

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-K

ANNUAL REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2016

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

Commission File Number 000-51470

AtriCure

AtriCure, Inc.

(Exact name of registrant as specified in its charter)

Delaware

State or other jurisdiction of
incorporation or organization

34-1940305

(I.R.S. Employer
Identification Number)

7555 Innovation Way, Mason, OH

(Address of principal executive offices)

45040

(Zip Code)

Registrant's telephone number including area code: (513) 755-4100

Securities Registered Pursuant to Section 12(b) of the Act:

Title of each class
Common Stock, \$.001 Par Value Per Share

Name of each exchange on which registered
NASDAQ Global Market

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 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 Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of the 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 or a smaller reporting company. See definition of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer

Accelerated Filer

Non-Accelerated Filer

Smaller reporting company

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 the voting Common Stock held by non-affiliates of the registrant, based upon the closing sale price of the Common Stock on June 30, 2016, as reported on the NASDAQ Global Market, was \$440.5 million.

As of February 24, 2017 there were 33,338,700 shares of Common Stock, \$.001 par value per share, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Items 10, 11, 12, 13 and 14 of Part III of this Form 10-K incorporate information by reference from the registrant's definitive proxy statement to be filed with the Securities and Exchange Commission within 120 days after the end of the fiscal year covered by this Form 10-K.

TABLE OF CONTENTS

PART I		1
ITEM 1.	BUSINESS	1
ITEM 1A.	RISK FACTORS	11
ITEM 1B.	UNRESOLVED STAFF COMMENTS	27
ITEM 2.	PROPERTIES	27
ITEM 3.	LEGAL PROCEEDINGS	27
ITEM 4.	MINE SAFETY DISCLOSURES	27
PART II		28
ITEM 5.	MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES	28
ITEM 6.	SELECTED FINANCIAL DATA	30
ITEM 7.	MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS	31
ITEM 7A.	QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK	39
ITEM 8.	FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA	40
ITEM 9.	CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE	69
ITEM 9A.	CONTROLS AND PROCEDURES	69
ITEM 9B.	OTHER INFORMATION	71
PART III		71
ITEM 10.	DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE	71
ITEM 11.	EXECUTIVE COMPENSATION	71
ITEM 12.	SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS	71
ITEM 13.	CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE	71
ITEM 14.	PRINCIPAL ACCOUNTANT FEES AND SERVICES	71
PART IV		72
ITEM 15.	EXHIBITS AND FINANCIAL STATEMENT SCHEDULES	72
ITEM 16.	FORM 10-K SUMMARY	73
SIGNATURES		74

PART I

This Form 10-K, including the sections titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Risk Factors,” contains forward-looking statements regarding our future performance. All forward-looking information is inherently uncertain and actual results may differ materially from assumptions, estimates or expectations reflected or contained in the forward-looking statements as a result of various factors, including those set forth under “Risk Factors” and elsewhere in this Form 10-K. Forward-looking statements convey our current expectations or forecasts of future events. All statements contained in this Form 10-K other than statements of historical fact are forward-looking statements. Forward-looking statements include statements regarding our future financial position, business strategy, budgets, projected costs, plans and objectives of management for future operations. The words “may,” “continue,” “estimate,” “intend,” “plan,” “will,” “believe,” “project,” “expect,” “anticipate” and similar expressions may identify forward-looking statements, but the absence of these words does not necessarily mean that a statement is not forward-looking. With respect to the forward-looking statements, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995. These forward-looking statements speak only as of the date of this Form 10-K. Unless required by law, we undertake no obligation to publicly update or revise any forward-looking statements to reflect new information or future events or otherwise.

(Dollar amounts referenced in this Part 1 are in thousands.)

ITEM 1. BUSINESS

Overview

We are a leading atrial fibrillation (Afib) solutions company providing innovative products, professional education and support for clinical science to reduce the economic and social burden of atrial fibrillation. We have several product lines for the ablation of cardiac tissue, including our Isolator® Synergy™ Ablation System, the first and only surgical device approved by the United States Food and Drug Administration (FDA) for the treatment of persistent and longstanding persistent forms of Afib in patients undergoing certain open concomitant procedures. We also offer a variety of minimally invasive ablation devices and access tools to facilitate the growing trend in less invasive cardiac and thoracic surgery. Our cryoICE® cryosurgery product line offers a variety of cryoablation devices for use in multiple different types of cardiothoracic surgery. Our AtriClip® Left Atrial Appendage Exclusion System is the most widely sold device worldwide specifically designed to occlude the heart’s left atrial appendage (LAA).

Cardiothoracic surgeons have adopted our radiofrequency (RF) ablation and cryoablation systems to treat Afib in over 222,000 patients since 2004, and we believe that we are currently the market leader in the surgical treatment of Afib. Our products are used by cardiothoracic surgeons during both open-heart and minimally invasive surgical procedures, either on a concomitant or standalone basis. During a concomitant procedure, the surgeon ablates cardiac tissue and/or occludes the LAA secondary, or concomitant, to a primary structural heart procedure such as a valve repair or replacement or coronary artery bypass graft (CABG). Our Isolator Synergy System is approved by FDA for the treatment of persistent and long-standing persistent Afib concomitant to other open-heart surgical procedures such as coronary artery bypass grafting and/or valve replacement or repair. All of our other ablation devices are cleared for sale under FDA 510(k) clearances, including our other RF and cryo ablation products, which are indicated for the ablation of cardiac tissue and/or treatment of cardiac arrhythmias. In addition, our cryoICE probe is cleared for managing pain by temporarily ablating peripheral nerves. Our AtriClip products are 510(k)-cleared with an indication for occlusion of the LAA, under direct visualization, concomitant to other open cardiac surgical procedures. Direct visualization, in this context, requires that the surgeon is able to see the heart directly, without assistance from a camera, endoscope or any other viewing technology. This includes procedures performed by sternotomy (full or partial) as well as thoracotomy (single or multiple). We also have a line of reusable surgical instruments typically used for cardiac valve replacement or repair. We anticipate that substantially all of our revenue for the foreseeable future will relate to products we currently sell, or are in the process of developing, which surgeons use to ablate cardiac tissue, to occlude the left atrial appendage, to perform mitral and aortic valve replacement and repair and/or to ablate peripheral nerves during cardiothoracic surgery.

Afib affects approximately 1% of the population in the United States. It is the most common cardiac arrhythmia, or irregular heartbeat, encountered in clinical practice and accounts for more doctor visits and hospital days than any other cardiac arrhythmia. When a patient is in Afib, abnormal electrical impulses cause the atria, or upper chambers of the heart, to fibrillate, or quiver, at rapid rates of 400 to 600 beats per minute. As a result, blood in the atria may become static, increasing the risk that a blood clot will form and cause a stroke or other serious complications. Symptoms of Afib may include heart palpitations, dizziness, fatigue and shortness of breath, and these symptoms may be debilitating and life threatening in some cases. Patients often progress from being in Afib intermittently to being in Afib continuously. Afib often occurs in conjunction with other cardiovascular diseases, including hypertension, congestive heart failure, left ventricular dysfunction, coronary artery disease and valvular disease.

In the United States of America we sell our products to medical centers through our direct sales force. In certain European markets, such as Germany, France, the United Kingdom and the Benelux region, sales are made directly to medical centers, with the remaining international sales being made through distributors who in turn sell to end users. Our business is primarily transacted in U.S. Dollars with the exception of transactions with our European customers which are transacted in Euros or British Pounds.

AtriCure, Inc. was incorporated in the State of Delaware on October 31, 2000 in connection with a spin-off transaction from Enable Medical Corporation (Enable) in which shares of our common stock were distributed to Enable shareholders. The spin-off was intended to allow us to focus on the development of products designed to treat Afib and to raise capital for that purpose, while Enable continued its broader research and manufacturing activities. On August 5, 2005, we completed an initial public offering of our common stock. On August 10, 2005, we acquired Enable Medical Corporation, the manufacturer of our Isolator clamps, which are an essential part of our Isolator Synergy System. On December 31, 2013, we acquired Endoscopic Technologies, Inc. (Estech®), a medical device company focused primarily on RF ablation products used in cardiothoracic surgery. On October 13, 2015, we acquired nContact Surgical, Inc. (nContact), a medical device company focused primarily on a minimally invasive epicardial ablation products.

Market Overview

Afib is the most commonly diagnosed sustained cardiac arrhythmia, and affects more than 30 million people worldwide, including more than five million in the United States. It is estimated that the incidence of Afib doubles with each decade of an adult's life. At age 40, remaining lifetime risk for Afib is 26% for men and 23% for women. Afib is an under-diagnosed condition due in large part to the fact that patients with Afib often have mild or no symptoms and their Afib is only diagnosed when they seek treatment for an associated condition, such as a structural heart disease or stroke. We believe that increasing awareness of Afib and improved diagnostic screening will result in an increased number of patients diagnosed with Afib. Also, since the prevalence of Afib increases with age, there will likely be an increase in the number of diagnosed Afib patients in the United States as the population ages. We believe that the same trends in the United States apply globally, as in many geographies incidence of Afib is increasing as the population ages.

Afib is a condition that doctors often find difficult to treat and, historically, there has been no widely accepted long-term cure for Afib. This difficulty is exacerbated with more serious forms of Afib, which are typically classified as “persistent” and “long-standing persistent” Afib. Doctors typically begin treating Afib with pharmaceuticals, which are often ineffective, not well-tolerated and may be associated with serious side effects, including the risk of bleeding. Patients who cannot effectively be treated with pharmaceuticals may be candidates to undergo catheter-based procedures to treat their Afib. To perform a catheter ablation, an electrophysiologist inserts a flexible catheter into the inside of the heart, typically through the femoral vein. Catheter-based procedures, especially for more serious forms of Afib, are generally not indicated for patients with persistent or long-standing persistent Afib because they are often technically challenging, have shown to have lower degrees of efficacy as compared to treating milder forms of Afib and can be associated with serious complications. Implantable devices, such as pacemakers and defibrillators, are sometimes used to reduce the frequency and symptoms of Afib although they are not designed to treat the underlying disease. In the past, an open-heart surgical procedure known as the “cut and sew Maze” was used to treat Afib. While the cut and sew Maze was highly effective, this procedure has not been widely adopted because it is technically challenging, highly invasive and involves long recovery times. Over the past two decades, technology advancements have made surgical ablation more effective, repeatable and available to cardiac surgeons around the world. Recent societal guideline changes from the Society of Thoracic Surgeons have increased the level of recommendation for concomitant surgical ablation to Class 1, meaning that it is a “recommended” treatment, no longer just “reasonable”, for patients who have structural heart disease and Afib. These societal guidelines are reflective of the scientific evidence suggesting that surgical ablation is safe and effective for all structural heart patients who also have Afib.

Of the patients undergoing open-heart surgery globally on an annual basis, we estimate that over 250,000 are potential candidates for surgical ablation using our products. Today, we estimate that approximately 25-30% of those candidates are being treated, but we believe many of these are not treated properly or fully. Of the population diagnosed with Afib, a large percentage of these patients are symptomatic and do not respond to pharmacological therapy or are intolerant to the pharmaceuticals used to treat Afib. Additionally, there is a large population of patients who have no other underlying cardiac disease but who suffer from serious forms of Afib. Many of these patients fail traditional therapies, and thus we believe could benefit from a minimally invasive or multi-disciplinary (“hybrid”) Afib treatment using our products.

In addition, Afib is thought to be responsible for approximately 15% to 20% of the estimated 700,000 strokes that occur annually in the United States. According to the American Heart Association, the risk of stroke is five times higher in people with Afib. Studies have also suggested that 90% of clots that cause strokes in patients who have Afib originate from within the LAA. Afib accounts for billions of dollars in hospitalization-related and office visit costs in the United States each year. Indirect costs, such as the management of Afib-related strokes, are believed to be significant. Because of the risk of stroke, and the significant cost burden on the healthcare system, more and more surgeons are routinely addressing the LAA in procedures performed to treat Afib. In addition, current practice guidelines state that the LAA should be occluded or removed, when possible, during cardiac surgery in patients at risk of developing postoperative Afib. We believe that our AtriClip system is safer, more effective and easier to use than other products and techniques for occluding the LAA, and, because of this, we believe that the market for the AtriClip system represents a significant growth opportunity.

The AtriCure Solution and Products

We believe competing surgical and catheter-based ablation devices are not ideal for safely, rapidly and reliably creating lesions that completely and permanently block the abnormal electrical impulses that cause Afib, particularly for patients with more chronic forms of Afib or patients who have failed single or multiple catheter ablations. Our products, including our Isolator Synergy System, enable cardiothoracic surgeons to mimic the cut and sew Maze procedure but with a faster, less invasive and less technically challenging approach.

Clinical studies for the use of our products to treat Afib are ongoing. Leading cardiothoracic surgeons and electrophysiologists, including those who serve or who have served as consultants to us, have published results of initial clinical studies utilizing our Isolator Synergy System. The results of these studies are promising in terms of efficacy, ease of use and safety.

We have two primary product lines for cardiac tissue ablation and a product line for left atrial appendage exclusion:

Product lines for cardiac tissue ablation:

- 1.) **Radio Frequency Ablation Devices.** Our Isolator Synergy System and related RF devices, such as our multifunctional pens, represent our primary product line and currently generate the majority of our revenue. Physicians use the Isolator Synergy System and related RF devices in both open and minimally invasive procedures. These devices are powered by an Isolator Synergy Ablation and Sensing Unit (ASU), Electrosurgical Unit (ESU) or nContact RF Generator, which are compact power generators that we generally place with our direct customers and sell to our distributors. Our RF devices primarily consist of the following products:
 - **Isolator Synergy and Isolator Synergy Access® Clamps.** We sell multiple configurations of our Isolator Synergy clamps. All of our clamps are single-use disposables and have jaws that close in a parallel fashion. The parallel closure compresses tissue and evacuates the blood and fluids from the energy pathway in order to make the ablation more effective.
 - **COBRA Fusion® Surgical Ablation System.** The COBRA Fusion Surgical Ablation System's Versapolar™ technology combines bipolar temperature-controlled radio frequency (TCRF) energy control with monopolar energy. The COBRA Fusion System also incorporates a unique suction design that draws tissue into the device to create consistent, full thickness lesions without arresting and opening the heart.
 - **EPI-Sense® Guided Coagulation System with VisiTrax® Technology.** The EPI-Sense Guided Coagulation System with VisiTrax technology is intended for the coagulation of cardiac tissue using RF energy using thoracoscopic, endoscopic and laparoscopic surgical techniques. It may be used for temporary cardiac signal sensing and recording during surgery when connected to an external recording device. The SUBTLE® cannula is an access device and conduit for the ablation device and endoscope to enable a closed chest endoscopic approach. This allows surgeons direct visualization while ablating on the posterior of the heart.
 - **Multifunctional Pens and Linear Ablation Devices.** Multifunctional pens are disposable RF devices that come in two configurations—one that makes linear ablations and one that makes spot ablations. The pens enable surgeons to evaluate cardiac arrhythmias, perform temporary cardiac pacing, sensing, and stimulation and ablate cardiac tissue with the same device. When the multifunctional pens are used, surgeons are able to toggle back and forth between temporary pacing, sensing, stimulation and ablation. Surgeons generally use one or more of our pen devices in combination with Isolator Synergy clamps.

Our linear ablation devices are disposable linear RF ablation devices designed to allow physicians to create an expanded cardiac ablation lesion set. We believe physicians are using these devices in order to improve long-term results for patients who have non-paroxysmal forms of Afib.
- 2.) **cryoICE Cryoablation System.** The cryoICE cryoablation system consists of the cryoICE BOX generator along with a range of cryoICE single use and reusable cryosurgery probes. The cryoICE cryoablation system is used to ablate cardiac tissue for the treatment of cardiac arrhythmias and to provide temporary pain relief to thoracic surgery patients via ablation of peripheral nerves. The probes come in a variety of configurations, with the primary difference being flexibility of the distal end of the probe.

Product line for left atrial appendage management:

- 1.) **AtriClip System.** The AtriClip system is designed to occlude the left atrial appendage by mechanically clamping the appendage from the outside, eliminating blood flow between the left atrial appendage and the atrium while avoiding contact with circulating blood. We believe that the AtriClip system is potentially safer, more effective and easier to use than other available products and techniques for permanently excluding the left atrial appendage. The AtriClip portfolio includes a range of devices with different size clips, as well as different applier lengths and deployment features.

In addition to the above product lines we also sell enabling technologies including our Lumitip™ dissectors and the Estech line of reusable cardiac surgery (valve) instruments. The Lumitip dissector is used by surgeons to separate tissues to provide access to key

anatomical structures that are targeted for ablation. The Estech cardiac surgery instruments are used during surgical procedures for repair or replacement of certain heart valves.

Current Afib Treatment Alternatives

Physicians usually begin treating Afib patients with a variety of drugs intended to prevent blood clots, control heart rate or restore the heart to normal sinus rhythm. If a patient's Afib cannot be adequately controlled with drug therapy, doctors may perform one of several procedures that vary depending on the severity of the Afib symptoms and whether or not the patient suffers from other forms of heart disease. In late 2016, the Society of Thoracic Surgeons released their updated Clinical Practice Guidelines for the Surgical Treatment of Atrial Fibrillation. The guidelines state:

- Surgical ablation for Afib can be performed without additional operative risk and is recommended at the time of concomitant mitral valve operations to restore sinus rhythm.
- Surgical ablation for Afib can be performed without additional operative risk and is recommended at the time of concomitant isolated aortic valve replacement, isolated coronary artery bypass graft surgery and aortic valve replacement plus coronary bypass graft operations to restore sinus rhythm.
- Surgical ablation for symptomatic persistent or longstanding persistent Afib in the absence of structural heart disease is reasonable as a primary standalone procedure to restore sinus rhythm.

