 8,558 | 8,497 | 8,947 |
| Gross profit | 16,655 | 13,296 | 13,242 |
| Operating expenses: | | | |
| Sales and marketing | 16,636 | 11,888 | 9,275 |
| Research, development and engineering | 15,435 | 13,394 | 12,465 |
| General and administrative | 9,680 | 8,298 | 7,954 |
| Intellectual property | 1,469 | 1,636 | 1,525 |
| Total operating expenses | 43,220 | 35,216 | 31,219 |
| Operating loss | (26,565) | (21,920) | (17,977) |
| Other income, net | 588 | 258 | 109 |
| Loss before income taxes | (25,977) | (21,662) | (17,868) |
| Benefit (provision) for income taxes | 206 | (10) | (66) |
| Net loss | $ (25,771) | $ (21,672) | $ (17,934) |
| Earnings (loss) per common share: | | | |
| Loss per common share—basic | $ (2.44) | $ (2.36) | $ (2.19) |
| Loss per common share—diluted | $ (2.44) | $ (2.36) | $ (2.19) |
| Weighted average common shares outstanding—basic | 10,571 | 9,188 | 8,198 |
| Weighted average common shares outstanding—diluted | 10,571 | 9,188 | 8,198 |

See Notes to Consolidated Financial Statements.

## DIGIMARC CORPORATION

## CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
**(In thousands)**

| | Preferred Stock | | Common Stock | | Additional Paid-in Capital | Accumulated Deficit | Total Shareholders' Equity |
|---|---|---|---|---|---|---|---|
| | Shares | Amount | Shares | Amount | | | |
| **BALANCE AT DECEMBER 31, 2014** | 10 | 50 | 8,427 | 8 | 60,222 | (8,106) | 52,174 |
| Issuance of common stock, net of issuance costs | — | — | 342 | 1 | 12,895 | — | 12,896 |
| Exercise of stock options | — | — | 111 | — | 1,514 | — | 1,514 |
| Issuance of restricted common stock | — | — | 150 | — | — | — | — |
| Forfeiture of restricted common stock | — | — | (31) | — | — | — | — |
| Purchase and retirement of common stock | — | — | (80) | — | (2,443) | — | (2,443) |
| Stock-based compensation | — | — | — | — | 5,251 | — | 5,251 |
| Net loss | — | — | — | — | — | (17,934) | (17,934) |
| **BALANCE AT DECEMBER 31, 2015** | 10 | $ 50 | 8,919 | $ 9 | $ 77,439 | $ (26,040) | $ 51,458 |
| Issuance of common stock, net of issuance costs | — | — | 1,418 | 2 | 39,698 | — | 39,700 |
| Exercise of stock options | — | — | 69 | — | 668 | — | 668 |
| Issuance of restricted common stock | — | — | 212 | — | — | — | — |
| Forfeiture of restricted common stock | — | — | (12) | — | — | — | — |
| Purchase and retirement of common stock | — | — | (83) | — | (2,537) | — | (2,537) |
| Stock-based compensation | — | — | — | — | 5,717 | — | 5,717 |
| Net loss | — | — | — | — | — | (21,672) | (21,672) |
| **BALANCE AT DECEMBER 31, 2016** | 10 | $ 50 | 10,523 | $ 11 | $ 120,985 | $ (47,712) | $ 73,334 |
| Issuance of common stock, net of issuance costs | — | — | 831 | 1 | 29,676 | — | 29,677 |
| Exercise of stock options | — | — | 106 | — | 1,183 | — | 1,183 |
| Issuance of restricted common stock | — | — | 317 | — | — | — | — |
| Forfeiture of restricted common stock | — | — | (26) | — | — | — | — |
| Purchase and retirement of common stock | — | — | (100) | — | (3,030) | — | (3,030) |
| Stock-based compensation | — | — | — | — | 6,979 | (25) | 6,954 |
| Net loss | — | — | — | — | — | (25,771) | (25,771) |
| **BALANCE AT DECEMBER 31, 2017** | 10 | $ 50 | 11,651 | $ 12 | $ 155,793 | $ (73,508) | $ 82,347 |

See Notes to Consolidated Financial Statements.

## DIGIMARC CORPORATION

## CONSOLIDATED STATEMENTS OF CASH FLOWS
**(In thousands)**

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|---|
| Cash flows from operating activities: | | | |
| Net loss | $ (25,771) | $ (21,672) | $ (17,934) |
| Adjustments to reconcile net loss to net cash used in operating activities: | | | |
| Depreciation, amortization and write-off of property and equipment | 1,430 | 1,336 | 1,237 |
| Amortization and write-off of intangibles | 996 | 1,121 | 1,196 |
| Changes in allowance for doubtful accounts | — | — | (7) |
| Stock-based compensation | 6,757 | 5,553 | 5,077 |
| Changes in operating assets and liabilities: | | | |
| Trade accounts receivable | (1,326) | (462) | (64) |
| Other current assets | (476) | (208) | 1,124 |
| Other assets | 5 | 7 | 40 |
| Accounts payable and other accrued liabilities | 585 | 637 | 125 |
| Deferred revenue | 189 | (176) | (534) |
| Net cash used in operating activities | (17,611) | (13,864) | (9,740) |
| Cash flows from investing activities: | | | |
| Purchase of property and equipment | (2,188) | (1,837) | (1,218) |
| Capitalized patent costs | (819) | (790) | (895) |
| Maturity of marketable securities | 60,360 | 41,052 | 42,264 |
| Purchase of marketable securities | (38,387) | (53,914) | (45,340) |
| Net cash provided by (used in) investing activities | 18,966 | (15,489) | (5,189) |
| Cash flows from financing activities: | | | |
| Issuance of common stock, net of issuance costs | 29,677 | 39,700 | 12,896 |
| Exercise of stock options | 1,183 | 668 | 1,514 |
| Purchase of common stock | (3,030) | (2,537) | (2,443) |
| Net cash provided by financing activities | 27,830 | 37,831 | 11,967 |
| Net increase (decrease) in cash and cash equivalents | 29,185 | 8,478 | (2,962) |
| Cash and cash equivalents at beginning of period | 11,638 | 3,160 | 6,122 |
| Cash and cash equivalents at end of period | $ 40,823 | $ 11,638 | $ 3,160 |
| Supplemental disclosure of cash flow information: | | | |
| Cash received (paid) for income taxes, net | $ (37) | $ (38) | $ 1,233 |
| Supplemental schedule of non-cash investing activities: | | | |
| Property and equipment and patent costs in accounts payable | $ (153) | $ 35 | $ 73 |
| Stock-based compensation capitalized to software and patent costs | $ 197 | $ 164 | $ 174 |

See Notes to Consolidated Financial Statements.

**DIGIMARC CORPORATION**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
**(In thousands, except per share data)**

## (1) Description of Business and Summary of Significant Accounting Policies

### *Description of Business*

Digimarc Corporation ("Digimarc" or the "Company"), an Oregon corporation, enables governments, banks and businesses around the world to automatically and reliably identify and interact with virtually any media. The Company has pioneered the Digimarc® Intuitive Computing Platform (ICP™), a comprehensive set of technologies for identifying, discovering and interacting with digitally-enhanced media. The platform includes Digimarc Barcode, a proprietary method for imperceptibly enhancing packaging, print, images, thermal labels, audio and other objects with data that is detected by enabled devices, such as smart phones, computers, barcode scanners and machine-vision equipment. Digimarc Discover software enables an ecosystem of connected devices to easily identify content or materials and deliver information.

### *Principles of Consolidation*

The consolidated financial statements include the accounts of Digimarc and its wholly-owned subsidiaries. All intercompany transactions and balances have been eliminated.

### *Use of Estimates*

The preparation of the consolidated financial statements in accordance with accounting principles generally accepted in the U.S. ("U.S. GAAP") requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingent assets and liabilities. The Company's accounting policies for revenue recognition require higher degrees of judgment than others in their application. Management bases its estimates on historical experience and on other assumptions that are believed to be reasonable in the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

### *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.

### *Cash Equivalents*

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 commercial paper and money market securities totaling $39,761 and $10,881 at December 31, 2017 and 2016, respectively. Cash equivalents are carried at cost or amortized cost, which approximates market.

### *Marketable Securities*

The Company considers all investments with original maturities over 90 days that mature in less than one-year from the balance sheet date to be short-term marketable securities. Short- and long-term marketable securities primarily include commercial paper, federal agency notes, U.S. treasuries and corporate notes. The Company's marketable securities are classified as held-to-maturity and are reported at amortized cost, which approximates market.

A decline in the market value of any security below amortized cost that is deemed to be other-than-temporary results in a reduction in the carrying amount. The impairment is charged to earnings and a new cost basis for the security is established. To determine whether an impairment is other-than-temporary, the Company considers whether it has the ability and intent to hold the investment until a market price recovery and considers whether evidence indicating that the cost of the investment is recoverable outweighs evidence to the contrary. There have been no other-than-temporary impairments identified or recorded by the Company.

(In thousands, except per share data)

Premiums and discounts are amortized or accreted over the life of the related security as an adjustment to yield using a method that approximates the effective interest method. Under this method, dividend and interest income are recognized when earned.

### *Fair Value of Financial Instruments*

Accounting Standards Codification ("ASC") 820 "*Fair Value Measurements and Disclosures*" defines fair value, establishes a framework for measuring fair value under generally accepted accounting principles in the U.S., and enhances disclosures about fair value measurements. ASC 820 describes a fair value hierarchy based on three levels of inputs, of which the first two are considered observable and the last unobservable, that may be used to measure fair value, which are the following:

- Level 1—Pricing inputs are quoted prices available in active markets for identical investments as of the reporting date.
- Level 2—Pricing inputs are quoted for similar investments, or inputs that are observable, either directly or indirectly, for substantially the full term through corroboration with observable market data. Level 2 includes investments valued at quoted prices adjusted for legal or contractual restrictions specific to these investments.
- Level 3—Pricing inputs are unobservable for the investment; that is, the inputs reflect the reporting entity's own assumptions about the assumptions market participants would use in pricing the asset or liability.

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 December 31, 2017 and 2016, respectively, was as follows:

| December 31, 2017 | Level 1 | Level 2 | Level 3 | Total |
|---|---|---|---|---|
| Money market securities | $ 2,197 | $ — | $ — | $ 2,197 |
| Commercial paper | — | 49,834 | — | 49,834 |
| Federal agency notes | — | 10,715 | — | 10,715 |
| U.S. treasuries | — | 1,996 | — | 1,996 |
| Corporate notes | — | 1,934 | — | 1,934 |
| Total | $ 2,197 | $ 64,479 | $ — | $ 66,676 |

| 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.

(In thousands, except per share data)

The fair value maturities of the Company's cash equivalents and marketable securities as of December 31, 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 | $ 66,676 | $ 66,676 | $ — | $ — | $ — |

***Concentrations of Business and Credit Risk***

A significant portion of the Company's business depends on a limited number of large contracts. The loss of any large contract may result in loss of revenue and margin on a prospective basis. Financial instruments that potentially subject Digimarc to concentrations of credit risk consist primarily of cash and cash equivalents, marketable securities, and accounts receivable. Digimarc places its cash and cash equivalents with major banks and financial institutions and at times deposits may exceed insured limits. Other than cash used for operating needs, which may include short-term marketable securities with the Company's principal banks, Digimarc's investment policy limits its credit exposure to any one financial institution or type of financial instrument by limiting the maximum of 5% of its cash equivalents and marketable securities or $1,000, whichever is greater, to be invested in any one issuer except for the U.S. government, U.S. federal agencies and U.S. backed securities, which have no limits, at the time of purchase. The Company's investment policy also limits its credit exposure by limiting the maximum of 40% of its cash equivalents and marketable securities, or $15,000, whichever is greater, to be invested in any one industry category, (e.g., financial or energy industries), at the time of purchase. As a result, Digimarc's credit risk associated with cash and cash equivalents and marketable securities is believed to be minimal.

**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.

***Equity Method Investments***

The Company accounts for its joint ventures under the equity method of accounting pursuant to ASC 323 "*Investments—Equity Method and Joint Ventures*." Under the equity method, investments are carried at cost, plus or minus the Company's proportionate share, based on present ownership interests, of: (*a*) the investee's profit or loss after the date of acquisition; (*b*) changes in the Company's equity that have not been recognized in the investee's profit or loss; and (*c*) certain other adjustments. Distributions received from the investee (such as dividends) reduce the carrying amount of the investment.