Alternative treatments to open-heart and minimally invasive procedures include:

- *Drugs.* Pharmaceutical options called anti-arrhythmics are available to treat Afib. Depending on a patient's severity of the disease and heart condition, physicians typically administer these medications in a hospital setting with continuous monitoring. If the patient goes back into a normal rhythm, the physician will often prescribe a similar anti-arrhythmic drug to try to prevent a recurrence of Afib. The effectiveness of drug therapy varies based on the patient population and the drug being prescribed, among other factors. Often times, pharmaceuticals to thin the blood (anti-coagulants) are prescribed due to the increased risk of stroke for patients who also have Afib.
- *Implantable Devices.* Implantable devices, such as defibrillators and pacemakers, can be effective in reducing the symptoms and frequency of Afib episodes, but neither device is intended to treat Afib. Patients may continue to experience the adverse effects of Afib as well as some of the symptoms and complications, including dizziness, fatigue, palpitations and stroke, because the Afib continues.
- *Catheter Ablation.* Catheter ablation is a procedure that is typically performed by an electrophysiologist. The ablations are made from the inside of the heart using a flexible catheter. The heart is reached via a blood vessel, most commonly through the femoral vein. In proportion to the prevalence of Afib, only a small number of catheter-based Afib treatments are performed each year in the United States.

With the exception of the Isolator Synergy System, which may be promoted according to its FDA-approved indication for patients with persistent and long-standing persistent Afib undergoing certain open-heart procedures, we do not promote our products specifically for Afib. Nevertheless, physicians have adopted our products for use in open-heart and minimally invasive procedures for the treatment of Afib. During elective open-heart surgical procedures, such as bypass or valve surgery, cardiothoracic surgeons use our ablation systems to treat patients with a pre-existing history of Afib. Surgeons use our products to perform cardiac procedures that may vary depending on the length of time a patient has been diagnosed with Afib and whether the patient's Afib is intermittent, known as paroxysmal, or more continuous (non-paroxysmal), which is typically further classified as persistent, long-standing persistent or permanent. Patients who have been diagnosed with Afib for a longer duration and have non-paroxysmal forms of Afib generally receive more extensive ablation procedures than patients who have been diagnosed with Afib for a shorter duration or who have paroxysmal Afib. Additionally, during an open-heart procedure, physicians may use our AtriClip system to occlude the left atrial appendage, which has been reported to add less than one minute to a procedure.

For those patients with Afib who do not require a concomitant open-heart surgical procedure, surgeons have used our products for minimally invasive Afib treatment procedures. These procedures have generally been performed through minimally invasive incisions without the need to place patients on a heart-lung bypass machine.

Additionally, some physicians are performing various minimally invasive stand-alone procedures which combine epicardial (surgical) ablation (ablation on the outside of the heart) with endocardial ablation and mapping techniques (from the inside of the heart). These combination procedures are often times referred to as "staged" approaches, in that the surgical ablation is performed first, then the catheter ablation is performed second. Sometimes, both procedures are performed on the same day or in the same hospital stay, where other times they are performed days or weeks apart. Physician preference as well as hospital logistics and procedural room availability plays into the decision whether to perform in a single setting or a staged setting. Physicians are reporting that they are performing these procedures, also known as hybrid procedures, utilizing certain of our products to primarily treat patients who have non-paroxysmal forms of Afib.

Business Strategy

Our mission is to expand the treatment options for patients who suffer from Afib or have a high risk of stroke through the continued development of our technologies and expansion of our product offerings. The key elements of our strategy include:

New Product Innovation. Our product development pipeline includes projects which extend and improve our existing products, as well as research and development projects for new technologies. We plan to continue to develop new and innovative products, including those that allow us to enter new market opportunities or expand our growth in existing markets. Our product development and growth plans include continued innovation to expand on both new and existing market opportunities through either leveraging our existing product platform or developing entirely new products to serve new markets.

Invest in Clinical Science and Build Physician Relationships. We continue to invest in landmark clinical trials to validate the long term results of procedures using our products and to support applications to regulatory agencies for expanded indications. We also make clinical research grants to support our product development efforts.

We have formed consulting relationships with cardiothoracic surgeons who work with us to evaluate and develop our products. Additionally, we have formed advisory boards made up of key opinion leaders (KOLs) in cardiac surgery and other specialties to oversee our training and clinical programs. We are also building relationships with physicians in other specialties, including electrophysiology, interventional cardiology and general thoracic surgery who are involved in the treatment of patients with Afib and thus will provide insight regarding treatment trends, input on future product direction and education for other specialties involved in treating the disease.

Provide Training and Education. We have recruited and trained sales and education professionals to effectively communicate to physicians the unique features and benefits of our technologies as they relate to their indications for use. Our highly trained sales and education professionals meet with physicians at institutions around the world to provide education and technical training on the features and benefits of our products. With the approval of our Isolator Synergy System for the treatment of non-paroxysmal Afib, we instituted a program to train providers on the use of the Isolator Synergy System to treat persistent Afib in patients undergoing open-heart surgery. We believe this training and education program has increased and will continue to increase awareness about the surgical treatment of Afib during open-heart procedures. We also provide medical information on our products in response to information requests from physicians, and we have provided educational grants to institutions that have facilitated the education of doctors concerning the treatment of Afib, including the use of our products as an Afib treatment alternative. As a result of the educational process, we believe that awareness of our technologies is growing and will result in the increased use of our products.

Expand Adoption of Our Minimally Invasive Products. We believe that the catalysts for expanded adoption of our minimally invasive products include procedural advancements, such as the hybrid procedure, and the publication of peer-reviewed articles, which we believe will help validate the successful, long-term use of our products for patients with Afib. We believe that ongoing research activities, including clinical trials, new procedural techniques and anticipated presentations and publications will create an increased demand for our minimally invasive products.

Evaluate Acquisition Opportunities. In the past four years, we have acquired two companies that we believe further expand our ability to establish a platform for long-term revenue growth. We expect to continue to be opportunistic with respect to acquisitions where it makes strategic and financial sense.

Clinical Trials

The December 2011 FDA approval of our Isolator Synergy System included the requirement to implement a 350-patient post-approval study (PAS). The PAS was designed to evaluate the long-term safety and efficacy of our Isolator Synergy System in the treatment of persistent and long-standing persistent Afib in patients undergoing open-heart procedures. Enrollment in the trial was completed in October 2014 with 365 patients at 40 medical centers. We expect to release preliminary data from the study in 2017, with a complete report expected to be published in 2018.

We submitted an Investigational Device Exemption (IDE) application for the Staged Dual Epicardial Endocardial Persistent (DEEP) AF pivotal trial to FDA in May 2014. The Staged DEEP AF pivotal trial evaluates the safety and efficacy of the Isolator Synergy System when used in a staged approach, where a minimally invasive surgical ablation procedure is first performed, and the patient undergoes the intracardiac catheter procedure approximately 90-120 days later. FDA approval to enroll up to 220 subjects at 23 domestic medical centers and two international medical centers was received during the third quarter of 2014. Enrollment began during the first quarter of 2015, and there are currently 41 patients enrolled and thirteen sites initiated. Enrollment has been temporarily suspended while we evaluate changes to the trial protocol with FDA.

We are conducting the CONVERGE IDE clinical trial. The CONVERGE pivotal trial evaluates the safety and efficacy of the Epi-Sense Guided Coagulation System with VisiTrax technology to treat symptomatic persistent Afib patients who are refractory or intolerant to at least one Class I and/or III anti-arrhythmic drug. We currently have FDA approval to enroll up to 153 subjects at 27 domestic medical centers and three international medical centers. Enrollment began during the first quarter of 2014, and there are currently 54 patients enrolled and seventeen domestic medical centers initiated.

We are also conducting the ATLAS study, which is a non-IDE randomized pilot study evaluating outcomes of patients with risk factors for developing postoperative Afib as well as risk of bleeding on oral anticoagulation. There are two types of patients subject to this study: those with a postoperative Afib diagnosis and receiving prophylactic exclusion of the left atrial appendage with the AtriClip device concomitant to cardiac surgery and those with a postoperative Afib diagnosis who are medically managed. At full capacity, we expect to enroll approximately 2,000 patients at up to 40 medical centers. We began enrollment in February 2016, and there are currently 159 patients enrolled and ten medical centers initiated.

Our cryoanalgesia study (FROST) is a non-IDE randomized pilot study evaluating whether intraoperative intercostal cryoanalgesia in conjunction with standard of care provides improved analgesic efficacy in patients undergoing unilateral thoracotomy cardiac procedures as compared to current standard of care. The study involves treatment arm subjects who receive intercostal cryoanalgesia in conjunction with standard post-operative pain management and control arm subjects who receive standard post-operative pain management only. At full capacity, we expect to enroll up to 100 patients at up to five medical centers. We began enrollment in June 2016, and there are currently 20 patients enrolled and three medical centers initiated.

We are also pursuing a non-IDE trial in Europe, CEASE AF, to compare staged hybrid ablation treatment (minimally invasive surgical ablation procedure is first performed and the patient undergoes the intracardiac catheter procedure approximately 91-180 days later) versus catheter ablation alone. We expect the study to have an enrollment of approximately 210 patients across twelve medical centers. There are currently 58 patients enrolled and eleven medical centers initiated.

Sales, Marketing and Medical Education

Our global sales and marketing efforts focus on educating physicians about our unique technologies and their technical benefits. We only promote our products for uses described in their regulatory agency approved or cleared labeling. We train our sales force on the use of our products to treat Afib to the extent the products are cleared for the treatment of Afib.

Our sales team in the United States has approximately 120 employees supporting approximately 53 sales territories. We select our sales personnel based on their expertise, sales experience and reputation in the medical device industry, and their knowledge of cardiac surgery procedures and technologies.

We market and sell our products in selected markets outside of the United States through independent distributors and through our European subsidiary which includes a combination of independent distributors and direct sales personnel. We have a network of distributors outside of the United States who market and sell our products. They are located primarily in Asia, South America and Canada, as well as certain countries in Europe. Our international sales team includes sales representatives focused on our direct markets, such as Germany, France, the United Kingdom and the Benelux region. We continue to evaluate opportunities for further expansion into markets outside of the United States.

Competition

Our industry is competitive, subject to change and significantly affected by new product introductions and other activities of industry participants. Our competitors have significantly greater financial and human resources than we do and have established reputations with our target customers, as well as worldwide distribution channels that are more established and developed than ours. Our primary competitor is Medtronic, plc. We and our competitors provide products that have been adopted by physicians for the treatment of Afib and related conditions. Several of our competitors offer intracardiac catheter devices that are commonly used by electrophysiologists to treat Afib. Some of these catheter devices are FDA-approved to treat the paroxysmal form of Afib, but they are not FDA-approved to treat persistent or long-standing persistent Afib. AtriCure's Isolator Synergy System is the only medical device FDA approved to treat Afib in a surgical setting, and the only medical device approved to treat persistent or long-standing persistent Afib.

We believe that our products compare favorably against competing products that are commonly used for the surgical treatment of Afib during both open-heart and sole-therapy minimally invasive procedures, although we cannot assume that we will be able to continue to do so in the future or that new devices that perform better than our products will not be introduced. We also believe that our products compare favorably to intracardiac catheter devices when used to treat non-paroxysmal forms of Afib. Further, we believe our AtriClip system is superior to all other medical devices indicated for exclusion of the left atrial appendage.

Due to the size of the Afib and left atrial appendage exclusion markets, and the unmet need for an Afib cure, competitors have dedicated and will continue to dedicate resources to develop and market their products. New product developments could compete with us more effectively because the Afib treatment and left atrial appendage exclusion markets are characterized by extensive research efforts and technological progress.

Existing or new competitors may develop technologies and products that are safer, more effective, easier to use or less expensive than our products. To compete effectively, we have to demonstrate that our products are an attractive alternative to other treatments by differentiating our products on the basis of safety, efficacy, performance, ease of use, reputation, service and price. We

have encountered and expect to continue to encounter potential customers who prefer products offered by our competitors. Competitive pressures may result in price reductions and reduced gross profit margins for our products over time. Technological advances may render our products obsolete or uneconomical.

Third-Party Reimbursement

Payment for patient care in the United States is generally made by third-party payors. These payors include private insurers and government insurance programs, such as Medicare and Medicaid. The Medicare program, the largest single payor in the United States, is a federal health benefit program administered by the Centers for Medicare and Medicaid Services (CMS), and covers certain medical care items and services for eligible beneficiaries, such as individuals over 65 years old, as well as chronically disabled individuals. Because Medicare beneficiaries comprise a large percentage of the populations for which our products are used, and private insurers may follow the coverage and payment policies for Medicare, Medicare's coding, coverage and payment policies for cardiothoracic surgical procedures are significant to our business.

Medicare's Part A program pays hospitals for inpatient services, such as cardiothoracic surgery, under the Inpatient Prospective Payment System (IPPS), which provides a predetermined payment based on the patient's discharge diagnoses and surgical procedure(s). Discharge diagnoses are grouped into Medicare Severity Diagnosis Related Groupings (MS-DRG). There are several cardiac surgery MS-DRGs associated with the surgical treatment of Afib, with and without a concomitant open-heart procedure. When an ablation device and/or LAA exclusion device is used during a concomitant open-heart procedure, Medicare's hospital reimbursement is based upon the patient's primary surgical procedure. Reimbursement for sole-therapy minimally invasive Afib ablation treatment is also influenced by the patient's severity of illness. We believe hospital reimbursement rates for sole therapy and concomitant therapy cardiac surgical tissue ablation are adequate to cover the cost of our products. Medicare's coding, coverage, and payment policies are subject to change. As a result, the continuance of current coverage, coding or payment determinations cannot be guaranteed, and any change may have an adverse impact on our business.

Physicians are reimbursed for their services separately under the Medicare Part B physician fee schedule. When surgically performing a cardiac ablation with and without a concomitant open-heart procedure, surgeons report Current Procedural Terminology (CPT) codes to receive a professional fee. Surgeons have a choice of CPT codes to report sole-therapy and concomitant therapy cardiac tissue ablation. At this time, there are no CPT codes for the physician to report surgical exclusion of the left atrial appendage.

In addition to the Medicare program, many private payors look to CMS policies as a guideline in setting their coverage policies and payment amounts. The current coverage policies of these private payors may differ from the Medicare program, and payment rates may be higher, lower, or the same as the Medicare program.

Outside of the United States, third-party reimbursement varies widely by geography and by the type of therapy in which our devices are used. For example, even though a new medical device may have been approved for commercial distribution, we may find limited demand for the device until coverage and sufficient reimbursement levels have been obtained from governmental and private third-party payers. In addition, some private third-party payers require that certain procedures or the use of certain products be authorized in advance as a condition of reimbursement. In certain markets outside of the United States, cost containment initiatives and health care reforms include initiatives like governmental reviews of reimbursement rate benchmarks, which may significantly reduce reimbursement for procedures using our medical devices or deny coverage for those procedures. We are actively working to pursue market access initiatives in certain geographies, which includes applying for new reimbursement for therapies in which our devices are being used.

Government Regulation

Our products are medical devices and are subject to regulation in the United States by FDA and other federal agencies, and by comparable authorities in other countries. All of our products marketed in the United States have been cleared by FDA pursuant to section 510(k) of the Food, Drug & Cosmetic Act (FDCA). In addition, our Isolator Synergy System has received premarket approval from FDA for the treatment of patients with persistent and long-standing persistent Afib concomitant to another open-heart surgical procedure such as coronary artery bypass grafting (CABG) or cardiac valve replacement or repair.

FDA regulations govern nearly all of the activities that we perform, or that are performed on our behalf, to ensure that medical products distributed domestically or exported internationally are safe and effective for their intended uses. The activities that FDA regulates include the following:

- product design, development and manufacture;
- product safety, testing, labeling and storage;
- pre-clinical testing in animals and in the laboratory;
- clinical investigations in humans;
- premarket clearance or approval;
- record keeping and document retention procedures;

- advertising and promotion;
- the import and export of products;
- product marketing, sales and distribution;
- post-marketing surveillance and medical device reporting, including reporting of deaths, serious injuries, device malfunctions or other adverse events; and
- corrective actions, removals and recalls.

Unless an exemption applies, most medical devices distributed commercially in the United States require either 510(k) clearance or PMA from FDA.

510(k) Clearance Pathway. To obtain 510(k) clearance, we must submit a notification to FDA demonstrating that our proposed device is substantially equivalent to a predicate device, i.e., a previously cleared and legally marketed 510(k) device or a device that was in commercial distribution before May 28, 1976 for which FDA has not yet called for the submission of a PMA. Any modification to a 510(k)-cleared device that would constitute a major change in its intended use, design or manufacture, requires a new 510(k) clearance or, possibly, in connection with safety and effectiveness, approval of a PMA. FDA requires every manufacturer to make the determination regarding a new 510(k) submission in the first instance, but FDA may review any manufacturer's decision. We have made modifications to elements of our products which we believe did not require us to seek additional 510(k) clearance.