***Goodwill***

The Company accounts for business combinations under the acquisition method of accounting in accordance with ASC 805, "*Business Combinations*," where the total purchase price is allocated to the tangible and identified intangible assets acquired and liabilities assumed based on their estimated fair values. The purchase price is allocated using the information currently available, and may be adjusted, up to one-year from acquisition date, after obtaining more information regarding, among other things, asset valuations, liabilities assumed and revisions to preliminary estimates.

Contingent consideration, if any, is recorded at the acquisition date based upon the estimated fair value of the contingent payments. The fair value of the contingent consideration is re-measured each reporting period with any adjustments in fair value being recognized in earnings from operations.

The purchase price in excess of the fair value of the tangible and identified intangible assets acquired less liabilities assumed is recognized as 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 estimates 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 exceeded the carrying value.

***Impairment of Long-Lived Assets***

The Company assesses long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable, in accordance with the provisions of ASC 360 "*Property, Plant and Equipment*."

Recoverability of assets to be held and used is measured by a comparison of the carrying amount of the assets to future net undiscounted cash flows expected to be generated by the assets over their remaining useful life. If such assets are considered to be impaired, the impairment would be recognized in operating results at the amount by which the carrying amount of the assets exceeds the fair value of the assets. Fair value is determined based on discounted cash flows or appraised values, depending on the nature of the assets.

Assets to be disposed of are reported at the lower of the carrying amount or fair value less costs to sell.

***Research and Development***

Research and development costs are expensed as incurred in accordance with ASC 730 "*Research and Development*."

***Software Development Costs***

Under ASC 985 "*Software*," software development costs are to be capitalized beginning when a product's technological feasibility has been established and ending when a product is made available for general release to customers. To date, the establishment of technological feasibility of the Company's products has occurred shortly before general release and, therefore, software development costs qualifying for capitalization have been immaterial. Accordingly, the Company has not capitalized any software development costs and has charged all such costs to research and development expense.

***Patent Costs***

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 award date, which varies depending on the pendency period of the application, generally approximating seventeen years. Capitalized patent costs, also referred to as patent prosecution costs, include internal legal labor, professional legal fees, government filing fees and translation fees related to expanding the Company's patent portfolio.

Costs associated with the maintenance and annuity fees of patents are accounted for as prepaid assets at the time of payment and amortized over the shorter of the maintenance period or remaining life of the related patent.

***Revenue Recognition***

See Note 2 for detailed disclosures of the Company's revenue recognition policy.

***Stock-Based Compensation***

The Company accounts for stock-based compensation in accordance with ASC 718 "*Compensation—Stock Compensation*," which requires the measurement and recognition of compensation for all stock-based awards made to employees and directors including stock options and restricted stock based on estimated fair values.

For stock option awards, the Company uses the Black-Scholes option pricing model as its method of valuation. The Company's determination of the fair value on the date of grant (measurement date) is affected by its stock price as well as assumptions regarding a number of subjective variables. These variables include, but are not limited to, the expected life of the award, the Company's expected stock price volatility over the term of the award, the risk-free interest rate and the expected dividend yield. Although the fair value of stock-based awards is determined in accordance with ASC 718 and Staff Accounting Bulletin ("SAB") No. 107 "*Shared-Based Payment*,*"* the Black-Scholes option pricing model requires the input of subjective assumptions, and other reasonable assumptions could provide differing results.

The fair value of restricted stock awards 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.

***Income Taxes***

The Company accounts for income taxes in accordance with ASC 740 "*Income Taxes*" utilizing the asset and liability method. Under the asset and liability method, deferred income taxes reflect the future tax consequences of differences between the tax basis of assets and liabilities and their financial reporting amounts. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period of enactment.

The Company records valuation allowances on deferred tax assets if, based on available evidence, it is more-likely-than-not that all or some portion of the assets will not be realized.

The Company is subject to federal and state income taxes within the U.S., and, in the ordinary course of business, there are transactions and calculations where the ultimate tax determination is uncertain. The Company reports a liability (or contra asset) for unrecognized tax benefits resulting from uncertain tax positions taken (or expected to be taken) on a tax return. The Company recognizes interest and penalties, if any, related to the unrecognized tax benefits in income tax expense.

***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 were 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. Earlier adoption is permitted only as of annual reporting periods beginning after December 15, 2016, including interim reporting periods within that reporting period. The guidance permits the use of either the retrospective or cumulative effect transition method. The Company will use the cumulative effect transition method. Based on procedures performed to date, the adoption of this standard on service, subscription and license revenue is not expected to have a material impact on the Company's financial condition, results of operations, or cash flows. We expect the adoption of this standard will require an immaterial adjustment to opening retained earnings on January 1, 2018. In addition, the Company is implementing additional internal controls as a result of the adoption of this standard.

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 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 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 adoption of this standard is not expected to have a material impact on the Company's cash flows and disclosures.

**(2) 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 revenue derived from the sale of 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 any discount in the arrangement proportionally to each deliverable on the basis of each deliverable's selling price.

**(In thousands, except per share data)**

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 derived 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, and collection is reasonably assured. The Company's standard payment terms for license arrangements are 30 to 60 days. Extended payment terms on patent license arrangements may not be fixed or determinable when payments are due beyond the Company's standard payment terms and there is substantial risk of future modification to the license terms. In these cases, revenue is recognized as fees become due and payable rather than when the license rights are transferred.

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

### (3) 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 and channel partners.

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

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|---|
| Domestic | $ 5,116 | $ 4,776 | $ 6,304 |
| International (1) | 20,097 | 17,017 | 15,885 |
| Total | $ 25,213 | $ 21,793 | $ 22,189 |

(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 per Regulation S-K, Item 101(c)(1)(vii) are as follows:

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|---|
| Central Banks | 55% | 62% | 57% |

In addition to the above, the Company had another customer who accounted for 10% or more of the Company's revenue during 2017. The customer is an existing licensee. The increase in revenue associated with this customer was primarily due to a one-time $3,500 license fee recognized in the third quarter of 2017. In exchange for the upfront license fee, the Company waived any future royalty obligations from this licensee in one of the licensed fields of use.

(In thousands, except per share data)

*Long-lived assets by geographical area*

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

**(4) 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*

*Valuation and Amortization Method.* The Company estimates the fair value of stock options on the date of grant (measurement date) using the Black-Scholes option valuation model. The Company amortizes the fair value of all awards on a straight-line basis over the requisite service periods, which are generally the vesting periods.

*Expected Life.* The expected life of awards granted represents the period of time that they are expected to be outstanding. The Company determines the expected life based on historical experience with similar awards, giving consideration to the contractual terms and vesting schedules of the awards. Stock options granted generally vest over three years and have contractual terms of ten years.

*Expected Volatility.* The Company estimates the volatility of its common stock at the date of grant based on the historical volatility of its common stock based on historical prices over the most recent period commensurate with the expected life of the award.

*Risk-Free Interest Rate.* The Company determines the risk-free interest rate using current U.S. treasury yields for bonds with a maturity commensurate with the expected life of the award.

*Expected Dividend Yield.* The expected dividend yield is derived by the Company's expected annual dividend rate over the expected term divided by the fair value of the Company's common stock at the grant date.

***Stock options valuation assumptions:***

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|---|
| Expected life (years) | 4.50 | — | — |
| Expected volatility | 57.24% | — | — |
| Risk-free interest rate | 1.77% | — | — |
| Expected dividend yield | 0% | — | — |

There were no stock options granted during the years ended December 31, 2016 and 2015.

*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. Restricted stock awards granted generally vest over three to four years for employee grants and one to three years for director grants.

(In thousands, except per share data)

**Stock-based Compensation**

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|---|
| Stock-based compensation: | | | |
| Cost of revenue | $ 663 | $ 709 | $ 740 |
| Sales and marketing | 1,440 | 975 | 775 |
| Research, development and engineering | 1,359 | 1,381 | 1,308 |
| General and administrative | 2,974 | 2,182 | 1,978 |
| Intellectual property | 321 | 306 | 276 |
| Stock-based compensation expense | 6,757 | 5,553 | 5,077 |
| Capitalized to software and patent costs | 197 | 164 | 174 |
| Total stock-based compensation | $ 6,954 | $ 5,717 | $ 5,251 |

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

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|---|
| Total unrecognized compensation costs | $ 13,669 | $ 9,728 | $ 9,549 |

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

The Company expects to recognize the total unrecognized compensation costs as of December 31, 2017 for stock options and restricted stock over weighted average periods through December 2021 as follows:

| | Stock Options | Restricted Stock |
|---|---|---|
| Weighted average period | 1.50 years | 1.44 years |

## (5) 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 years ended December 31, 2017, 2016 and 2015:

(In thousands, except per share data)

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|---|
| **Basic Earnings (Loss) per Common Share:** | | | |
| ***Numerator:*** | | | |
| Net loss | $ (25,771) | $ (21,672) | $ (17,934) |
| Distributed earnings to common shares | — | — | — |
| Distributed earnings to participating securities | — | — | — |
| Total distributed earnings | — | — | — |
| Undistributed loss allocable to common shares | (25,771) | (21,672) | (17,934) |
| Undistributed earnings allocable to participating securities | — | — | — |
| Total undistributed loss | (25,771) | (21,672) | (17,934) |
| Loss to common shares—basic | $ (25,771) | $ (21,672) | $ (17,934) |
| ***Denominator*** | | | |
| Weighted average common shares outstanding—basic | 10,571 | 9,188 | 8,198 |
| Basic earnings (loss) per common share | $ (2.44) | $ (2.36) | $ (2.19) |

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|---|
| **Diluted Earnings (Loss) per Common Share:** | | | |
| ***Numerator:*** | | | |
| Loss to common shares—basic | $ (25,771) | $ (21,672) | $ (17,934) |
| Undistributed earnings allocated to participating securities | — | — | — |
| Undistributed earnings reallocated to participating securities | — | — | — |
| Loss to common shares—diluted | $ (25,771) | $ (21,672) | $ (17,934) |
| ***Denominator*** | | | |
| Weighted average common shares outstanding—basic | 10,571 | 9,188 | 8,198 |
| Dilutive effect of stock options | — | — | — |
| Weighted average common shares outstanding—dilutive | 10,571 | 9,188 | 8,198 |
| Diluted earnings (loss) per common share | $ (2.44) | $ (2.36) | $ (2.19) |

There were no common stock equivalents related to stock options that were anti-dilutive and excluded from diluted earnings per common share for the years ended December 31, 2017, 2016 and 2015 because the exercise prices of the stock options were higher than the average market price of the underlying common stock for the period.

There were 102, 187 and 230 common stock equivalents related to stock options that were anti-dilutive and excluded from diluted earnings per common share for the years ended December 31, 2017, 2016 and 2015, respectively, because the Company incurred a net loss for the period.

(In thousands, except per share data)

## (6) Trade Accounts Receivable and Allowance for Doubtful Accounts

*Trade Accounts Receivable*

Trade accounts receivable are recorded at the invoiced amount.

| | December 31, 2017 | December 31, 2016 |
|---|---|---|
| Trade accounts receivable | $ 6,419 | $ 5,093 |
| Allowance for doubtful accounts | (15) | (15) |
| Trade accounts receivable, net | $ 6,404 | $ 5,078 |
| Unpaid deferred revenue included in trade accounts receivable | $ 2,217 | $ 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 are included in trade accounts receivable are billed in accordance with the provisions of the contracts with the Company's customers. Unpaid deferred revenue from the Company's cash-basis customers are 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:

| | December 31, 2017 | December 31, 2016 |
|---|---|---|
| Central Banks | 47% | 57% |

In addition to the above, the Company had another customer who accounted for 10% or more of the Company's accounts receivable at December 31, 2017. The customer is an existing licensee. In the third quarter of 2017, the Company recognized revenue of $3,500 for an upfront license fee. The license fee was paid in two equal installments of $1,750 in October 2017 and January 2018. As of December 31, 2017, $1,750 remained in accounts receivable.