Premarket Approval Pathway. A PMA must be submitted to FDA if the device cannot be cleared through the 510(k) process and is not otherwise exempt. A PMA must be supported by extensive data, including but not limited to technical, preclinical, clinical, manufacturing and labeling, to demonstrate the safety and effectiveness of the device for its intended use.

After a PMA is submitted and FDA has determined that the application is sufficiently complete to permit a substantive review, FDA will accept the application for filing. During the review period, FDA may request additional information or clarification of the information already provided. Also, an advisory panel of experts from outside FDA may be convened to review and evaluate the application and provide recommendations to FDA as to the approvability of the device. In addition, FDA will conduct a preapproval inspection of the manufacturing facility to ensure compliance with quality system regulations. Any approvals we receive may be limited in scope or may be contingent upon further post-approval study commitments or other conditions. New PMAs or PMA supplements are required for significant modification to the device, including indicated use, manufacturing process, labeling and design of a device that is approved through the premarket approval process. PMA supplements often require submission of the same type of information as a PMA, except that the supplement is limited to information needed to support any changes from the device covered by the original PMA and may not require as extensive clinical data or the convening of an advisory panel.

Clinical Trials. Clinical trials are required to support a PMA and are sometimes required for 510(k) clearance. Clinical trials are subject to extensive recordkeeping and reporting requirements. Our clinical trials must be conducted under the oversight of an Institutional Review Board (IRB) for the relevant clinical trial sites and must comply with FDA regulations, including, but not limited to, those relating to current good clinical practices. We are also required to obtain the written informed consent of patients in form and substance that complies with both FDA requirements and state and federal privacy and human subject protection regulations. Similarly, in Europe, the clinical study must be approved by a local ethics committee and, in some cases, including studies with high-risk devices, by the ministry of health in the applicable country.

Educational Grants. FDA regulates manufacturers of medical devices and, in particular, the promotion of medical devices by manufacturers. FDA does not regulate the practice of medicine or the conduct or content of medical education conducted by third parties. Manufacturers may provide financial support for such third-party medical education programs in the form of educational grants intended to offset the cost of such programs. If the manufacturer controls or unduly influences the content of such programs, FDA considers those programs to be promotional activities by the manufacturer and thus subject to FDA regulation including promotional restrictions. We seek to ensure that the activities we support pursuant to our educational grants program are in accordance with FDA criteria for independent educational activities. However, we cannot provide an assurance that FDA or other government authorities would view the programs we have supported as being independent.

Pervasive and Continuing Regulation. There are numerous regulatory requirements that apply after a product is cleared or approved. These include:

- FDA's Quality System Regulation (QSR) which requires manufacturers, including third-party manufacturers, to follow stringent design, testing, control, documentation and other quality assurance procedures during all aspects of the manufacturing process;
- labeling regulations and FDA prohibitions against the false or misleading promotion or the promotion of products for uncleared, unapproved or off-label use or indication;
- requirements to obtain clearance or approval of product modifications that could significantly affect safety or efficacy or that would constitute a major change in intended use;

- medical device reporting regulations which require that manufacturers comply with reporting requirements of FDA and report if their device may have caused or contributed to a death or serious injury or malfunctioned in a way that would likely cause or contribute to a death or serious injury if the malfunction were to recur;
- post-approval restrictions or conditions, including post-approval study commitments;
- post-market surveillance regulations which apply when necessary to protect the public health or to provide additional safety and effectiveness data for the device; and
- requirements to issue notices of correction or removal, or conduct market withdrawals or recalls where quality or other issues arise.

Under FDA's MedWatch regulation, we must submit a Medical Device Report (MDR) to FDA within 30 days whenever we receive information that reasonably suggests that one of our products may have caused or contributed to a death or serious injury, or that one of our products malfunctioned in a manner which, if the malfunction were to recur, could cause or contribute to a death or serious injury. Our products are often used to treat very ill patients in highly complex surgeries, only a small portion of which may involve our products, and it is frequently difficult to determine whether our products caused or contributed to a patient injury or death that occurred during or after the procedure. If we are unable to determine whether our product caused or contributed to a death or serious injury in the particular case, or that a malfunction of the type reported would not cause death or serious injury, we submit an MDR on the case. Other incidents, including serious injuries or deaths, which occurred during procedures utilizing our products and that are not the subject of MDRs, may occur either because we are not aware of those incidents or because our investigation determined that the incident did not involve a malfunction of an AtriCure device and/or that an AtriCure device did not cause or contribute to a serious injury or death.

In addition to FDA regulation, the advertising and promotion of medical devices are also regulated by the Federal Trade Commission and by state regulatory and enforcement authorities. Recently, some promotional activities for FDA-regulated products have been the subject of enforcement action brought under healthcare reimbursement laws and consumer protection statutes. In addition, under the Federal Lanham Act and similar state laws, competitors and others can initiate litigation relating to advertising claims.

We have registered with FDA as a medical device manufacturer and listed our devices. FDA has broad post-market and regulatory enforcement powers. We are subject to unannounced inspections by FDA and our Notified Body to determine our compliance with the QSR, the European Union's Medical Device Directive (MDD) and other regulations, and these inspections may include the manufacturing facilities of our suppliers.

Failure by us or by our suppliers to comply with applicable regulatory requirements can result in enforcement action by FDA or other federal or state authorities, which are described in Item 1A "Risk Factors".

Fraud, Abuse and False Claims. We are directly and indirectly subject to various federal and state laws governing our relationship with healthcare providers and pertaining to healthcare fraud and abuse, including anti-kickback laws. In particular, the federal healthcare program Anti-Kickback Statute prohibits persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in exchange for or to induce either the referral of an individual, or the furnishing, arranging for or recommending a good or service for which payment may be made in whole or part under federal healthcare programs, such as the Medicare and Medicaid programs.

The Federal False Claims Act (FCA) imposes civil liability on any person or entity that submits, or causes the submission of, a false or fraudulent claim to the United States Government. Damages under the FCA can be significant and consist of the imposition of fines and penalties. The FCA also allows a private individual or entity with knowledge of past or present fraud against the federal government to sue on behalf of the government to recover the civil penalties and treble damages. The U.S. Department of Justice (DOJ), on behalf of the government, has previously alleged that the marketing and promotional practices of pharmaceutical and medical device manufacturers included the off-label promotion of products or the payment of prohibited kickbacks to doctors violated the FCA resulting in the submission of improper claims to federal and state healthcare entitlement programs such as Medicaid. In certain cases, manufacturers have entered into criminal and civil settlements with the federal government under which they entered into plea agreements, paid substantial monetary amounts and entered into corporate integrity agreements that require, among other things, substantial reporting and remedial actions going forward.

The Advanced Medical Technology Association (AdvaMed) is one of the primary voluntary United States trade associations for medical device manufacturers. This association has established guidelines and protocols for medical device manufacturers in their relationships with healthcare professionals on matters including research and development, product training and education, grants and charitable contributions, support of third-party educational conferences, and consulting arrangements. Adoption of the AdvaMed Code by a medical device manufacturer is voluntary, and while the OIG and other federal and state healthcare regulatory agencies encourage its adoption and may look to the AdvaMed Code, they do not view adoption of the AdvaMed Code as proof of compliance with applicable laws. We have adopted the AdvaMed Code and incorporated its principles in our standard operating procedures, sales force training programs, and relationships with medical professionals. In addition, we have conducted training sessions for employees

on these principles. However, we cannot provide any assurance that regulatory or enforcement authorities will view these arrangements as being in compliance with applicable laws.

Regulation Outside of the United States. Sales of medical devices outside of the United States are subject to foreign governmental regulations which vary substantially from country to country. The time required to obtain certification or approval by a foreign country may be longer or shorter than that required for FDA clearance or approval and the requirements may be different.

In the European Union, various directives and voluntary standards regulate the design, manufacture and labeling of medical devices. Devices may only be placed on the market in the European Union if they comply with the essential requirements of a relevant directive and bear the CE mark. Manufacturers must demonstrate that their devices comply with the relevant essential requirements through a conformity assessment procedure. The method for assessing conformity varies depending on the type and class of the product, but normally involves a combination of self-assessment by the manufacturer and a third-party assessment by a notified body, an independent and neutral institution appointed by a country to conduct the conformity assessment. This third-party assessment will include a review of documentation relating to the device and may consist of an audit of the manufacturer's quality system and specific testing of the manufacturer's device. Successful completion of a conformity assessment procedure allows a manufacturer to issue a declaration of conformity with the requirements of the relevant directive and affix the CE mark to the device. Devices that bear the CE mark may be commercially distributed throughout the member states of the European Union and other countries that comply with or mirror the medical device directives. A notified body has granted us a certificate of compliance with the International Organization for Standardization, (ISO) 13485:2003 Quality Management System. Compliance with this standard establishes the presumption that our quality system conforms with the essential requirements of the relevant directive. We have successfully completed the conformity assessment procedure and affixed the CE Mark to our Isolator Synergy clamps, Isolator Synergy pens, Coolrail linear pen, cryosurgery devices, AtriClip LAA Exclusion System, COBRA Fusion Ablation System, Numeris System and the Epi-Sense Guided Coagulation System with VisiTrax technology.

Intellectual Property

Protection of our intellectual property is a priority for our business and we rely on a combination of patent, copyright, trademark and trade secret laws to protect our interests. Our ability to protect and use our intellectual property rights in the continued development and commercialization of our technologies and products, operate without infringing the proprietary rights of others, and prevent others from infringing our proprietary rights is important to our continued success. We will be able to protect our products and technologies from unauthorized use by third parties only to the extent that they are covered by valid and enforceable patents, trademarks or copyrights or are effectively maintained as trade secrets, know-how or other proprietary information.

We hold numerous issued United States and international patents. We also have multiple pending United States and international patent applications. We seek patent protection relating to technologies and products we develop in both the United States and in selected foreign countries. While we own much of our intellectual property, including patents, patent applications, trademarks, trade secrets, know-how and proprietary information, we also license patents and related technology of importance to the commercialization of our products. For example, to continue developing and commercializing our current and future products, we may license intellectual property from commercial or academic entities to obtain the rights to technology that is required for our research, development and commercialization activities.

All of our employees and technical consultants are required to execute confidentiality agreements in connection with their employment and consulting relationships with us. We also generally require them to agree to disclose and assign to us all inventions conceived in connection with their relationship with us. We devote significant resources to obtaining patents and other intellectual property and protecting our other proprietary information. If valid and enforceable, these patents may give us a means of blocking competitors from using infringing technology to compete directly with our products. We also have certain proprietary trade secrets that may not be patentable. With respect to proprietary know-how that is not patentable, we have chosen to rely on trade secret protection and confidentiality agreements to protect our interests.

Manufacturing

We assemble, inspect, test and package the majority of our products at our facility in Ohio, and our products are sterilized by third parties. Purchased components are generally available from more than one supplier. However, some products, such as our RF generators and Fusion and Epi-Sense products, are critical components of our RF ablation lines and there are relatively few alternative sources of supply available.

Order quantities and lead times for components purchased from outside suppliers are based on our forecasts derived from historical demand and anticipated future demand. Lead times may vary significantly depending on the size of the order, time required to fabricate and test the components, specific supplier requirements and current market demand for the components and subassemblies. To date, we have not experienced significant delays in obtaining any of our components.

We are required to manufacture our products in compliance with FDA's Quality System Regulation (QSR) and International Organization for Standardization standard 13485 (ISO 13485). The QSR and ISO 13485 regulate the methods and documentation of the design, testing, acceptance, control, manufacturing, labeling, quality assurance, packaging, storage and shipping of our products.

FDA enforces the QSR through periodic inspections that may be announced or unannounced and may include appropriate manufacturing facilities of some of our suppliers. Our failure to maintain compliance with the QSR could result in the shutdown of our manufacturing operations or the recall of our products, which would have a material adverse effect on our business. In the event that one of our suppliers fails to maintain compliance with AtriCure's quality requirements, we may have to qualify a new supplier and could experience manufacturing delays as a result. We also could be subjected to injunctions, product seizures and/or civil or criminal penalties.

We regularly audit our suppliers for compliance with AtriCure's quality system requirements, the QSR and/or applicable ISO standards. We are an FDA-registered medical device manufacturer and certified to ISO 13485:2003. In addition, AtriCure has successfully participated in the Medical Device Single Audit Program (MDSAP) and has been certified accordingly. Our quality system meets the regulatory requirements for Australia, Brazil, Canada, Europe, Japan and the U.S.

We are subject to numerous federal, state and local laws relating to such matters as laboratory practices, the experimental use of animals, the use and disposal of hazardous or potentially hazardous substances, safe working conditions, manufacturing practices, environmental protection and fire hazard control.

Consulting Relationships

We have developed consulting relationships with scientists and physicians throughout the world to support our research and development, clinical and training and education programs. We work closely with these thought leaders to understand unmet needs and emerging applications for the treatment of Afib.

Our physician consulting agreements are intended to satisfy the requirements of the personal services "Safe Harbor" regulation as well as the AdvaMed and Eucomed Codes. As such, they provide for payment of a fair market value fee only for legitimate services actually rendered to us. We do not expect or require the consultant to utilize or promote our products, and consultants are required to disclose their relationship with us as appropriate, such as when publishing an article in which one of our products is discussed. Amounts paid to U.S. physicians are disclosed by us in annual reports submitted to CMS under the federal "Open Payments" law and implementing regulations and under similar U.S. state and international laws, rules and regulations.

Employees

We had approximately 500 full-time employees as of January 31, 2017. None of the employees were represented by a labor union or covered by a collective bargaining agreement. We have never experienced any employment-related work stoppages and consider our employee relations to be good although we cannot provide any assurance that we will not experience such work stoppages in the future.

Available Information

Our principal executive offices are located at 7555 Innovation Way, Mason, Ohio and our telephone number is 513-755-4100. We are subject to the reporting requirements under the Securities Exchange Act of 1934. Consequently, we are required to file reports and information with the Securities and Exchange Commission, or SEC, including reports on the following forms: Form 10-K, Form 10-Q, Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934. These reports and other information concerning us may be accessed through the SEC's website at <http://www.sec.gov>. You may also find, free of charge, on our website at <http://www.atricure.com>, electronic copies of our Form 10-Ks, Form 10-Qs, Form 8-Ks, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934. Such filings are placed on our website as soon as reasonably practicable after they are filed or furnished, as the case may be, with the SEC. Our charters for our Audit, Compensation, Nominating and Corporate Governance and Compliance, Regulatory and Risk Committees and our Code of Ethics are available on our website. In the event that we grant a waiver under our Code of Ethics to any of our officers and directors, we will publish it on our website. Information contained in any of our websites is not deemed to be a part of this Form 10-K.

ITEM 1A. RISK FACTORS

Risks Relating To Our Business

If our products do not achieve widespread market acceptance in the United States, our operating results will be harmed and we may not achieve profitability.

Our success will depend, in large part, on the medical community's acceptance of our principal products in the United States, which is the largest revenue market in the world for medical devices. The U.S. medical community's acceptance of our products will depend upon our ability to demonstrate the safety and efficacy, advantages, long-term clinical performance and cost-effectiveness of our products as compared to other products. In addition, acceptance of products for the treatment of Afib is dependent upon, among other factors, the level of screening for Afib general awareness and education of the medical community about the surgical treatment of Afib and the existence, effectiveness and, in particular, the safety of our products. Market acceptance and adoption of our products

for the treatment of Afib also depends on the level of health insurer (including Medicare) reimbursement to physicians and hospitals for the use of our products.

We cannot predict whether the U.S. medical community will accept our products or, if accepted, the extent of their use. Negative publicity resulting from isolated incidents involving our products or other products related to those we sell could have a significant adverse effect on the overall acceptance of our products. If we encounter difficulties developing a market for our products in the United States, we may not be able to increase our revenue enough to achieve profitability, and our business and operating results will be seriously harmed.

We rely on our ablation, ablation-related and AtriClip products as our primary sources of revenue. If we are not successful in selling these products, or if these products become obsolete, our operating results will be harmed.

Our ablation and ablation-related products, along with our left atrial appendage management products, generate a large majority of our revenue. We expect that sales of these products will continue to account for a majority of our revenue for the foreseeable future and that our future revenue will depend on the increasing acceptance by the medical community of our products as a standard surgical treatment of Afib during open-heart surgical procedures and as a sole-therapy minimally invasive procedure. We may not be able to maintain or increase market acceptance of our products for a number of additional reasons, including those set forth elsewhere in this “Risk Factors” section. In addition, our products may become obsolete prior to the end of their anticipated useful lives or we may introduce new products or next-generation products prior to the end of the useful life of a prior generation, either of which may require us to dispose of existing inventory and related capital equipment and/or write off their value or accelerate their depreciation. Since we believe that physicians are using our ablation and ablation-related products only for the surgical treatment of Afib, if physicians do not use our products to treat Afib, we would lose substantially all of our revenue.

Worldwide economic conditions may reduce demand for procedures using our products or otherwise result in adverse implications on our business, operating results and financial condition.

General worldwide economic conditions may deteriorate due to the effects of, among other developments, general credit market crises, collateral effects on the finance and banking industries, concerns about inflation, slower economic activity, decreased consumer confidence, reduced corporate profits and capital spending, adverse business conditions and liquidity concerns. We are unable to predict the extent to which current or future worldwide economic conditions may impact our business. Specifically, because many procedures using our products are elective, they can be deferred by patients. In addition, patients may not be as willing under current or future economic conditions to take time off from work or spend their money on deductibles and co-payments often required in connection with the procedures that use our products.