## (7) Property and Equipment

*Property and Equipment*

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

(In thousands, except per share data)

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.

| | December 31, 2017 | December 31, 2016 |
|---|---|---|
| Office furniture and fixtures | $ 1,551 | $ 1,168 |
| Software | 3,068 | 2,146 |
| Equipment | 4,390 | 4,071 |
| Leasehold improvements | 1,720 | 1,617 |
| Gross property and equipment | 10,729 | 9,002 |
| Less accumulated depreciation and amortization | (6,493) | (5,432) |
| Property and equipment, net | $ 4,236 | $ 3,570 |

*Leases*

Future minimum lease payments under non-cancelable operating leases are as follows:

| Year ending December 31: | Operating Leases |
|---|---|
| 2018 | $ 992 |
| 2019 | 1,023 |
| 2020 | 848 |
| 2021 | 804 |
| 2022 | 828 |
| Thereafter | 1,070 |
| Total minimum lease payments | $ 5,565 |

Rent expense on the operating leases was as follows:

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|---|
| Rent expense | $ 1,312 | $ 1,022 | $ 1,045 |

**(8) 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. No impairment charges were recorded for the years ended December 31, 2017, 2016 and 2015.

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.

(In thousands, except per share data)

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

| | Estimated Life (years) | December 31, 2017 | December 31, 2016 |
|---|---|---|---|
| Capitalized patent costs | 17-20 | $ 7,978 | $ 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 | | 11,248 | 10,551 |
| Accumulated amortization | | (4,867) | (4,129) |
| Intangibles, net | | $ 6,381 | $ 6,422 |

Amortization expense on intangible assets was as follows:

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|---|
| Amortization expense | $ 741 | $ 693 | $ 722 |

For intangible assets recorded at December 31, 2017, the estimated future aggregate amortization expense for the years ending December 31, 2018 through 2022 is approximately as follows:

| Year ending December 31: | Amortization Expense |
|---|---|
| 2018 | $ 450 |
| 2019 | 436 |
| 2020 | 378 |
| 2021 | 314 |
| 2022 | 300 |

## (9) Shareholders' Equity

*Preferred Stock*

In June 2008, the Board of Directors authorized 2,500 shares of preferred stock, par value $0.001 per share. The Board of Directors has the authority to issue the undesignated preferred stock in one or more series and to determine the powers, preferences and rights and the qualifications, limitations or restrictions granted to or imposed upon any wholly unissued series of undesignated preferred stock and to fix the number of shares constituting any series and the designation of such series, without any further vote or action by the shareholders. The issuance of preferred stock may have the effect of delaying, deferring or preventing a change of control of the Company without further action by shareholders and may adversely affect the voting and other rights of the holders of common stock.

The Board of Directors authorized 10 shares of Series A Redeemable Nonvoting Preferred stock ("Series A Preferred") that were issued to certain executive officers at the time of formation. The Series A Preferred has no voting rights, except as required by law, and may be redeemed at the option of the Company's Board of Directors at any time.

The Series A Preferred is redeemable based on the stated fair value of $5.00 per share. The Series A Preferred has no dividend rights and no rights to the undistributed earnings of the Company.

*Common Stock*

In June 2008, the Board of Directors authorized 50,000 shares of common stock, par value $0.001 per share. The holders of Digimarc common stock are entitled to one vote for each share held of record on all matters submitted to a vote of its shareholders, including the election of directors. Subject to preferences that may be granted to any then outstanding preferred stock, holders of common stock are entitled to receive ratably those dividends as may be declared by the Board of Directors out of funds legally available for such purpose, as well as any distributions to the Company's shareholders. In the event of the Company's liquidation, dissolution or winding up, holders of common stock are entitled to share ratably in all of the Company's assets remaining after payment of liabilities and the liquidation preference of any then outstanding preferred stock. Holders of common stock have no preemptive or other subscription or conversion rights. There are no redemption or sinking fund provisions applicable to the common stock. All outstanding shares of common stock are fully paid and non-assessable.

In August 2016, the Company sold 1,233 shares of its common stock in an underwritten public offering, plus an additional 185 shares in full exercise of the underwriters' option to purchase additional shares of common stock, at the price to the public of $30.00 per share. The Company received $39,953 of cash proceeds, net of discount of $2,447 and underwriter fees of $150, from the offering, and paid $253 in stock issuance costs.

In June 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 $77 in stock issuance costs.

In November 2017, the Company sold 331 shares of its common stock in a registered direct offering to a certain investor at a price of $36.25 per share. The offering was made without an underwriter or placement agent. The Company received $12,000 of cash proceeds from the offering, and paid $21 in stock issuance costs.

*Stock Incentive Plan*

In July 2008, the Company's Board of Directors initially adopted the 2008 Incentive Plan (2008 Plan). The 2008 Plan provides for the grant of stock options, stock appreciation rights, stock awards, restricted stock, stock units, performance shares, performance units, and cash-based awards, which may be granted to officers, directors, employees, consultants, agents, advisors and independent contractors who provide services to the Company and its affiliated companies.

The 2008 Plan authorizes the issuance of up to 3,500 shares of common stock. The shares authorized under the 2008 Plan are subject to adjustment in the event of a stock split, stock dividend, recapitalization or similar event. Shares issued under the 2008 Plan will consist of authorized and unissued shares or shares held by the Company as treasury shares. If an award granted under the 2008 Plan lapses, expires, terminates or is forfeited or surrendered without having been fully exercised or without the issuance of all the shares subject to the award, the shares covered by that award will again be available for issuance under the 2008 Plan. Shares that are (i) tendered by a participant or retained by the Company as payment for the purchase price of an award or to satisfy tax withholding obligations or (ii) covered by an award that is settled in cash, or in some manner that some or all of the shares covered by the award are not issued, will again be available for issuance under the 2008 Plan. In addition, awards granted as substitute awards in connection with acquisition transactions will not reduce the number of shares authorized for issuance under the 2008 Plan.

As of December 31, 2017, under all of the Company's stock-based compensation plans, equity awards to purchase an additional 933 shares were authorized for future grants under the plans.

*Stock Options*

The Company issues new shares upon option exercises.