Beyond patient demand, any current or future deterioration in worldwide economic conditions, including in particular their effects on the credit and capital markets, may have other adverse implications for our business. For example, our customers’ ability to borrow money from their existing lenders or to obtain credit from other sources to purchase our products may be impaired, resulting in a decrease in sales. Although we maintain allowances for estimated losses resulting from the inability of our customers to make required payments, we cannot guarantee that we will accurately predict the loss rates we will experience, especially given any continuing turmoil in the worldwide economy. A significant change in the liquidity or financial condition of our customers could cause unfavorable trends in our receivable collections and additional allowances may be required, which could adversely affect our operating results. Further, given the economic and political challenges facing Eurozone countries, concerns have been raised regarding the stability and suitability of the Euro as a single currency. The failure of the Euro as a single currency could adversely affect our operating results.

Healthcare costs have risen significantly over the past decade. There have been and may continue to be proposals by legislators, regulators and third-party payors to keep, contain or reduce healthcare costs.

The continuing efforts of governments, insurance companies and other payors of healthcare costs to contain or reduce these costs, combined with closer scrutiny of such costs, could lead to patients being unable to obtain approval for payment from these third-party payors. The cost containment measures that healthcare providers are instituting both in the U.S. and internationally could harm our business. Some healthcare providers in the U.S. have adopted or are considering a managed care system in which the providers contract to provide comprehensive healthcare for a fixed cost per person. Healthcare providers may attempt to control costs by authorizing fewer elective surgical procedures or by requiring the use of the least expensive devices possible, which could adversely affect the demand for our products or the price at which we can sell our products. Some healthcare providers have sought to consolidate and create new companies with greater market power, including hospitals. As the healthcare industry consolidates, competition to provide products and services has become and will continue to become more intense. This has resulted and likely will continue to result in greater pricing pressures and the exclusion of certain suppliers from important marketing segments.

We face significant uncertainty in the industry due to government healthcare reform.

The U.S. Patient Protection and Affordable Care Act (Patient Act), as amended, as well as other healthcare reform have a significant impact on our business. The impact of the Patient Act on the healthcare industry is extensive and includes, among other things, the federal government assuming a larger role in the healthcare system, expanding healthcare coverage of United States

citizens and mandating basic healthcare benefits. The Patient Act impacted our business by requiring an excise tax on all U.S. medical device sales beginning in January 2013. In December 2015, the U.S. government approved the suspension of the excise tax on medical device sales beginning January 1, 2016 through December 31, 2017. The increased tax burden significantly impacts our results of operations and cash flows. It is possible that, due to the new Presidential Administration in the United States, legislation will be introduced and passed by the Republican-controlled Congress repealing the Patient Act in whole or in part and signed into law. Because of the continued uncertainty about the implementation of the Patient Act, including the potential for further legal challenges or repeal of that legislation, we cannot quantify or predict with any certainty the likely impact of the Patient Act or its repeal on our business model, prospects, financial condition or results of operations.

Any healthcare reforms enacted in the future may, like the Patient Act, be phased in over a number of years but, if enacted, could reduce our revenue, increase our costs or require us to revise the ways in which we conduct business or put us at risk for loss of business. In addition, our results of operations, financial position and cash flows could be materially adversely affected by changes under the Patient Act and changes under any federal or state legislation adopted in the future.

Our quarterly financial results are likely to fluctuate significantly because our sales prospects are uncertain.

Due to current worldwide economic conditions, and other factors discussed in this “Risk Factors” section which may impact our sales results, our quarterly operating results are difficult to predict and may fluctuate significantly from quarter to quarter or from prior year to current year periods, particularly because our sales prospects are uncertain. These fluctuations may also affect our annual operating results and may cause those results to fluctuate unexpectedly from year to year.

Restrictions in our ability to train surgeons in the use of our products could reduce the market acceptance of our products or result in injuries to patients or other adverse events that could possibly lead to litigation that could harm us or could reduce our revenue.

It is critical to the success of our sales efforts to ensure that there are a sufficient number of surgeons familiar with, trained on and proficient in the use of our products. While we train providers in the safe and effective use of our products, we do not train them to use any of our products specifically to treat Afib unless the product is FDA-approved specifically for the treatment of Afib. In December 2011 our Isolator Synergy System was approved for the treatment of persistent and long standing persistent forms of Afib concomitant to open heart bypass graft or valve replacement surgery. The procedure using our Isolator Synergy System in this manner is known as the MAZE IV™ procedure. Following approval, we instituted a program to train all new and existing users of the Isolator Synergy System in the MAZE IV procedure. We also make available training on the safe and effective use of our other products consistent with their FDA approved or cleared indications. We cannot assure you that a sufficient number of surgeons will become aware of training programs.

Surgeons may not commit enough time to sufficiently learn our products.

In order for surgeons to learn to use our products, they must attend structured training sessions in order to familiarize themselves with the products and they must be committed to learning the technology. Further, surgeons must utilize the technology on a regular basis to ensure they maintain the skill set necessary to use the products. Continued market acceptance could be delayed by lack of surgeon willingness to attend training sessions, by the time required to complete this training or by state or institutional restrictions on our ability to provide training. An inability to train a sufficient number of surgeons to generate adequate demand for our products could have a material adverse impact on our financial condition and cash flow.

Our marketing strategy is dependent on collaboration with physician “thought leaders.”

Our research and development efforts and our marketing strategy depend heavily on obtaining support, physician training assistance and collaboration from highly-regarded physicians at leading commercial and research hospitals, particularly in the U.S. and Europe. If we are unable to gain and/or maintain such support, training services and collaboration, or if the reputation or standing of these physicians is impaired or otherwise adversely affected, our ability to market our products and, as a result, our financial condition, results of operations and cash flow, could be materially and adversely affected.

Unless and until we obtain additional FDA approval for our products, we will not be able to promote many of them to treat Afib or to prevent stroke, and our ability to maintain and grow our business could be harmed.

Although our Isolator Synergy System received FDA approval for the treatment of some forms of Afib in certain procedures, we have not received FDA clearance or approval to promote our other products for the treatment of Afib or the prevention of stroke. See “Business—Government Regulation.” Unless and until we obtain FDA clearance or approval for the use of our products to treat Afib or prevent stroke, we, and others acting on our behalf, may not claim in the U.S. that our products are safe and effective for such uses or otherwise promote them for such uses. Similar restrictions exist outside of the U.S. There is no assurance that future clearances or approvals of our products will be granted or that current or future clearances or approvals will not be withdrawn. Failure to obtain a clearance or approval or loss of an existing clearance or approval, could hurt our ability to maintain and grow our business.

In order to obtain additional FDA approvals to promote our products for the treatment of Afib or reduction in stroke risk, we will need to demonstrate in clinical trials that our products are safe and effective for such use. Development of sufficient and appropriate clinical protocols to demonstrate quality, safety and efficacy may be required and we may not adequately develop such protocols to support approval. We cannot assure you that any of our clinical trials will be completed in a timely manner or successfully or that the results obtained will be acceptable to FDA. We, FDA or the IRB may suspend a clinical trial at any time for various reasons, including a belief that the risks to study subjects outweigh the anticipated benefits. In addition, if the results obtained from our clinical trials, any other clinical studies, or clinical or commercial experience indicate that any of our products are not safe or effective, or not as safe or effective as other treatment options, FDA may not approve our products for the treatment of Afib or reduction in stroke risk, adoption of the use of our products may suffer and our business would be harmed.

Our clinical trials are typically time consuming, expensive and the outcome uncertain. Delays in patient enrollment or failure of patients to consent or continue to participate in a clinical trial may cause an increase in costs and delays in the approval and attempted commercialization of our products or result in the failure of the clinical trial. Conducting successful clinical studies may require the enrollment of large numbers of clinical sites and patients, and suitable patients may be difficult to identify and recruit. Patient enrollment in clinical trials and completion of patient participation and follow-up depends on many factors, including the size of the patient population, the nature of the trial protocol, the attractiveness of, or the discomforts and risks associated with, the treatments received by enrolled subjects, the availability of appropriate clinical trial investigators, support staff, and proximity of patients to clinical sites and ability to comply with the eligibility and exclusion criteria for participation in the clinical trial and patient compliance. For example, patients may be discouraged from enrolling in our clinical trials if the trial protocol requires them to undergo extensive post-treatment procedures or follow-up to assess the safety and effectiveness of our products or if they determine that the treatments received under the trial protocols are not attractive or involve unacceptable risks or discomforts. Patients may also not participate in our clinical trials if they choose to participate in contemporaneous clinical trials of competitive products or they can obtain the treatment without participating in our trial through physicians who use the product off-label.

We may experience unfavorable publicity relating to our business and our industry. This publicity could have a negative impact on our ability to attract and retain customers, our sales, clinical studies involving our products, our reputation and our stock price.

We may experience a negative impact on our business from newspaper articles or other media reports relating to, among other things, our compliance with FDA regulations for medical device reporting and concerns over disclosure of financial relationships between us and certain of our consultants who are involved with clinical studies and the publication of articles concerning our products. We believe that such publicity would potentially have a negative impact on our clinical studies, business, results of operations and financial condition or cause other adverse effects, including a decline in the price of our stock.

We may be subject to fines, penalties, injunctions and other sanctions if we are deemed to be promoting the use of our products for unapproved, or off-label, uses.

Our business and future growth depend on the continued use of our products for the treatment of Afib or prevention of stroke. Unless the products are approved or cleared by FDA specifically for the treatment of Afib or prevention of stroke, we may not make claims about the safety or effectiveness of our products for such uses.

These limitations present a material risk that FDA or other federal or state law enforcement authorities could determine that the nature and scope of our sales, marketing and/or support activities, though designed to comply with all FDA requirements, constitute the promotion of our products for an unapproved use in violation of the FDCA. We also face the risk that the FDA or other governmental authorities might pursue enforcement based on past activities that we have discontinued or changed, including sales activities, arrangements with institutions and doctors, educational and training programs and other activities. Investigations concerning the promotion of unapproved uses and related issues, are typically expensive, disruptive and burdensome and generate negative publicity. If our promotional activities are found to be in violation of the law, we may face significant fines and penalties and may be required to substantially change our sales, promotion, grant and educational activities. There is also a possibility that we could be enjoined from selling some or all of our products for any unapproved use. In addition, as a result of an enforcement action against us or our executive officers, we could be excluded from participation in government healthcare programs such as Medicare and Medicaid.

The use of products we sell may result in injuries or other adverse events that lead to product liability suits, which could be costly to our business or our customers' businesses.

The use of products we sell may result in a variety of serious complications, including damage to the heart, internal bleeding, death or other adverse events, potentially leading to product liability claims. Serious complications, including death, are commonly encountered in connection with the surgical treatment of Afib. If products we sell are defectively designed, manufactured or labeled, contain inadequate warnings, contain defective components or are misused, we may become subject to costly litigation by our customers or their patients. We carry product liability insurance that is limited in scope and amount and may not be adequate to fully protect us against product liability claims. We could be required to pay damages that exceed our insurance coverage. Any product liability claim, with or without merit, could result in an increase in our product insurance rates or our inability to secure coverage on

reasonable terms, if at all. Even in the absence of a claim, our insurance rates may rise in the future. Any product liability claim, even a meritless or unsuccessful one, would be time-consuming and expensive to defend and could result in the diversion of our management's attention from our business and result in adverse publicity, withdrawal of clinical trial participants, injury to our reputation and loss of revenue. Any of these events could negatively affect our earnings and financial condition.

Competition from existing and new products and procedures may decrease our market share and cause our revenue to decline.

The medical device industry, including the market for the treatment of Afib, is highly competitive, subject to rapid technological change and significantly affected by new product introductions and promotional activities of its participants. There is no assurance that our products will compete effectively against drugs, catheter-based ablation, implantable devices, other ablation systems, other products or techniques to exclude the left atrial appendage, or other surgical Afib treatments, which may be more well-established among doctors and hospitals. We anticipate that new or existing competitors may develop competing products, procedures and/or clinical solutions. There are few barriers to prevent new entrants or existing competitors from developing products to compete directly with ours. Companies also compete with us to attract qualified scientific and technical personnel as well as funding. Some of our competitors have greater financial, manufacturing, marketing and research and development capabilities than we have or may obtain FDA approval for the use of their products before we do. The introduction of new products, procedures, clinical solutions or our competitors obtaining FDA approvals may result in price reductions, reduced margins or loss of market share and may render our products obsolete, which could adversely affect our revenue and future profitability.

Our intellectual property rights may not provide meaningful commercial protection for our products, which could enable third-parties to use our technology or methods, or very similar technology or methods, and could reduce our ability to compete.

Our success depends significantly on our ability to protect our proprietary rights to the technologies used in our products. We rely on patent protection, as well as a combination of copyright, trade secret and trademark laws and nondisclosure, confidentiality and other contractual restrictions to protect our proprietary technology. However, these legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep any competitive advantage. Our patent applications may not issue as patents at all or in a form that will be advantageous to us. Our issued patents and those that may be issued in the future may be challenged, invalidated or circumvented, which could limit our ability to stop competitors from marketing related products. Although we have taken steps to protect our intellectual property and proprietary technology, we cannot assure you that third-parties will not be able to design around our patents or, if they do infringe upon our technology, that we will be successful in or will have sufficient resources to pursue a claim of infringement against those third-parties. We believe that third-parties may have developed or are developing products that could infringe upon our patent rights. Any pursuit of an infringement claim by us may involve substantial expense or diversion of management attention. In addition, although we have generally entered into confidentiality agreements and intellectual property assignment agreements with our employees, consultants, investigators and advisors, such agreements may be breached, may not be enforceable or may not provide meaningful protection for our trade secrets or other proprietary information in the event of unauthorized use or disclosure or other breaches of the agreements. Additionally, as is common in the medical device industry, some of these individuals were previously employed at other medical equipment or biotechnology companies, including our competitors. Although no claims are currently pending against us, we may be subject to claims that these individuals or we have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers.

Furthermore, the laws of foreign countries may not protect our intellectual property rights to the same extent as the laws of the United States. Foreign countries generally do not allow patents to cover methods for performing surgical procedures. If our intellectual property does not provide significant protection against foreign or domestic competition, our competitors could compete more directly with us, which could result in a decrease in our market share. All of these factors may harm our competitive position.

The medical device industry is characterized by extensive litigation and administrative proceedings over patent and other intellectual property rights and any litigation or claim against us may cause us to incur substantial costs, could place a significant strain on our financial resources, divert the attention of management from our business and harm our reputation.

Despite measures taken to protect our intellectual property, unauthorized parties might copy aspects of our products or obtain and use information that we regard as proprietary. Whether a product infringes a patent involves complex legal and factual issues, the determination of which is often uncertain. Any patent dispute, even one without merit or an unsuccessful one, would be time-consuming and expensive to defend and could result in the diversion of our management's attention from our business and result in adverse publicity, the disruption of development and marketing efforts, injury to our reputation and loss of revenue. Litigation also puts our patent applications at risk of being rejected and our patents at risk of being invalidated or interpreted narrowly, and may provoke third parties to assert claims against us. Any of these events could negatively affect our earnings and financial condition.

In the event of a patent dispute, if a third-party's patents were upheld as valid and enforceable and we were found to be infringing, we could be prevented from selling our products unless we were able to obtain a license to use technology or ideas covered by such patent or are able to redesign our system to avoid infringement. A license may not be available at all or on terms acceptable to us, and we may not be able to redesign our products to avoid any infringement. Modification of our products or development of new

products could require us to conduct additional clinical trials and to revise our filings with the FDA and other regulatory bodies, which would be time-consuming and expensive. If we are not successful in obtaining a license or redesigning our products, we may be unable to sell our products and our business could suffer.

The increase in cost of medical malpractice premiums to doctors and hospitals or the lack of malpractice insurance coverage due to the use of our products by doctors for an off-label indication may cause certain doctors or hospitals to decide not to use our products and may damage our ability to grow and maintain the market for our products.

Insurance carriers have been raising premiums charged for medical malpractice insurance due, at least in part, to increased risks associated with off-label procedures, including higher damage awards for successful plaintiffs. Insurance carriers may continue to raise premiums or they may deny malpractice coverage for procedures performed using products such as ours on an off-label basis. If this trend continues or worsens, our revenue may fall as doctors or hospitals decide against purchasing our products due to the cost or unavailability of insurance coverage.

We have a history of net losses and we may never become profitable.

We have incurred net losses each year since our inception, including, most recently, net losses of \$33,338 in 2016, \$27,212 in 2015 and \$16,211 in 2014. As of December 31, 2016, we had an accumulated deficit of \$198,974.

Our net losses have resulted principally from costs and expenses relating to sales and promotional efforts, research and development, seeking regulatory clearances and approvals and general operating expenses. We expect to continue to make substantial expenditures and to potentially incur additional operating losses in the future as we further develop and commercialize our products, including completing clinical trials and seeking regulatory clearances and approvals. If sales of our products do not continue to grow as we anticipate, we will not be able to achieve profitability. Our expansion efforts may prove to be more expensive than we currently anticipate, and we may not succeed in increasing our revenue sufficiently to offset these higher expenses. Our losses have had, and are expected to continue to have, an adverse impact on our working capital, total assets and accumulated deficit.

Our capital needs after the next 12 months are uncertain and we may need to raise additional funds in the future and such funds may not be available on acceptable terms, if at all.