(In thousands, except per share data)

Options granted, exercised and forfeited under the stock incentive plan are summarized as follows:

| | Options | Weighted Average Exercise Price | Weighted Average Grant Date Fair Value | Aggregate Intrinsic Value |
|---|---|---|---|---|
| Options outstanding, December 31, 2014 | 601 | $ 16.97 | $ 8.42 | |
| Granted | — | — | — | |
| Exercised | (111) | $ 13.61 | $ 7.25 | |
| Forfeited or expired | — | — | — | |
| Options outstanding, December 31, 2015 | 490 | $ 17.73 | $ 8.69 | |
| Granted | — | — | — | |
| Exercised | (69) | $ 9.64 | $ 6.75 | |
| Forfeited or expired | — | — | — | |
| Options outstanding, December 31, 2016 | 421 | $ 19.06 | $ 9.01 | |
| Granted | 200 | $ 30.50 | $ 14.58 | |
| Exercised | (106) | $ 11.17 | $ 6.75 | |
| Forfeited or expired | — | — | — | |
| Options outstanding, December 31, 2017 | 515 | $ 25.13 | $ 11.64 | $ 5,670 |
| Options exercisable, December 31, 2017 | 331 | $ 22.16 | | $ 4,634 |
| Options unvested, December 31, 2017 | 184 | $ 30.50 | | $ 1,036 |

The aggregate intrinsic value is based on the closing price of $36.15 per share of Digimarc common stock on December 31, 2017, which would have been received by the optionees had all of the options with exercise prices less than $36.15 per share been exercised on that date.

The following table summarizes information about stock options outstanding at December 31, 2017:

| | Options Outstanding | | | Options Exercisable | | |
|---|---|---|---|---|---|---|
| Exercise Price | Number Outstanding | Remaining Contractual Life (Years) | Weighted Average Exercise Price | Number Outstanding | Remaining Contractual Life (Years) | Weighted Average Exercise Price |
| $9.64 - $9.91 | 64 | 0.97 | $ 9.71 | 64 | 0.97 | $ 9.71 |
| $14.99 - $18.01 | 76 | 2.11 | $ 15.89 | 76 | 2.11 | $ 15.89 |
| $27.61 - $30.50 | 375 | 6.79 | $ 29.63 | 191 | 4.03 | $ 28.80 |
| $9.64 - $30.50 | 515 | 5.37 | $ 25.13 | 331 | 3.00 | $ 22.16 |

*Restricted Stock*

The Compensation Committee of the Board of Directors has awarded shares of restricted stock under the Company’s 2008 Plan to employees and directors. The shares subject to the restricted stock awards vest over a certain period, usually four years, following the date of the grant. Specific terms of the restricted stock awards are governed by Restricted Stock Agreements between the Company and the award recipients.

(In thousands, except per share data)

The following table reconciles the unvested balance of restricted stock:

| | Number of Shares | Weighted Average Grant Date Fair Value |
|---|---|---|
| Unvested balance, December 31, 2014 | 502 | $ 23.09 |
| Granted | 150 | $ 28.96 |
| Vested | (213) | $ 24.78 |
| Forfeited | (31) | $ 23.96 |
| Unvested balance, December 31, 2015 | 408 | $ 24.30 |
| Granted | 212 | $ 29.42 |
| Vested | (223) | $ 25.50 |
| Forfeited | (12) | $ 29.15 |
| Unvested balance, December 31, 2016 | 385 | $ 26.28 |
| Granted | 317 | $ 27.56 |
| Vested | (250) | $ 24.05 |
| Forfeited | (26) | $ 27.79 |
| Unvested balance, December 31, 2017 | 426 | $ 28.44 |

The following table indicates the fair value of all restricted stock awards that vested during the years ended December 31, 2017, 2016 and 2015:

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|---|
| Fair value of restricted stock awards vested | $ 7,683 | $ 6,688 | $ 6,350 |

### (10) Defined Contribution Plan

The Company sponsors an employee retirement savings plan (the "Plan") which qualifies as a deferred salary arrangement under Section 401(k) of the Internal Revenue Code. The Plan combines both an employee savings plan and company matching plan into one plan under Section 401(k), including a 401(k) Roth option. Employees become eligible to participate in the Plan at the beginning of the month following the employee's hire date. Employees may contribute up to 75% of their pay to the Plan, subject to the limitations of the Internal Revenue Service Code. Company matching contributions are mandatory under the Plan.

The Company made matching contributions in the aggregate amount as follows:

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|---|
| Matching contributions | $ 938 | $ 775 | $ 523 |

### (11) Joint Venture and Related Party Transactions

In June 2009, the Company entered into two joint venture agreements with The Nielsen Company ("Nielsen") to launch two new companies: TVaura LLC (in which Digimarc holds a 51% ownership interest) and TVaura Mobile LLC (in which Digimarc holds a 49% ownership interest). The two joint venture agreements and a revised patent license agreement expanded and replaced the previous license and services agreement between the Company and Nielsen that had been in operation since late 2007. Under the joint venture agreements, the Company and Nielsen agreed to work together to develop new products and services, including the expansion and deployment of those products and services that were in development under the prior agreement.

(In thousands, except per share data)

Under the terms of the revised patent license agreement, Nielsen agreed to pay Digimarc $18,750 during the period from July 2009 through January 2014, and Digimarc granted to Nielsen a non-exclusive license to Digimarc's patents for use within Nielsen's business. The term of the license continues until the expiration of the last patent under the license.

In March 2012, Digimarc and Nielsen reduced the investments in their two joint ventures 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. Neither Digimarc nor Nielsen has contributed any capital to the joint venture since reactivation.

As of December 31, 2017, both Digimarc and Nielsen continued to assess the market opportunities of the TVaura LLC joint venture.

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

Pursuant to the terms of the agreements and ASC 810 "*Consolidation,*" the joint ventures are not consolidated with the Company because the minority member of each joint venture has substantive participating rights, or veto rights, such that no member has majority control.

*Related Party Transactions*

Summarized financial information for TVaura LLC has not been provided as the disclosures are immaterial to the Company's filing given the operations of the joint venture were suspended during the last three fiscal years. The joint venture had no revenue or expenses for the years ended December 31, 2017, 2016 and 2015, and there were no assets or liabilities as of December 31, 2017 and 2016.