We believe that our current cash, cash equivalents and investments, along with the cash we expect to generate or use for operations or access via our term loan and revolving line of credit will be sufficient to meet our projected capital requirements for at least the next 12 months. Our Loan and Security Agreement with Silicon Valley Bank (SVB), as amended, restated, and modified effective April 25, 2016 (Loan Agreement) provides for a \$25,000 term loan and a revolving credit facility under which we may borrow up to a maximum of \$15,000. The term loan and revolving credit facility both mature in April 2021. According to the Loan Agreement, principal payments on the term loan are to be made ratably commencing twelve months after the inception of the loan through to the loan's maturity date. We have met certain conditions, as specified by the Loan Agreement, to defer the commencement of term loan principal payments by an additional six months. The term loan accrues interest at the Prime Rate and is subject to an additional 4.0% fee on the original \$25,000 term loan principal amount at maturity or prepayment of the term loan. Borrowing availability under the revolving credit facility is based on the lesser of \$15,000 or a borrowing base calculation as defined by the Loan Agreement. As of December 31, 2016, we had no borrowings under the revolving credit facility, and we had borrowing availability of \$15,000. The applicable borrowing rate on advances outstanding under the revolving credit facility is the Prime Rate. The Loan Agreement also provides for certain prepayment and early termination fees, as well as establishes covenants related to liquidity, sales growth and a minimum cash balance, and includes other customary terms and conditions.

The nContact acquisition provides for contingent consideration to be paid upon attaining specified regulatory approvals and clinical and revenue milestones over the next four years. Subject to the terms and conditions of the nContact merger agreement, such contingent consideration is paid in AtriCure common stock and cash. Over the next twelve months, we do not expect our cash requirements to include payments of contingent consideration based on terms of the acquisition agreement and related milestones. Significant changes to the estimated consideration to be paid could result in a substantial increase in liabilities for contingent consideration and our accumulated deficit, and reduce our net income or increase our net loss for the year in which the changes occur, which could contribute to difficulty in raising additional funds. The issuance of our stock to nContact shareholders to settle contingent consideration obligations would dilute our existing stockholders.

If we need to raise additional funds, we cannot be certain that such funds will be available to us on acceptable terms, if at all. Furthermore, if we issue equity securities to raise additional funds, our existing stockholders will experience dilution, and if we issue equity or debt securities, such securities may have rights, preferences and privileges senior to those of our existing stockholders. In addition, if we raise additional funds through collaboration, licensing or other similar arrangements, it may be necessary to relinquish potentially valuable rights to our future products or proprietary technologies, or grant licenses on terms that are not favorable to us. If we cannot raise funds on acceptable terms, we may not be able to expand our operations, develop new products, take advantage of future opportunities or respond to competitive pressures or unanticipated customer requirements.

We may be unable to comply with the covenants of our Loan Agreement.

Our Loan Agreement with SVB contains covenants that include, among others, covenants related to liquidity, sales growth and a minimum cash balance. The occurrence of an event of default could result in an increase to the applicable interest rate by 3.0%, an acceleration of all obligations, an obligation to repay all obligations in full, and a right by SVB to exercise all remedies available to them. If we are unable to pay those amounts, SVB could proceed against the collateral granted to it pursuant to the Loan Agreement, and we may in turn lose access to our current source of borrowing availability.

Our federal tax net operating loss (NOL) and general business credit carryforwards generated prior to the initial public offering of our common stock will be limited or may expire, which could result in greater future income tax expense and adversely impact future cash flows because we experienced an ownership change of more than 50 percent on June 30, 2001. Additionally, we acquired net operating losses through acquisitions which may be limited or may expire.

On June 30, 2001, we experienced an ownership change as defined by Section 382 of the Internal Revenue Code of 1986. Section 382 imposes limitations (Section 382 limitation) on a company's ability to use net operating loss and general business credit carryforwards if a company experiences a more-than-50-percent ownership change over a three-year testing period. Additionally, in connection with acquisitions, additional acquired NOLs are also subject to Section 382 limitation. The Section 382 limitations could limit the availability of our net operating loss and general business credit carryforwards to offset any future taxable income, which may increase our future income tax expense and adversely impact future cash flows. We have total federal income tax net operating loss and research and development credit carryforwards that, if not used to reduce our taxable income, will begin to expire in 2021. We have generated or acquired available net operating loss and research and development credit carryforwards of \$222,816 and \$5,344.

We rely upon single and limited source third-party suppliers and third-party logistics providers, making us vulnerable to supply problems and price fluctuations which could harm our business.

We currently rely on single and limited source third-party vendors for the manufacture of many of the components used in our products. For example, we rely on one vendor to manufacture our ASU, ESU and ASB, as well as separate vendors to manufacture our COBRA Fusion Surgical Ablation Systems, EPi-Sense Guided Coagulation System with VisiTrax technology, nContact RF generators and ORLab™. It would be a time consuming and lengthy process to secure these products from an alternative supplier. In addition, in some cases there are relatively few alternative sources of supply for certain other components that are critical to our products. We also rely on a third party to handle our warehousing and logistics functions for European and Middle Eastern markets on our behalf.

Our reliance on outside manufacturers and suppliers also subjects us to risks that could harm our business, including:

- we may not be able to obtain adequate supply in a timely manner or on commercially reasonable terms;
- we may have difficulty timely locating and qualifying alternative suppliers;
- switching components may require product redesign and new submissions to FDA which could significantly delay production or, if FDA refuses to approve the changes, completely eliminate our ability to manufacture or sell our products;
- our suppliers manufacture products for a range of customers, and fluctuations in demand for the products those suppliers manufacture for others may affect their ability to deliver components to us in a timely manner; and
- our suppliers may encounter financial hardships unrelated to our demand for components, which could inhibit their ability to fulfill our orders and meet our requirements.

Identifying and qualifying additional or replacement suppliers for any of the components used in our products or a replacement warehousing and logistics provider, if required, may not be accomplished quickly and could involve significant additional costs. Any interruption or delay in the supply of components, materials or warehousing and logistics, or our inability to obtain components or materials from alternate sources at acceptable prices in a timely manner, could impair our ability to meet the demand of our customers and cause them to cancel orders or switch to competitive products and could therefore have a material adverse effect on our business, financial condition and results of operations.

If our goodwill or other intangible assets become impaired, it could materially reduce the value of our assets and increase our net loss for the year in which the impairment occurs.

As of December 31, 2016, we had \$105,257 in goodwill related to acquisitions, which represents the purchase price we paid in excess of the fair value of the net assets we acquired. The Financial Accounting Standards Board's (FASB) Accounting Standards Codification (ASC) 350, "Goodwill and Other Intangible Assets" requires that goodwill be tested for impairment at least annually (absent any impairment indicators). The testing includes comparing the fair value of each reporting unit with its carrying value. We estimate fair value using several valuation methods, including discounted cash flows, market multiples and market capitalization. Impairment adjustments, if any, are required to be recognized as operating expenses. We may have future impairment adjustments to our recorded goodwill. Any finding that the value of our goodwill has been impaired would require us to write off the impaired portion, which could materially reduce the value of our assets and reduce our net income or increase our net loss for the year in which the write off occurs and increase our accumulated deficit, which could contribute to difficulty in raising additional funds.

In Process Research and Development (IPR&D) valued at \$44,021 was recorded as an intangible asset in connection with the nContact acquisition. If we do not obtain the regulatory approvals that would confirm the technological feasibility of the IPR&D project, or if the IPR&D project is abandoned for any other reason, we would have an impairment adjustment to this asset that would require us to write it off. Additionally, and similar to goodwill, if the IPR&D asset is deemed to be impaired (as a result of the estimated fair value being less than carrying value), we would be required to write off the impaired portion of the IPR&D asset. This would materially reduce the value of our assets and reduce our net income or increase our net loss for the year in which the write off occurs and increase our accumulated deficit, which could contribute to difficulty in raising additional funds.

An inability to forecast future revenue or estimate life cycles of products may result in inventory-related charges that would negatively affect our gross margins and results of operations.

To mitigate the risk of supply interruptions, we may choose to maintain excess inventory of our products or component parts. Managing our inventory levels is important to our cash position and results of operations and is more challenging in the current economic environment. As we grow and expand our product offerings, managing our inventory levels becomes more difficult, particularly as we expand into new product areas and bring product enhancements to market. While we rely on our personnel and information technology systems for inventory management to effectively manage accounting and financial functions, our personnel and information technology systems may fail to adequately perform these functions or may experience an interruption. An excessive amount of inventory reduces our cash available for operations and may result in excess or obsolete materials. Conversely, inadequate inventory levels may make it difficult for us to meet customer product demand, resulting in decreased revenue. An inability to forecast future revenue or estimated life cycles of products may result in inventory-related charges that would negatively affect our gross margins and results of operations and increase our accumulated deficit, any of which could contribute to difficulty in raising additional funds.

If we or our third-party vendors fail to comply with extensive FDA regulations relating to the manufacturing of our products or any component part, we may be subject to fines, injunctions and penalties, and our ability to commercially distribute and sell our products may be hurt.

Our manufacturing facility and the manufacturing facility of any of our third-party component manufacturers, critical suppliers or third-party sterilization facility are required to comply with FDA's Quality System regulation (QSR) which sets forth minimum standards for the procedures, execution and documentation of the design, testing, production, control, quality assurance, labeling, packaging, sterilization, storage and shipping of the products we sell. FDA may evaluate our compliance with the QSR, among other ways, through periodic announced or unannounced inspections which could disrupt our operations and interrupt our manufacturing. If in conducting an inspection of our manufacturing facility or the manufacturing facility of any of our third-party component manufacturers, critical suppliers or third-party sterilization facility, an FDA investigator observes conditions or practices believed to violate the QSR, the investigator may document their observations on a Form FDA-483 that is issued at the conclusion of the inspection. A manufacturer that receives an FDA-483 may respond in writing and explain any corrective actions taken in response to the inspectional observations. The FDA will typically review the facility's written response and may re-inspect to determine the facility's compliance with the QSR and other applicable regulatory requirements. Failure to take adequate and timely corrective actions to remedy objectionable conditions listed on an FDA-483 could result in the FDA taking administrative or enforcement actions. Among these may be the FDA's issuance of a Warning Letter to a manufacturer, which informs it that the FDA considers the observed violations to be of "regulatory significance" that, if not corrected, could result in further enforcement action. FDA enforcement actions, which include seizure, injunction and criminal prosecution, could result in total or partial suspension of a facility's production and/or distribution, product recalls, fines, suspension of the FDA's review of product applications and the FDA's issuance of adverse publicity. Thus, an adverse inspection could force a shutdown of our manufacturing operations or a recall of our products. Adverse inspections could also delay FDA approval of our products and could have an adverse effect on our production, sales and profitability.

We and any of our third-party vendors may also encounter other problems during manufacturing including failure to follow specific protocols and procedures, equipment malfunction and environmental factors, any of which could delay or impede our ability to meet demand. The manufacture of our product also subjects us to risks that could harm our business, including problems relating to the sterilization of our products or facilities and errors in manufacturing components that could negatively affect the efficacy or safety of our products or cause delays in shipment of our products. Any interruption or delay in the manufacture of the product or any of its components could impair our ability to meet the demand of our customers and cause them to cancel orders or switch to competitive products and could, therefore, have a material adverse effect on our business, financial condition and results of operations.

If we fail to comply with the extensive FDA regulations relating to our business, we may be subject to fines, injunctions and penalties and our ability to commercially distribute and promote our products may be hurt.

Our products are classified by FDA as medical devices and, as such, are subject to extensive regulation in the United States by FDA and numerous other federal, state and foreign governmental authorities. FDA regulations, guidance, notices and other issuances specific to medical devices are broad and regulate numerous aspects of our business.

Compliance with FDA, state and other regulations can be complex, expensive and time-consuming. FDA and other authorities have broad enforcement powers. Furthermore, changes in the applicable governmental regulations could prevent further commercialization of our products and technologies and could materially harm our business.

If a serious failure to comply with applicable regulatory requirements was determined, it could result in enforcement action by FDA or other state or federal agencies, including the DOJ, which may include any of the following sanctions, among others:

- warning letters, fines, injunctions, consent decrees and civil penalties;
- repair, replacement, refunds, recall or seizure of our products;
- operating restrictions, partial suspension or total shutdown of production;
- suspension or termination of our clinical trials;
- refusing or delaying our pending requests for 510(k) clearance or PMAs, new intended uses or modifications to existing products;
- withdrawing 510(k) clearance or PMAs that have already been granted; and
- criminal prosecution.

If any of these events were to occur, we could lose customers and our production, product sales, business, results of operations and financial condition would be harmed.

We are also subject to medical device reporting regulations that require us to file reports with FDA if our products reasonably are the cause of or contribute to an adverse event, death, serious injury or, in the event of product malfunction, that if it were to recur, would likely cause or contribute to a death or serious injury. We have a history of submitting medical device reports to FDA involving our products, including patient deaths, which were categorized as outcomes based on physician judgment, not on the failure of our devices. There have also been other incidents, including patient deaths, which have occurred during procedures using our products that we have not, and believe were not required to be, reported to FDA because we and our physician consultants determined that our products did not cause or contribute to the outcomes in these incidents. If FDA disagrees with us, however, and determines that we should have submitted reports for these adverse events, we could be subject to significant regulatory fines or other penalties. In addition, the number of medical device reports we make, or the magnitude of the problems reported, could cause FDA or us to terminate or modify our clinical trials or recall or cease the sale of our products, and could hurt commercial acceptance of our products and harm our reputation with customers.

FDA conducted an inspection in our Cincinnati, Ohio facility in August 2016. This audit resulted in the issuance of a Form FDA 483, Inspectional Observations, which outlined certain nonconformance items within our Medical Device Reporting (MDR) and risk mitigation processes. We responded to the observations and have taken corrective actions where appropriate. We take these matters seriously, and we will respond timely and fully to any additional FDA requests. We believe that FDA's concerns will be resolved without a material impact on our financial results.

Modifications to our products may require new clearances or approvals or require us to cease promoting or to recall the modified products until such clearances or approvals are obtained and FDA may not agree with our conclusions regarding whether new clearances or approvals were required.

Any modification to a 510(k)-cleared device that would constitute a change in its intended use, design or manufacture, could require a new 510(k) clearance or procedure or, possibly, submission and FDA approval of a PMA. FDA requires every medical device company to make the determination as to whether a new 510(k) is to be filed, but FDA may review any medical device company's decision. We have made modifications to our products but do not believe such modifications required us to submit an additional 510(k). FDA may not agree with our decisions regarding whether new clearances or approvals were required.

If FDA were to disagree with us and require us to submit a new 510(k), PMA or a different type of PMA supplement for then existing modifications, we could be required to cease promoting or to recall the modified product until we obtain clearance or approval. In addition, we could be subject to significant regulatory fines or other penalties. Furthermore, our products could be subject to recall if FDA determines, for any reason, that our products are not safe or effective or that appropriate regulatory submissions were not made. Delays in receipt or failure to receive clearances or approvals, the loss of previously received clearances or approvals, or the failure to comply with existing or future regulatory requirements, could reduce our sales, profitability and future growth prospects.

We will spend considerable time and money complying with federal, state and foreign regulations in addition to FDA regulations, and, if we are unable to fully comply with such regulations, we could face substantial penalties.

We are subject to extensive regulation by the federal government and foreign countries in which we conduct business. The laws that affect our ability to operate our business in addition to the FDCA and FDA regulations include, but are not limited to, the following:

- state consumer protection, fraud and business practice laws;
- the Federal Anti-Kickback Statute, which prohibits persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce either the referral of an individual, or furnishing or arranging for a good or service, for which payment may be made under federal healthcare programs such as the Medicare and Medicaid Programs;
- the Federal False Claims Act, which prohibits submitting a false claim or causing of the submission of a false claim to the government;
- Medicare laws and regulations that prescribe the requirements for coverage and payment, including the amount of such payment, and laws prohibiting false claims for reimbursement under Medicare and Medicaid;
- state laws that prohibit the practice of medicine by non-doctors and by doctors not licensed in a particular state, and fee-splitting arrangements between doctors and non-doctors, as well as state law equivalents to the Anti-Kickback Statute and the Stark Law, which may not be limited to government-reimbursed items;
- federal and state healthcare fraud and abuse laws or laws protecting the privacy of patient medical information, including the Health Insurance Portability and Accountability Act, or HIPAA, which protects medical records and other personal health information by limiting their use and disclosure, giving individuals the right to access, amend and seek accounting reasonably necessary to accomplish the intended purpose;
- the Federal Trade Commission Act and similar laws regulating advertising and consumer protection; and
- similar and other regulations outside the United States.

Healthcare fraud and abuse regulations are complex, and even minor, inadvertent irregularities can potentially give rise to claims that a law has been violated. Any violations of these laws could result in a material adverse effect on our business, financial condition and results of operations. For example, if we were found to be in violation of the Federal False Claims Act, we would likely face significant fines and penalties and would likely be required to change substantially our sales, promotion, grant and educational activities. There is also a possibility that we could face an injunction that would prohibit in whole or in part our current business activities, and, as a result of enforcement actions against us or our senior officers, we could be excluded from participation in government healthcare programs such as Medicare and Medicaid. If there is a change in law, regulation or administrative or judicial interpretations, we may have to change our business practices or our existing business practices could be challenged as unlawful, which could have a material adverse effect on our business, financial condition and results of operations.