Summarized financial data for TVaura Mobile LLC:

| | December 31, 2017 | December 31, 2016 |
|---|---|---|
| Current assets | $ 35 | $ 40 |
| Noncurrent assets | $ — | $ — |
| Current liabilities | $ 12 | $ 11 |
| Noncurrent liabilities | $ — | $ — |

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|---|
| Revenue | $ — | $ — | $ — |
| Gross profit | $ — | $ — | $ — |
| Operating expenses | $ 5 | $ 5 | $ 5 |
| Net loss from continuing operations | $ (5) | $ (5) | $ (5) |
| The Company's pro-rata share—net loss | $ — | $ — | $ — |
| The Company's loss on investment | $ — | $ — | $ — |

(In thousands, except per share data)

### (12) Income Taxes

The provision (benefit) for income taxes reflects current taxes, deferred taxes, and withholding taxes. The effective tax rates for the years ended December 31, 2017, 2016 and 2015 were 1%, 0% and 0%, respectively. The Company continues to provide for a full valuation allowance to offset its net deferred tax assets until such time it is more likely than not the tax assets or portions thereof will be realized.

The United States ("U.S.") enacted tax reform legislation on December 22, 2017 commonly known as the Tax Cuts and Jobs Act, ("the Act"), resulting in significant modifications to existing U.S. tax law. Accounting for the income tax effects of the Act has been completed and included in the Company's financial statements as of December 31, 2017. As a result of the Act, the Company has recorded a one-time tax provision and corresponding reduction to valuation allowance of $10,529, which consisted primarily of the remeasurement of deferred tax assets and liabilities from a tax rate of 35% to a tax rate of 21%. The future impact of the Act is not expected to have a material effect on the Company's financial results and cash flows in the foreseeable future because the Company has a full valuation allowance recorded against its deferred tax assets.

Components of tax provision (benefit) allocated to continuing operations include the following:

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|---|
| **Current:** | | | |
| Federal | $ 8 | $ — | $ (2) |
| State | 30 | (11) | 49 |
| Foreign | 9 | 21 | 19 |
| Sub-total | $ 47 | $ 10 | $ 66 |
| **Deferred:** | | | |
| Federal | $ (253) | $ — | $ — |
| State | — | — | — |
| Foreign | — | — | — |
| Sub-total | $ (253) | $ — | $ — |
| Total tax provision (benefit) | $ (206) | $ 10 | $ 66 |

The reconciliation of the statutory federal income tax rate to the Company's effective income tax rate is as follows:

| | Year Ended December 31, 2017 | % | Year Ended December 31, 2016 | % | Year Ended December 31, 2015 | % |
|---|---|---|---|---|---|---|
| Income taxes computed at statutory rates | $ (8,834) | 34% | $ (7,369) | 34% | $ (6,081) | 34% |
| Increases (decreases) resulting from: | | | | | | |
| State income taxes, net of federal tax benefit | (1,576) | 6% | (1,219) | 6% | (1,298) | 7% |
| Impact of federal graduated rates | — | — | — | — | (4) | 0% |
| Federal and state research and experimentation credits | (1,081) | 4% | (1,112) | 5% | (917) | 5% |
| Change in valuation allowance | 1,216 | (5)% | 9,468 | (44)% | 8,132 | (45)% |
| Impact of expired tax positions | 7 | 0% | (41) | 0% | — | — |
| Impact of recent U.S. tax reform | 10,529 | (40)% | — | — | — | — |
| Other | (467) | 2% | 283 | (1)% | 234 | (1)% |
| Total | $ (206) | 1% | $ 10 | 0% | $ 66 | 0% |

(In thousands, except per share data)

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The tax effects of significant items comprising the Company's deferred tax assets and deferred tax liabilities are as follows:

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 |
|---|---|---|
| Deferred tax assets: | | |
| Stock based compensation | $ 926 | $ 1,524 |
| Federal and state net operating losses | 26,064 | 21,089 |
| Goodwill | 423 | 715 |
| Accrued compensation | 11 | 19 |
| Deferred rent | 281 | 344 |
| Federal and state research and experimentation credit | 6,055 | 3,434 |
| AMT credit | — | 92 |
| Intangible asset differences | 222 | 253 |
| Other | 75 | 39 |
| Total gross deferred tax assets | 34,057 | 27,509 |
| Less valuation allowance | (32,325) | (24,888) |
| Net deferred tax assets | $ 1,732 | $ 2,621 |
| Deferred tax liabilities: | | |
| Patent expenditures | $ (1,427) | $ (2,012) |
| Fixed asset differences | (305) | (609) |
| Total gross deferred tax liabilities | $ (1,732) | $ (2,621) |
| Total net deferred tax assets | $ — | $ — |

The Company had a valuation allowance of $32,325 and $24,888 on deferred tax assets as of December 31, 2017 and 2016, respectively, an increase of $7,437 during the year ended December 31, 2017.

As of December 31, 2017, the Company has federal and state net operating loss carry-forwards of $91,051 and $112,876, respectively, which have a carry-forward of 5 to 20 years depending on the jurisdiction. The gross deferred tax assets for federal and state net operating loss carryforwards acquired in the Attributor acquisition have been reduced to the amount of losses allowed to be utilized in the post-acquisition period before expiration after considering the applicable limitations of IRC Sec. 382.

As of December 31, 2017, the Company has federal and state research and experimental tax credits of $5,103 and $1,899, respectively, which have a carry-forward of 5 to 20 years depending on the jurisdiction.

The Company records accrued interest and penalties associated with uncertain tax positions in income tax expense in the consolidated statements of operations. For the years ended December 31, 2017, 2016 and 2015, the Company recognized accrued interest and penalties associated with uncertain tax positions of $0, $0 and $4, respectively. The Company does not anticipate any of its unrecognized benefits will significantly increase or decrease within the next 12 months.

(In thousands, except per share data)

A summary reconciliation of the Company's uncertain tax positions is as follows:

| | Year Ended December 31, 2017 | Year Ended December 31, 2016 | Year Ended December 31, 2015 |
|---|---|---|---|
| Beginning balance | $ 486 | $ 425 | $ 306 |
| Addition for current year tax positions | 101 | 100 | 74 |
| Addition for prior year tax positions | 16 | 2 | 45 |
| Reduction for prior year positions | (52) | — | — |
| Reduction for prior year positions resolved during the current year | (2) | (41) | — |
| Ending balance | $ 549 | $ 486 | $ 425 |

Uncertain tax positions are classified as a long-term liability (or a contra deferred tax asset) on the consolidated balance sheets for uncertain tax positions taken (or expected to be taken) on a tax return.