If our past or present operations are found to be in violation of any of the laws described above or the other governmental regulations to which we, our distributors or our customers are subject, we may be subject to the applicable penalty associated with the violation, including civil and criminal penalties, damages, fines, exclusion from Medicare, Medicaid and other government programs and the curtailment or restructuring of our operations. If we are required to obtain permits or licensure under these laws that we do not already possess, we may become subject to substantial additional regulation or incur significant expense. Any penalties, damages, fines, curtailment or restructuring of our operations would adversely affect our ability to operate our business and our financial results. The risk of our being found in violation of these laws is increased by the fact that many of them have not been fully or clearly interpreted by the regulatory authorities or the courts, and their provisions are subject to a variety of interpretations and additional legal or regulatory change. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses, divert our management's attention from the operation of our business and damage our reputation.

Adverse changes in payors' policies toward coverage and reimbursement for surgical Afib treatment would harm our ability to promote and sell our products.

Third-party payors are increasingly exerting pressure on medical device companies to reduce their prices. Even to the extent that the use of our products is reimbursed by private payors and governmental payors, adverse changes in payors' policies toward coverage and reimbursement for surgical Afib treatment would also harm our ability to promote and sell our products. Payors continue to review their policies and can, without notice, deny coverage for treatments that include the use of our products. Because each third-party payor individually approves coverage and reimbursement, obtaining these approvals may be time-consuming and costly. In addition, third-party payors may require us to provide scientific and clinical support for the use of our products. Adverse changes in coverage and reimbursement for surgical Afib treatment could harm our business and reduce our revenue.

FDA does not regulate the practice of medicine. Physicians may use our products in circumstances where they deem it medically appropriate, such as for the treatment of Afib or the reduction in stroke risk, even though FDA may not have approved or cleared our products to be marketed specifically for those indications. Some payors may deem the use of our products for indications

not specifically approved or cleared by FDA to be experimental and, as such, may deny coverage or payment. Often times, these denials can be overcome through an appeals process, but there is no guarantee of success in these cases.

We have traditionally had limited long-term clinical data regarding the safety and efficacy of our products. Any long-term data that is generated may not be positive or consistent with our limited short-term data, which would affect the rate at which our products are adopted by the medical community.

Important factors upon which the efficacy of our products will be measured include long-term data on the number of patients that experience Afib or stroke following treatment with our products and the number of patients that have serious complications resulting from ablations or LAA occlusion using our products. While we believe we are now well-positioned to provide sufficient long-term data regarding the safety and efficacy of our products going forward, such data could, nevertheless, identify unexpected safety issues. We cannot provide any assurance that the data collected during our clinical trials will be compelling to the medical community because it may not be scientifically meaningful and may not demonstrate that procedures utilizing our products are an attractive option when compared against data from alternative procedures and products. In addition, the long-term effects of ablation procedures and left atrial appendage exclusion are not well-known. Negative long-term data would affect the use of our products and harm our business and prospects.

We sell our products outside of the United States and we are subject to various regulatory and other risks relating to international operations, which could harm our international revenue and profitability.

Doing business outside of the United States exposes us to risks distinct from those we face in our domestic operations. For example, our operations outside of the United States are subject to different regulatory requirements in each jurisdiction where we operate or have sales. Our failure, or the failure of our distributors, to comply with current or future foreign regulatory requirements, or the assertion by foreign authorities that we or our distributors have failed to comply, could result in adverse consequences, including enforcement actions, fines and penalties, recalls, cessation of sales, civil and criminal prosecution, and the consequences could be disproportionate to the relative contribution of our international operations to our results of operations. Moreover, if political or economic conditions deteriorate in these countries, or if any of these countries are affected by a natural disaster or other catastrophe, our ability to conduct our international operations or collect on international accounts receivable could be limited and our costs could be increased, which could negatively affect our operating results. Engaging in business outside of the United States inherently involves a number of other difficulties and risks, including, but not limited to:

- export restrictions and controls relating to technology;
- pricing pressure that we may experience internationally;
- difficulties in enforcing agreements and collecting receivables through certain foreign legal systems;
- political and economic instability;
- consequences arising from natural disasters and other similar catastrophes, such as hurricanes, tornados, earthquakes, floods and tsunamis;
- potentially adverse tax consequences, tariffs and other trade barriers;
- the need to hire additional personnel to promote our products outside of the United States;
- international terrorism and anti-American sentiment;
- fluctuations in exchange rates for future sales denominated in foreign currency, which represent a majority of our sales outside of the United States; and
- difficulty in obtaining and enforcing intellectual property rights.

In addition, our business practices in foreign countries must comply with U.S. laws, including the Foreign Corrupt Practices Act (FCPA). We have a compliance program in place designed to reduce the likelihood of potential violations of the FCPA and other U.S. and foreign anti-bribery and anti-corruption laws. If violations were to occur, they could subject us to fines and other penalties as well as increased compliance costs.

Our exposure to each of these risks may increase our costs and require significant management attention. We cannot assure you that one or more of these factors will not harm our business.

Fluctuations in foreign currency exchange rates could result in declines in our reported sales and results of operations.

Because some of our international sales are denominated in local currencies and not in U.S. Dollars, our reported sales and earnings are subject to fluctuations in foreign currency exchange rates, primarily the Euro and British Pound. We translate results of transactions denominated in local currencies into U.S. Dollars using market conversion rates applicable to the period in which the transaction is reported. As a result, changes in exchange rates during a period can unpredictably and adversely affect our consolidated operating results and our asset and liability balances, even if the underlying value of the item in its original currency has not changed. At present, we do not hedge our exposure to foreign currency fluctuations. As a result, sales and expenses occurring in the future that

are denominated in foreign currencies may be translated into U.S. Dollars at less favorable rates, resulting in reduced revenues and earnings.

Our manufacturing operations are primarily conducted at a single location, and any disruption at our manufacturing facility could increase our expenses and decrease our revenue.

Our manufacturing operations are conducted at a single location in Ohio. While we take precautions at this location, we do not maintain a backup manufacturing facility, making us dependent on our current facility for the continued operation of our business. A natural or other disaster could damage or destroy our manufacturing equipment and cause substantial delays in our manufacturing operations, which could lead to additional expense and decreased revenue due to lack of supply. The insurance we maintain may not be adequate to cover our losses in any particular case. With or without insurance, damage to our facility or our other property, due to a natural disaster or casualty event, could have a material adverse effect on our business, financial condition and results of operations.

We rely on independent distributors to market and sell our products in certain markets outside of the United States, and a failure of our independent distributors to successfully market our products in these markets or any disruption in their ability to do so may adversely impact our sales.

We depend on third-party distributors to sell our products in certain markets outside of the United States and if these distributors do not perform, we may be unable to increase or maintain our level of international revenue. Over the long term, we intend to continue to grow our business outside of the United States, and to do so we will need to attract additional distributors or hire direct sales personnel to expand the territories in which we sell our products. Independent distributors may terminate their relationship with us or devote insufficient sales efforts to our products. We are not able to control our independent distributors, and they may not be successful in implementing our marketing plans. In addition, many of our independent distributors outside of the United States initially obtain and maintain foreign regulatory approval for sale of our products in their respective countries. Our failure to maintain our relationships with our independent distributors outside of the United States, or our failure to recruit and retain additional skilled independent distributors in these locations, could have an adverse effect on our operations. Turnover among our independent distributors, even if replaced, may adversely affect our short-term financial results while we transition to new independent distributors or direct personnel. Fluctuations in foreign currency exchange rates including, in particular, any strengthening of the U.S. dollar may cause our independent sales distributors to seek longer payment terms to offset the higher prices they are paying in local currency for our products. The ability of these third-party distributors to market and sell our products could also be adversely affected by unexpected events, including, but not limited to, power failures, nuclear events, natural or other disasters and war or terrorist activities. In addition, in light of the worldwide economic crisis, the ability of our distributors to borrow money from their existing lenders or to obtain credit from other sources to purchase our products may be impaired or our distributors could experience a significant change in their liquidity or financial condition, all of which could impair their ability to distribute our products and eventually lead to distributor turnover.

If coverage and adequate levels of reimbursement from governmental and third-party payors outside of the United States are not attained and maintained, sales of our products outside of the United States may decrease and we may fail to achieve or maintain significant sales outside of the United States.

Our revenue generated from sales outside of the United States is also dependent upon the availability of coverage and reimbursement within prevailing foreign healthcare payment systems. In general, foreign healthcare payors do not provide reimbursement for sole-therapy minimally invasive procedures utilizing ablation devices and related products. In addition, healthcare cost containment efforts similar to those we face in the United States are prevalent in many of the other countries in which we sell our products, and these efforts are expected to continue. To the extent that the use of ablation devices such as our Isolator Synergy clamps has historically received reimbursement under a foreign healthcare payment system, such reimbursement, if any, has typically been significantly less than the reimbursement provided in the United States. If coverage and adequate levels of reimbursement from governmental and third-party payors outside of the United States are not obtained and maintained, sales of our products outside of the United States may decrease and we may fail to achieve or maintain significant sales outside of the United States.

If we fail to properly manage our anticipated growth, our business could suffer.

We may experience periods of rapid growth and expansion, which could place a significant strain on our personnel, information technology systems and other resources. In particular, the increase in our direct sales force requires significant management and other supporting resources. Any failure by us to manage our growth effectively could have an adverse effect on our ability to achieve our development and commercialization goals.

To achieve our revenue goals, we must successfully increase production output as required by customer demand. In the future, we may experience difficulties in increasing production, including problems with production yields and quality control, component supply and shortages of qualified personnel. These problems could result in delays in product availability and increases in expenses. Any such delay or increased expense could adversely affect our ability to generate revenues.

Future growth will also impose significant added responsibilities on management, including the need to identify, recruit, train and integrate additional employees. In addition, rapid and significant growth will place a strain on our administrative and operational infrastructure.

In order to manage our operations and growth, we will need to continue to improve our operational and management controls, reporting and information technology systems and financial internal control procedures. If we are unable to manage our growth effectively, it may be difficult for us to execute our business strategy and our operating results and business could suffer.

We depend on our officers and other skilled and experienced personnel to operate our business effectively. If we are not able to retain our current employees or recruit additional qualified personnel, our business will suffer and our future revenue and profitability will be impaired.

We are highly dependent on the skills and experience of our President and Chief Executive Officer, Michael H. Carrel, and certain other officers and key employees. We do not have any insurance in the event of the death or disability of our key personnel. Our officers and key employees, with the exception of our President and Chief Executive Officer and Senior Vice President, Operations and Quality, do not have employment agreements and they may terminate their employment and work elsewhere without notice and without cause or good reason. Currently we have non-compete agreements with our officers and other employees. Due to the specialized knowledge of each of our officers with respect to our products and our operations and the limited pool of people with relevant experience in the medical device field, the loss of service of one or more of these individuals could significantly affect our ability to operate and manage our business. The announcement of the loss of one or more of our key personnel could negatively affect our stock price.

We depend on our scientific and technical personnel for successful product development and innovation, which are critical to the success of our business. In addition, to succeed in the implementation of our business strategy, our management team must rapidly execute our sales strategy, obtain expanded FDA clearances and approvals, achieve market acceptance for our products and further develop products, while managing anticipated growth by implementing effective planning, manufacturing and operating processes. Managing this growth will require us to attract and retain additional management and technical personnel. We rely primarily on direct sales employees to sell our products in the United States and failure to adequately train them in the use and benefits of our products will prevent us from achieving our market share and revenue growth goals. We have key relationships with doctors that involve procedure, product, market and clinical development. If any of these doctors end their relationship with us, our business could be negatively impacted. We cannot assure you that we will be able to attract and retain the personnel and doctor relationships necessary to grow and expand our business and operations. If we fail to identify, attract, retain and motivate these highly skilled personnel and doctors, we may be unable to continue our development and sales activities.

Our business growth strategy involves the potential for significant acquisitions, which involve risks and difficulties in integrating potential acquisitions and may adversely affect our business, results of operations and financial condition.

All acquisitions involve inherent uncertainties, which may include, among other things, our ability to:

- successfully identify targets for acquisition;
- negotiate reasonable terms;
- properly perform due diligence and determine all the significant risks associated with a particular acquisition;
- properly evaluate target company management capabilities; and
- successfully transition and integrate the acquired company into our business and achieve the desired performance.

We may acquire businesses with unknown liabilities, contingent liabilities or internal control deficiencies. We have plans and procedures in place to conduct reviews of potential acquisition candidates for compliance with applicable regulations and laws prior to acquisition. Despite these efforts, realization of any of these liabilities or deficiencies may increase our expenses, adversely affect our financial position through the initiation, pendency or outcome of litigation or otherwise, or cause us to fail to meet our public financial reporting obligations.

We have consummated two significant acquisitions in the past four years and in the future may continue to invest a substantial amount of capital in acquisitions. We continue to evaluate potential acquisition opportunities to support, strengthen and grow our business. There can be no assurance that we will be able to locate suitable acquisition candidates, acquire possible acquisition candidates, acquire such candidates on commercially reasonable terms, or integrate acquired businesses successfully in the future. In addition, any governmental review or investigation of our proposed acquisitions, such as by the Federal Trade Commission, may impede, limit or prevent us from proceeding with an acquisition. Future acquisitions may require us to incur additional debt and contingent liabilities, which may adversely affect our business, results of operations and financial condition. The process of integrating acquired businesses into our existing operations may result in operating, contract and supply chain difficulties, such as the failure to retain customers or management personnel. Such difficulties may divert significant financial, operational and managerial resources from our existing operations and make it more difficult to achieve our operating and strategic objectives.

Disruptions of critical information systems or material breaches in the security of our systems could harm our business, customer relations and financial condition.

We rely in part on information technology to store information, interface with customers, maintain financial accuracy, secure our data and accurately produce our financial statements. If our information technology systems do not effectively and securely collect, store, process and report relevant data for the operation of our business, whether due to equipment malfunction or constraints, software deficiencies, human error or cyber incident, our ability to effectively plan, forecast and execute our business plan and comply with applicable laws and regulations would be materially impaired. Any such impairment could have a material adverse effect on our results of operations, financial condition and the timeliness with which we report our operating results.

We are subject to credit risk from our accounts receivable related to our product sales, which include sales within European countries that are currently experiencing economic turmoil.

The majority of our accounts receivable arise from product sales in the United States. However, we also have significant receivable balances from customers within the European Union, Asia and other countries. Our accounts receivable in the United States are primarily due from public and private hospitals. Our accounts receivable outside the United States are primarily due from public and private hospitals and from independent distributors. Our historical write-offs of accounts receivable have not been significant. We monitor the financial performance and credit worthiness of our customers so that we can properly assess and respond to changes in their credit profile. Our independent distributors and sub-dealers operate in certain countries where economic conditions continue to present challenges to their businesses, and, thus, could place in risk the amounts due to us from them. These distributors are owed amounts from public hospitals that are funded by their governments. Adverse financial conditions in these countries may continue, thus negatively affecting the length of time that it will take us to collect associated accounts receivable or impact the likelihood of ultimate collection.

Compliance with environmental laws and regulations may be expensive. Failure to comply with environmental laws and regulations could subject us to significant liability.

Our manufacturing operations and research and development activities involve the use of biological materials and hazardous substances and are subject to a variety of federal, state and local environmental laws and regulations relating to the storage, use, discharge, disposal, remediation of and human exposure to hazardous substances. Our research and development and manufacturing operations may produce biological waste materials, such as animal tissues and certain chemical waste. These operations are permitted by regulatory authorities, and the resultant waste materials are disposed of in compliance with environmental laws and regulations. Compliance with these laws and regulations may be expensive, and non-compliance could result in substantial liabilities. In addition, we cannot completely eliminate the risk of accidental contamination or injury to third parties from the use, storage, handling or disposal of these materials. In the event of contamination or injury, we could be held liable for any resulting damages, and any liability could exceed any applicable insurance coverage we may have. In addition, our manufacturing operations may result in the release, discharge, emission or disposal of hazardous substances that could cause us to incur substantial liabilities, including costs for investigation and remediation. As we believe we are in compliance with such laws and regulations, we do not expect that continued compliance will have a material impact on our business.

Risks Relating To Our Common Stock

The price and trading volume of our common stock may experience extreme fluctuations and you could lose some or all of your investment.

Because we operate within the medical device segment of the healthcare industry, our stock price is likely to be volatile. The market price of our common stock may have and has had a history of substantial fluctuation due to a variety of factors, including, but not limited to:

- doctor and patient acceptance of the surgical treatment of Afib or exclusion of the LAA using our products;
- adverse regulatory developments with respect to our products, such as recalls, new regulatory requirements, changes in regulatory requirements or guidance and timing of regulatory clearances and approvals for new products;
- coverage and reimbursement determinations for our products and the related procedures;
- the timing of orders received;
- delays or interruptions in manufacturing or shipping of our products;
- pricing of our products;
- media reports, publications or announcements about products or new innovations that could compete with our products or about the medical device product segment in general;
- investigations, claims or allegations by regulatory agencies, such as the Department of Justice and Financial Industry Regulatory Authority;

- market conditions or trends related to the medical device and healthcare industries or the market in general;
- additions to or departures of our key personnel;
- disputes, litigation or other developments relating to proprietary rights, including patents, and our ability to obtain patent protection for our technologies;
- changes in financial estimates, investors' perceptions or recommendations by securities analysts;
- variations in our quarterly financial and operating results;
- failure to achieve or maintain an effective healthcare compliance environment;
- changes in accounting principles; and
- failure to achieve and maintain an effective internal control environment.