The Company's open tax years subject to examination in the U.S. federal jurisdiction are 2012 through 2016 and applicable state jurisdictions for the tax years 2012 through 2016. To the extent allowed by law, the taxing authorities may have the right to examine prior periods where net operating losses or tax credits were generated and carried forward, and make adjustments up to the amount of the net operating loss or tax credit carryforward.

**(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. Such 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, the Company does not believe that the resolution of any such matters will have a material adverse effect on its financial position, results of operations or cash flows.

(In thousands, except per share data)

## (14) Quarterly Financial Information—Unaudited

| | Quarter Ending | | | |
|---|---|---|---|---|
| | March 31 | June 30 | September 30 | December 31 |
| **2017** | | | | |
| Service revenue | $ 3,696 | $ 3,253 | $ 2,986 | $ 3,001 |
| Subscription revenue | 1,445 | 1,420 | 1,306 | 1,348 |
| License revenue [1] | 950 | 914 | 4,385 | 509 |
| Total revenue | 6,091 | 5,587 | 8,677 | 4,858 |
| Total cost revenue | 2,309 | 2,120 | 2,072 | 2,057 |
| Gross profit | 3,782 | 3,467 | 6,605 | 2,801 |
| Gross profit percent, service revenue | 56% | 55% | 55% | 55% |
| Gross profit percent, subscription revenue | 62% | 62% | 53% | 58% |
| Gross profit percent, license revenue | 88% | 87% | 97% | 74% |
| Gross profit percent, total | 62% | 62% | 76% | 58% |
| Sales and marketing | $ 3,992 | $ 3,997 | $ 4,075 | $ 4,572 |
| Research, development and engineering | 3,459 | 3,936 | 4,108 | 3,932 |
| General and administrative | 2,385 | 2,239 | 2,442 | 2,614 |
| Intellectual property | 392 | 345 | 387 | 345 |
| Operating loss | (6,446) | (7,050) | (4,407) | (8,662) |
| Net loss | (6,218) | (6,943) | (4,240) | (8,370) |
| Earnings (loss) per common share: | | | | |
| Loss per common share—basic | $ (0.61) | $ (0.68) | $ (0.39) | $ (0.76) |
| Loss per common share—diluted | $ (0.61) | $ (0.68) | $ (0.39) | $ (0.76) |
| Weighted average common shares outstanding—basic | 10,161 | 10,266 | 10,797 | 11,046 |
| Weighted average common shares outstanding—diluted | 10,161 | 10,266 | 10,797 | 11,046 |

(1) In the third quarter of 2017, the Company recognized a one-time $3,500 upfront license fee from an existing licensee. In exchange for the upfront license fee, the Company waived any future royalty obligations from this licensee in one of the licensed fields of use.

(In thousands, except per share data)

| | Quarter Ending | | | |
|---|---|---|---|---|
| | March 31 | June 30 | September 30 | December 31 |
| **2016** | | | | |
| Service revenue | $ 3,250 | $ 3,148 | $ 3,252 | $ 3,017 |
| Subscription revenue | 1,463 | 1,494 | 1,417 | 1,434 |
| License revenue | 867 | 815 | 907 | 729 |
| Total revenue | 5,580 | 5,457 | 5,576 | 5,180 |
| Total cost revenue | 2,190 | 2,094 | 2,162 | 2,051 |
| Gross profit | 3,390 | 3,363 | 3,414 | 3,129 |
| Gross profit percent, service revenue | 56% | 55% | 55% | 54% |
| Gross profit percent, subscription revenue | 55% | 60% | 58% | 61% |
| Gross profit percent, license revenue | 89% | 88% | 88% | 85% |
| Gross profit percent, total | 61% | 62% | 61% | 60% |
| Sales and marketing | $ 2,955 | $ 2,856 | $ 2,945 | $ 3,132 |
| Research, development and engineering | 3,305 | 3,379 | 3,291 | 3,419 |
| General and administrative | 2,170 | 1,976 | 2,039 | 2,113 |
| Intellectual property | 434 | 462 | 394 | 346 |
| Operating loss | (5,474) | (5,310) | (5,255) | (5,881) |
| Net loss | (5,435) | (5,283) | (5,198) | (5,756) |
| Earnings (loss) per common share: | | | | |
| Loss per common share—basic | $ (0.64) | $ (0.62) | $ (0.55) | $ (0.57) |
| Loss per common share—diluted | $ (0.64) | $ (0.62) | $ (0.55) | $ (0.57) |
| Weighted average common shares outstanding—basic | 8,533 | 8,587 | 9,506 | 10,111 |
| Weighted average common shares outstanding—diluted | 8,533 | 8,587 | 9,506 | 10,111 |

## BOARD OF DIRECTORS

**Bruce Davis**
*Chairman of the Board* and *Chief Executive Officer*
Digimarc Corporation

**James T. Richardson**
Independent Director and Consultant
*Former Senior Vice President* and *Chief Financial Officer*
WebTrends

**Richard L. King**
Independent Director and Consultant
*Former President* and *Chief Operating Officer*
Albertsons Inc.

**Bern Whitney**
Independent Director and Consultant
*Partner*
FLG Partners, LLC

**Gary DeStefano**
Independent Director and Consultant
*Former President of Global Operations*
Nike, Inc.

**Andrew J. Walter**
Independent Director and Consultant
*Former Vice President of Global Business Services*
The Procter & Gamble Company

## EXECUTIVE OFFICERS

**Bruce Davis**
*Chairman* and *Chief Executive Officer*

**Robert Chamness**
*Executive Vice President*, *Chief Legal Officer* and *Secretary*

**Charles Beck**
*Executive Vice President*, *Chief Financial Officer* and *Treasurer*

**Joel Meyer**
*Executive Vice President Intellectual Property*

**Aimee Arana**
*Executive Vice President, Sales and Business Development*

## TRANSFER AGENT

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