These factors, some of which are not within our control, may cause the price of our stock to fluctuate substantially. If our quarterly or annual operating results fail to meet or exceed the expectations of securities analysts or investors, our stock price could drop suddenly and significantly. We believe the quarterly and annual comparisons of our financial results are not necessarily meaningful and should not be relied upon as an indication of our future performance.

The market prices of the securities of medical device companies, particularly companies like ours without consistent product revenue and earnings, have been highly volatile and are likely to remain highly volatile in the future. This volatility has often been unrelated to the operating performance of particular companies. These market prices generally are not sustainable and are highly volatile. In the past, companies that experience volatility in the market price of their securities have often faced securities class action litigation. Whether or not meritorious, litigation brought against us could result in substantial costs, divert our management's attention and resources and harm our ability to grow our business.

We may be obligated to issue additional shares of our common stock to the former stockholders of nContact as a result of our satisfaction of certain milestones set forth in the merger agreement with nContact and the other parties thereto, resulting in stock ownership dilution.

Under the terms of the merger agreement with nContact and the other parties thereto, we agreed to issue additional shares of our common stock, or make payments in cash, to the former stockholders of nContact as contingent consideration upon our satisfaction of milestones described in the merger agreement. Issuing additional shares of our common stock to the former stockholders of nContact in satisfaction of contingent consideration dilutes the ownership interests of holders of our common stock on the dates of such issuances. If we are unable to realize the strategic, operational and financial benefits anticipated from our acquisition of nContact, our stockholders may experience dilution of their ownership interests in our company upon any such future issuances of shares of our common stock without receiving any commensurate benefit.

The sale of material amounts of common stock could encourage short sales by third parties and depress the price of our common stock. As a result, our stockholders may lose all or part of their investment.

The downward pressure on our stock price caused by the sale of a significant number of shares of our common stock or the perception that such sales could occur by any of our significant stockholders could cause our stock price to decline, thus allowing short sellers of our stock an opportunity to take advantage of any decrease in the value of our stock. The presence of short sellers in our common stock may further depress the price of our common stock.

Sales of common stock by us in a capital raising transaction may dilute your ownership of common stock and cause a decline in the market price of our common stock.

We may need to raise capital in the future to fund our operations or new initiatives. If we raise funds by issuing equity securities, our stock price may decline and our existing shareholders may experience significant dilution. Furthermore, we may enter into financing transactions at prices that represent a substantial discount to market price. A negative reaction by investors and securities analysts to any sale of our equity securities could result in a decline in the trading price of our common stock. In February 2014 we raised funds through a public offering of 3,660,525 shares of common stock. In October 2015 we issued 3,757,028 shares of common stock in connection with the acquisition of nContact.

Anti-takeover provisions in our amended and restated certificate of incorporation and amended and restated bylaws and under Delaware law could inhibit a change in control or a change in management that you consider favorable.

Provisions in our certificate of incorporation and bylaws could delay or prevent a change of control or change in management that would provide you with a premium to the market price of your common stock. These provisions include those:

- authorizing the issuance without further approval of "blank check" preferred stock that could be issued by our board of directors to increase the number of outstanding shares and thwart a takeover attempt;

- prohibiting cumulative voting in the election of directors, which would otherwise allow less than a majority of stockholders to elect director candidates;
- limiting the ability to remove directors;
- limiting the ability of stockholders to call special meetings of stockholders;
- prohibiting stockholder action by written consent, thereby requiring all stockholder actions to be taken at a meeting of stockholders; and
- establishing advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted upon by stockholders at stockholder meetings.

In addition, Section 203 of the Delaware General Corporation Law limits business combination transactions with 15% stockholders that have not been approved by our board of directors. These provisions and others could make it difficult for a third party to acquire us, or for members of our board of directors to be replaced, even if doing so would be beneficial to our stockholders. Because our board of directors is responsible for appointing the members of our management team, these provisions could, in turn, affect any attempt to replace the current management team. If a change of control or change in management is delayed or prevented, you may lose an opportunity to realize a premium on your shares of common stock or the market price of our common stock could decline.

We do not expect to pay dividends in the foreseeable future. As a result, you must rely on stock appreciation for any return on your investment.

We do not anticipate paying cash dividends on our common stock in the foreseeable future. Any payment of cash dividends will also depend on our financial condition, results of operations, capital requirements and other factors and will be at the discretion of our board of directors. Accordingly, you will have to rely on capital appreciation, if any, to earn a return on your investment in our common stock. Furthermore, pursuant to our credit facility, we are currently subject to restrictions on our ability to pay dividends and we may in the future become subject to other contractual restrictions on, or prohibitions against, the payment of dividends.

Securities analysts may not continue, or additional securities analysts may not initiate, coverage for our common stock or may issue negative reports. This may have a negative impact on the market price of our common stock.

Several securities analysts provide research coverage of our common stock. Some analysts have already published statements that do not portray our technology, products or procedures using our products in a positive light and others may do so in the future. If we are unable to educate those who publicize such reports about the benefits we believe our business provides, or if one or more of the analysts who elects to cover us downgrades our stock, our stock price would likely decline rapidly. If one or more of these analysts ceases coverage of our company, we could lose visibility in the market, which in turn could cause our stock price to decline. The trading market for our common stock may be affected in part by the research and reports that industry or financial analysts publish about us or our business. If sufficient securities analysts do not cover our common stock, the lack of research coverage may adversely affect the market price of our common stock. It may be difficult for companies such as ours, with smaller market capitalizations, to attract and maintain sufficient independent financial analysts that will cover our common stock. This could have a negative effect on the market price of our stock.

The requirements of being a public company may strain our resources and distract management.

As a public company, we are subject to the reporting requirements of the Securities Exchange Act of 1934, as amended (Exchange Act), and the Sarbanes-Oxley Act of 2002 (Sarbanes-Oxley Act). We are also subject to certain provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank Act). These requirements may place a strain on our systems and resources. The Exchange Act requires that we file annual, quarterly and current reports with respect to our business and financial condition. The Sarbanes-Oxley Act requires that we maintain effective disclosure controls and procedures and internal controls over financial reporting. In order to maintain and improve the effectiveness of our disclosure controls and procedures and internal control over financial reporting, significant resources and management oversight is required. While the Dodd-Frank Act requires the SEC to adopt certain rules and regulations relating to our public disclosures, corporate governance and executive compensation, among other things, we expect such rules and regulations will require significant attention from management. Compliance with all of these laws, rules and regulations may divert management's attention from other business concerns, which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

The SEC has adopted rules regarding the disclosure of the use of conflict minerals (commonly referred to as tantalum, tin, tungsten and gold) which are mined from the Democratic Republic of the Congo (DRC) and neighboring countries. Under the rules, we are required to disclose the procedures we employ to determine the sourcing of such minerals and metals produced from those minerals. The requirements require due diligence efforts and could affect the sourcing of components used in our products. If the conflict minerals included in our products are found to be sourced from the DRC or surrounding countries, we may take actions to change materials or product designs to reduce the possibility that our purchase of conflict minerals may fund armed groups in the region. These actions could add engineering and other costs to the manufacture of our products. We expect to incur costs in the investigation of the origin of the conflict minerals used in our products and in the reporting of the findings of our investigation. Our

reputation may suffer if we have included conflict minerals in our products that are found to have funded armed groups in the DRC region.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

The Company maintains its headquarters in Mason, Ohio in a leased facility totaling approximately 92,000 square feet. The facility contains the Company's administrative, regulatory, engineering, product development, distribution and some manufacturing functions. The monthly rent for this space is \$115. The initial lease term expires in September 2030. The Company also maintains the following locations:

- Minneapolis, Minnesota – This location includes both administrative and product development space. The office is approximately 16,600 square feet with monthly rent of \$12. The lease will expire in October 2022.
- San Ramon, California – This location is primarily used for research and development activities and is approximately 3,800 square feet with monthly rent of \$8. The lease will expire in December 2019.
- Amsterdam, Netherlands – This location is primarily for the administration of our European subsidiary and is approximately 7,500 square feet. The monthly rent for this space is \$18, and the lease will expire in January 2021.
- Morrisville, North Carolina – This location was the corporate headquarters for nContact, and approximates 10,100 square feet. Monthly rent under this lease, which expires in December 2019, is approximately \$11.

The Company believes that its existing facilities are adequate to meet its immediate needs and that suitable additional space will be available in the future on commercially reasonable terms as needed.

ITEM 3. LEGAL PROCEEDINGS

The Company is not party to any material pending or threatened litigation. We may from time to time become a party to additional legal proceedings. See Note 11 – Commitments and Contingencies to our Consolidated Financial Statements.

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****Common Stock Market Price**

Our common stock is traded on the NASDAQ Global Market under the symbol "ATRC." The following table sets forth the high and low closing sales price of our common stock for 2016 and 2015:

	Price Range	
	High	Low
2016		
First Quarter	\$ 21.47	\$ 15.29
Second Quarter	\$ 17.75	\$ 13.57
Third Quarter	\$ 17.19	\$ 13.54
Fourth Quarter	\$ 20.06	\$ 15.20

	Price Range	
	High	Low
2015		
First Quarter	\$ 21.88	\$ 17.40
Second Quarter	\$ 25.02	\$ 19.96
Third Quarter	\$ 27.93	\$ 19.93
Fourth Quarter	\$ 22.66	\$ 17.69

As of February 24, 2017, the closing price of our common stock on the NASDAQ Global Market was \$17.65 per share, and the number of stockholders of record was 98.

Dividend Policy

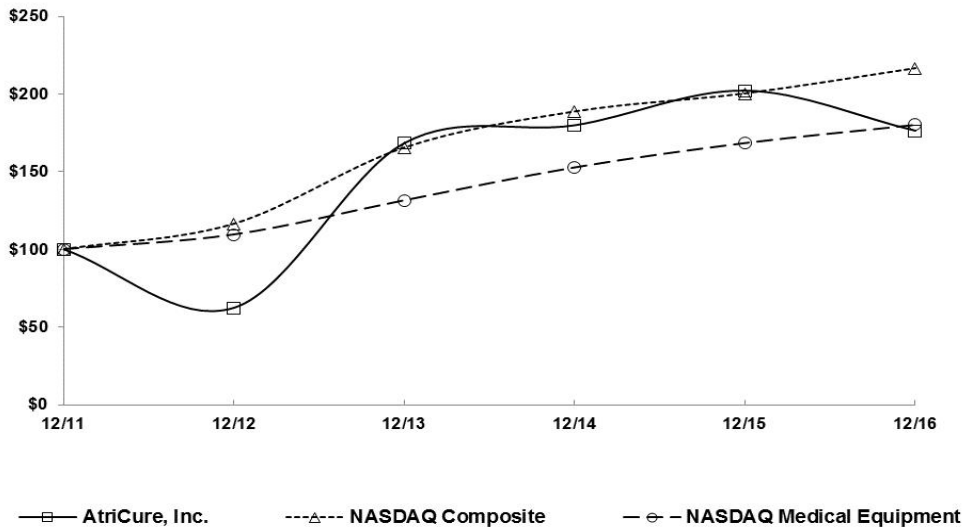
The Company has not declared or paid any dividends on its capital stock since incorporation. Furthermore, pursuant to the revolving credit facility terms, the Company is subject to certain restrictions on its ability to pay dividends. The Company currently expects to retain future earnings, if any, for use in the operation and expansion of the business and does not anticipate paying any cash dividends in the foreseeable future.

Performance Graph

The following graph compares the cumulative total stockholder return on our common stock with the cumulative total return of the NASDAQ Composite and the NASDAQ Medical Equipment Index for the period beginning on January 1, 2012 and ending on December 31, 2016.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*

Among AtriCure, Inc., the NASDAQ Composite Index and the NASDAQ Medical Equipment Index



*\$100 invested on 12/31/11 in stock or index, including reinvestment of dividends. Fiscal year ending December 31.

* This graph assumes that \$100.00 was invested on December 31, 2011 in our common stock, the NASDAQ Composite Index and the NASDAQ Medical Equipment Index, and that all dividends are reinvested. No dividends have been declared or paid on our common stock. Stock performance shown in the above chart for our common stock is historical and should not be considered indicative of future price performance.

	12/31/2012	12/31/2013	12/31/2014	12/31/2015	12/31/2016
AtriCure, Inc.	\$ 62.16	\$ 168.29	\$ 179.82	\$ 202.16	\$ 176.31
NASDAQ Composite	\$ 116.41	\$ 165.47	\$ 188.69	\$ 200.32	\$ 216.54
NASDAQ Medical Equipment	\$ 109.53	\$ 131.61	\$ 152.86	\$ 168.58	\$ 180.31

ITEM 6. SELECTED FINANCIAL DATA

The following table reflects selected financial data derived from our Consolidated Financial Statements for each of the last five years. The operating results data for the years ended December 31, 2016, 2015 and 2014 and the financial position data as of December 31, 2016 and 2015 are derived from our audited financial statements included in this Form 10-K. The operating results data for the years ended December 31, 2013 and 2012 and the financial position data as of December 31, 2014, 2013 and 2012 are derived from our audited financial statements not included in this Form 10-K. Historical results are not necessarily indicative of future results. The selected financial data set forth below should be read in conjunction with our financial statements, the related notes and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included elsewhere in this Form 10-K.

	Year Ended December 31,				
	2016	2015 (1)	2014	2013 (2)	2012
(in thousands, except per share data)					
Operating Results:					
Revenue	\$ 155,109	\$ 129,755	\$ 107,454	\$ 81,889	\$ 70,247
Gross profit	111,101	92,875	75,750	59,563	50,014
Gross margin	71.6%	71.6%	70.5%	72.7%	71.2%
Net loss	(33,338)	(27,212)	(16,211)	(11,462)	(7,534)
Basic and diluted net loss per share	(1.05)	(0.97)	(0.61)	(0.56)	(0.47)
Weighted average shares outstanding	31,609	28,058	26,374	20,431	16,190
Financial Position:					
Cash, cash equivalents and investments	\$ 47,009	\$ 42,284	\$ 68,543	\$ 34,125	\$ 12,000
Working capital	56,889	43,164	67,865	25,774	16,334
Total assets	276,421	273,092	158,404	111,947	32,431
Long-term debt and capital leases	37,205	13,710	74	4,412	6,407
Stockholders’ equity	168,442	186,685	132,538	72,604	12,500

(1) We acquired nContact for \$116.8 million on October 13, 2015. The acquisition is included in our Consolidated Balance Sheet beginning October 13, 2015, and the results of operations are included in our Consolidated Statement of Operations and Comprehensive Loss for the period October 14, 2015 through December 31, 2015.

(2) We acquired Estech for \$39.7 million on December 31, 2013. The acquisition is included in our Consolidated Balance Sheet as of December 31, 2013.

ITEM 7. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

(Dollar amounts referenced in this Item 7 are in thousands, except per share amounts.)

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with the accompanying consolidated financial statements and notes thereto contained in Item 8, “Financial Statements and Supplementary Data,” to provide an understanding of our results of operations, financial condition and cash flows. This discussion and analysis contains forward-looking statements that involve risks, uncertainties and assumptions. The actual results may differ from those anticipated in these forward-looking statements as a result of many factors, including but not limited to those set forth under Item 1A “Risk Factors,” the cautionary statement regarding forward-looking statements at the beginning of Part I and elsewhere in this Form 10-K.

Overview

We are a leading atrial fibrillation (Afib) solutions partner providing innovative products, professional education and support for clinical science to reduce the economic and social burden of atrial fibrillation. We have several product lines for the ablation of cardiac tissue, including our Isolator Synergy Ablation System, the first and only surgical device approved by the United States Food and Drug Administration (FDA) for the treatment of persistent and longstanding persistent forms of Afib in patients undergoing certain open concomitant procedures. We also offer a variety of minimally invasive ablation devices and access tools to facilitate the growing trend in less invasive cardiac and thoracic surgery. Our cryoICE cryosurgery product line offers a variety of cryoablation devices. Our AtriClip Left Atrial Appendage Exclusion System is the most widely sold device worldwide specifically designed to occlude the heart’s left atrial appendage (LAA).

Cardiothoracic surgeons have adopted our radiofrequency (RF) ablation and cryoablation systems to treat Afib, and we believe that we are currently the market leader in the surgical treatment of Afib. Our products are used by cardiothoracic surgeons during both open-heart and minimally invasive surgical procedures, either on a concomitant or sole-therapy basis. During a concomitant procedure, the surgeon ablates cardiac tissue and/or occludes the LAA secondary, or concomitant, to a primary cardiac procedure such as a valve repair or replacement or coronary artery bypass graft (CABG). Our Isolator Synergy System is approved by FDA for the treatment of persistent and long-standing persistent Afib concomitant to other open-heart surgical procedures such as coronary artery bypass grafting and/or valve replacement or repair. To date, none of our other products have been approved or cleared by FDA specifically for the treatment of Afib. Our 510(k)-cleared RF and cryo ablation products are indicated for the ablation of cardiac tissue and/or treatment of cardiac arrhythmias. In addition, our cryoICE probe is cleared for blocking pain by temporarily ablating peripheral nerves. Our AtriClip products are 510(k)-cleared with an indication for occlusion of the LAA, under direct visualization, concomitant to other open cardiac surgical procedures. In October 2015 we acquired nContact, a leader in minimally invasive technology for epicardial ablation. We also have a line of reusable surgical instruments typically used for cardiac valve replacement or repair. We anticipate that substantially all of our revenue for the foreseeable future will relate to products we currently sell, or are in the process of developing, which surgeons use to ablate cardiac tissue, to occlude the left atrial appendage, to perform mitral and aortic valve replacement and repair and/or to ablate peripheral nerves during cardiothoracic surgery.

In the United States we sell our products to medical centers through our direct sales force. In certain international markets, such as Germany, France, the United Kingdom and the Benelux region, sales are made directly to medical centers, with the remaining international sales being made through distributors who in turn sell our products to end users. Our business is primarily transacted in U.S. Dollars with the exception of transactions with our European subsidiary which are transacted in Euros or British Pounds.

Results of Operations

Year Ended December 31, 2016 compared to December 31, 2015

The following table sets forth, for the periods indicated, our results of operations expressed as dollar amounts and as percentages of total revenue:

	Year Ended December 31,			
	2016		2015	
	Amount	% of Revenue	Amount	% of Revenue
	(dollars in thousands)			
Revenue	\$ 155,109	100.0 %	\$ 129,755	100.0 %
Cost of revenue	44,008	28.4	36,880	28.4
Gross profit	111,101	71.6	92,875	71.6
Operating expenses:				
Research and development expenses	35,824	23.1	25,742	19.8
Selling, general and administrative expenses	106,415	68.6	93,853	72.3
Total operating expenses	142,239	91.7	119,595	92.2
Loss from operations	(31,138)	(20.1)	(26,720)	(20.6)
Other income (expense):				
Interest expense	(1,801)	(1.2)	(292)	(0.2)
Interest income	227	0.1	190	0.1
Other	(586)	(0.4)	(354)	(0.3)
Other expense	(2,160)	(1.4)	(456)	(0.4)
Loss before income tax expense	(33,298)	(21.5)	(27,176)	(21.0)
Income tax expense	40	—	36	—
Net loss	\$ (33,338)	(21.5) %	\$ (27,212)	(21.0) %

Revenue. Total revenue increased 19.5% (19.6% on a constant currency basis), from \$129,755 in 2015 to \$155,109 in 2016. Constant currency basis amounts are calculated by applying previous period foreign currency exchange rates to each of the comparable periods. Revenue from sales to customers in the United States increased \$20,173, or 19.7%, and revenue from sales to international customers increased \$5,181, or 18.8% (18.9% on a constant currency basis). The increase in sales to customers in the United States was primarily due to increased sales of ablation-related open-heart products of \$4,509, increased sales of ablation-related minimally invasive (MIS) products of \$9,605 and increased sales of the AtriClip system of \$5,944. The increase in MIS sales was largely influenced by the nContact acquisition, which closed in the fourth quarter of 2015. Increases in both ablation-related open-heart product and AtriClip system revenues were positively impacted by new product launches in 2016, which include the cryoFORM cryoablation probe and AtriClip PRO2™ device. While U.S. MIS and AtriClip sales were consistently strong throughout 2016, U.S. open-heart sales were up 11% through the third quarter but slowed to 1% growth during the fourth quarter. The Company is working to improve focus on the open-chest procedures and take advantage of recent guideline changes related to Afib from a U.S. cardiothoracic surgeon society. The increase in international revenue was primarily due to an increase in sales in Japan, China, Italy, Germany and France. Unlike domestic sales, international revenue growth was primarily the result of increased volumes, rather than new product launches or the nContact acquisition.

Cost of revenue and gross margin. Cost of revenue increased \$7,128, from \$36,880 in 2015 to \$44,008 in 2016. As a percentage of revenue, cost of revenue was 28.4% for 2015 and 2016. Gross margin for 2015 and 2016 was 71.6%. Favorable impacts on gross margin in 2016 include the suspension of the medical device excise tax, as well as product mix, which was affected by the nContact acquisition and new product launches. These increases in gross margin were offset by increased loaner generator depreciation and increased costs related to moving into a larger and more modern facility. While certain scrap and obsolescence charges were incurred in both 2016 and 2015, we expect such amounts to be significantly reduced in future years.

Research and development expenses. Research and development expenses increased \$10,082, or 39.2%, from \$25,742 in 2015 to \$35,824 in 2016. The increase in expense was primarily due to a \$3,147 increase in product development, regulatory and clinical personnel expense, a \$2,599 increase in product development project expense, a \$1,334 increase in clinical trial spending, a \$443 increase in regulatory filing expense, a \$452 increase in share-based compensation and a \$348 increase in amortization expense. The nContact acquisition directly impacted personnel, clinical trial, regulatory filing and amortization expenses.

Selling, general and administrative expenses. Selling, general and administrative expenses increased \$12,562, or 13.4%, from \$93,853 in 2015 to \$106,415 in 2016. The increase was primarily due to a \$6,560 increase in personnel and related expenses, such as travel costs, a \$2,244 increase in share-based compensation expense and a \$2,196 increase in marketing, tradeshow, training and

related expenses, partially offset by a \$2,489 decrease in expense due to transaction costs recorded in connection with the acquisition of nContact during 2015.

Net interest income (expense). Net interest expense was \$1,574 for 2016 and \$102 for 2015. Interest expense associated with outstanding amounts on our term loan and capital lease obligations, as well as the amortization of financing costs, are included in net interest expense. The increase in interest expense was driven by the commencement of the Mason facility capital lease in late 2015 and the addition of the term loan in April 2016.

Other income and expense. Other income and expense consists primarily of foreign currency transaction gains and losses. Non-employee option gains and losses related to the fair market value change for fully vested options outstanding for consultants, which are accounted for as free-standing derivatives, and grant income were also included in other income and expense during 2015. Net other expense for 2016 and 2015 totaled \$586 and \$354.

Year Ended December 31, 2015 compared to December 31, 2014

The following table sets forth, for the periods indicated, our results of operations expressed as dollar amounts and as percentages of total revenue:

	Year Ended December 31,			
	2015		2014	
	Amount	% of Revenue	Amount	% of Revenue
(dollars in thousands)				
Revenue	\$ 129,755	100.0 %	\$ 107,454	100.0 %
Cost of revenue	36,880	28.4	31,704	29.5
Gross profit	92,875	71.6	75,750	70.5
Operating expenses:				—
Research and development expenses	25,742	19.8	18,600	17.3
Selling, general and administrative expenses	93,853	72.3	73,510	68.4
Total operating expenses	119,595	92.2	92,110	85.7
Loss from operations	(26,720)	(20.6)	(16,360)	(15.2)
Other income (expense):				—
Interest expense	(292)	(0.2)	(305)	(0.3)
Interest income	190	0.1	96	0.1
Other	(354)	(0.3)	391	0.3
Other income (expense)	(456)	(0.4)	182	0.1
Loss before income tax expense	(27,176)	(21.0)	(16,178)	(15.1)
Income tax expense	36	—	33	—
Net loss	\$ (27,212)	(21.0) %	\$ (16,211)	(15.1) %

Revenue. Total revenue increased 20.8% (23.8% on a constant currency basis), from \$107,454 in 2014 to \$129,755 in 2015. Constant currency basis amounts are calculated by applying previous period foreign currency exchange rates to each of the comparable periods. Revenue from sales to customers in the United States increased \$22,009, or 27.4%, and revenue from sales to international customers increased \$292, or 1.1% (12.9% on a constant currency basis). The increase in sales to customers in the United States was primarily due to increased sales of ablation-related open-heart products of \$8,879, increased sales of ablation-related minimally invasive (MIS) products of \$5,514 and increased sales of the AtriClip system of \$7,702. The increase in MIS sales was partially influenced by the nContact acquisition closed in the fourth quarter of 2015. The increase in international revenue was primarily due to an increase in sales in Asia, the Benelux region and the United Kingdom, across all applicable product lines, which offset the decline in the Euro-Dollar exchange rate between years and weakness in a few distributor markets.

Cost of revenue and gross margin. Cost of revenue increased \$5,176, from \$31,704 in 2014 to \$36,880 in 2015. As a percentage of revenue, cost of revenue decreased from 29.5% for the year ended December 31, 2014 to 28.4% for the year ended December 31, 2015. Gross margin for 2015 and 2014 was 71.6% and 70.5%, respectively. The increase in gross margin was primarily due to the heavier U.S. sales mix and the elimination of certain Estech transition costs recorded in 2014, partially offset by heavier loaner generator depreciation, a decrease in the Euro-Dollar exchange rate and a slight increase in scrap and obsolescence related primarily to non-core or Estech products during 2015.

Research and development expenses. Research and development expenses increased \$7,142, or 38.4%, from \$18,600 in 2014 to \$25,742 in 2015. The increase in expense was primarily due to a \$3,162 increase in product development, regulatory and clinical personnel expense, a \$1,884 increase in product development project expense and a \$436 increase in share-based compensation expense.

Selling, general and administrative expenses. Selling, general and administrative expenses increased \$20,343, or 27.7%, from \$73,510 in 2014 to \$93,853 in 2015. The increase was primarily due to the favorable impact of the \$8,032 fair value adjustment of Estech contingent consideration recorded during 2014, a \$6,053 increase in personnel expense and a \$1,571 increase in training and related expenses, as well as \$2,489 in transaction costs recorded in connection with the acquisition of nContact during 2015. The increase is partially offset by \$3,207 of transaction, transition and severance expense related to the acquisition of Estech recorded during 2014.

Net interest income (expense). Net interest expense was \$102 for 2015 and \$209 for 2014. Net interest expense in 2014 primarily represents interest on the Silicon Valley Bank (SVB) term loan paid during 2014, prior to the repayment of the debt in March 2014. Interest expense associated with capital lease obligations and the amortization of financing costs are included in net interest expense in both 2015 and 2014.

Other income and expense. Other income and expense consists primarily of foreign currency transaction gains and losses, grant income and non-employee option gains and losses related to the fair market value change for fully vested options outstanding for consultants, which are accounted for as free-standing derivatives. Net other (expense) income for 2015 and 2014 totaled \$(354) and \$391, respectively.

Liquidity and Capital Resources

As of December 31, 2016 the Company had cash, cash equivalents and investments of \$47,009 and outstanding debt of \$25,000, resulting in a net cash position of \$22,009. We had unused borrowing capacity of \$15,000 under our revolving credit facility. Most of our operating cash and all cash equivalents and investments are held by United States financial institutions. We had net working capital of \$56,889 and an accumulated deficit of \$198,974 as of December 31, 2016.

Cash flows used in operating activities. Net cash used in operating activities was \$15,119 during 2016. The primary net uses of cash for operating activities were as follows:

- the net loss of \$33,338, offset by \$23,298 of non-cash expenses, including \$11,697 in share-based compensation, \$9,299 in depreciation and amortization and a change in fair value of contingent consideration of \$969; and
- a net decrease in cash used related to changes in operating assets and liabilities of \$5,079, due primarily to the following:
 - an increase in accounts receivable of \$1,982, due primarily to increased revenues and the timing of collections; and
 - a \$2,987 decrease in accounts payable and accrued liabilities due primarily to a reduction in accrued variable compensation payments.

Cash flows used in investing activities. Net cash used in investing activities was \$12,079 during 2016. The primary source of cash from investing activities was \$24,202 related to sales and maturities of available-for-sale securities. This source of cash was offset by \$7,692 related to the purchase of property and equipment, which included the placement of our RF and cryo generators with our customers, and \$28,592 related to the purchase of available-for-sale securities.

Cash flows provided by financing activities. Net cash provided by financing activities during 2016 was \$27,695, which was primarily due to proceeds from borrowings of debt of \$25,000 under a five-year term loan arrangement, proceeds from stock option exercises of \$3,337, proceeds from the issuance of common stock under our employee stock purchase plan of \$1,618, partially offset by shares repurchased for payment of taxes on stock awards of \$1,701 and capital lease payments of \$439.

Credit facility. The Company's Loan and Security Agreement with Silicon Valley Bank (SVB), as amended, restated, and modified effective April 25, 2016 (Loan Agreement) provides for a \$25,000 term loan and a revolving credit facility under which we may borrow up to a maximum of \$15,000. The term loan and revolving credit facility both mature in April 2021. According to the Loan Agreement, principal payments on the term loan are to be made ratably commencing twelve months after the inception of the loan through to the loan's maturity date. However, the Company has met certain conditions, as specified by the Loan Agreement, to defer the commencement of term loan payments by an additional six months. The term loan accrues interest at the Prime Rate and is subject to an additional 4.0% fee on the original \$25,000 term loan principal amount at maturity or prepayment of the term loan. Borrowing availability under the revolving credit facility is based on the lesser of \$15,000 or a borrowing base calculation as defined by the Loan Agreement. As of December 31, 2016, we had no borrowings under the revolving credit facility, and we had borrowing availability of \$15,000. The revolving line of credit is subject to an annual commitment fee of \$50, and any borrowings bear interest at the Prime Rate. The Loan Agreement also provides for certain prepayment and early termination fees, as well as establishes covenants related to liquidity, sales growth and a minimum cash balance, and includes other customary terms and conditions.

The Loan Agreement contains covenants that include, among others, limits on our ability to dispose of assets, enter into mergers or acquisitions, incur indebtedness, incur liens, pay dividends or make distributions on our capital stock, make investments or loans, and enter into certain affiliate transactions, in each case subject to customary exceptions for a credit facility of this size and type. Additional covenants apply when we have outstanding borrowings under the revolving credit facility or when we hold less than \$20,000 in cash and investments with SVB. Financial covenants under the credit facility include minimum trailing twelve month revenues and a minimum liquidity ratio. Further, a minimum fixed charge ratio applies when specific covenant milestones are

achieved. The occurrence of an event of default could result in an increase to the applicable interest rate by 3.0%, an acceleration of all obligations under the Loan Agreement, an obligation to repay all obligations in full and a right by SVB to exercise all remedies available to it under the Loan Agreement and related agreements including the Guaranty and Security Agreement. Specified assets have been pledged as collateral.

In connection with the terms of our Mason facility lease, a letter of credit in the amount of \$1,250 was issued to the landlord of our Mason facility in October 2015 and remains outstanding as of December 31, 2016.

Uses of liquidity and capital resources. Our future capital requirements depend on a number of factors, including the rate of market acceptance of our current and future products, the resources we devote to developing and supporting our products, future expenses to expand and support our sales, training, education and marketing efforts, costs relating to changes in regulatory policies or laws that affect our operations and costs of regulatory filings, costs associated with clinical trials and securing regulatory approval for new products, costs associated with acquiring and integrating businesses, costs associated with prosecuting, defending and enforcing our intellectual property rights and possible acquisitions and joint ventures. Global economic turmoil may adversely impact our revenue, access to the capital markets or future demand for our products.

We have on file with the SEC a shelf registration statement which allows us to sell any combination of senior or subordinated debt securities, common stock, preferred stock, warrants, depository shares and units in one or more offerings should we choose to do so in the future. We expect to maintain the effectiveness of this shelf registration statement for the foreseeable future.

We believe that our current cash, cash equivalents and investments, along with the cash we expect to generate or use for operations or access via our term loan and revolving line of credit, will be sufficient to meet our anticipated cash needs for working capital and capital expenditures for at least the next twelve months. The nContact transaction provides for contingent consideration to be paid upon attaining specified regulatory approvals and clinical and revenue milestones over the next four years. Subject to the terms and conditions of the nContact merger agreement, such contingent consideration is paid in AtriCure common stock and cash. Over the next twelve months, we do not expect our cash or capital requirements to include payments of contingent consideration based on terms of the acquisition agreement and related milestones.

If our sources of cash are insufficient to satisfy our liquidity requirements, we may seek to sell additional equity or debt securities or obtain a revised or additional credit facility. The sale of additional equity or convertible debt securities could result in dilution to our stockholders. If additional funds are raised through the issuance of debt securities, these securities could have rights senior to those associated with our common stock and could contain covenants that would restrict our operations. Finally, our term loan agreement and revolving line of credit require compliance with certain financial and other covenants. If we are unable to maintain these financing arrangements, we may be required to reduce the scope of our planned research and development, clinical activities and selling, training, education and marketing efforts.

Contractual Obligations and Commitments

The following table sets forth our approximate aggregate obligations at December 31, 2016 for future payments under contracts and other contingent commitments:

Contractual Obligations	Total	Less than			More than
		1 year	1-3 years	3-5 years	5 years
Long-term debt and capital leases ⁽¹⁾	\$ 46,965	\$ 2,631	\$ 17,239	\$ 12,609	\$ 14,486
Operating leases ⁽²⁾	3,947	752	1,778	1,111	306
Royalty obligations ⁽³⁾	1,902	1,902	—	—	—
Research and development obligations	1,321	1,321	—	—	—
Restricted grants	331	331	—	—	—
Total contractual obligations	\$ 54,466	\$ 6,937	\$ 19,017	\$ 13,720	\$ 14,792

(1) Long-term debt represents principal repayment related to our term loan that matures in 2021. Interest on the term loan accrues at the Prime Rate and is payable monthly over the term of the loan and is included with monthly principal payments of \$595 commencing in November 2017. In addition, we have a contractual obligation to pay interest on amounts drawn on the revolving credit facility. Capital leases consist of principal and interest payments related to a building and computer equipment. The rent payments related to our corporate headquarters building in Mason, Ohio are also included in these amounts. See Note 10 – Indebtedness to our Consolidated Financial Statements.

(2) Represents lease commitments under various operating leases.

(3) Represents obligations for royalty agreements ranging from 0.75% to 5% of specified product sales estimated using 2016 sales. See Note 11 – Commitments and Contingencies to our Consolidated Financial Statements.

We have contractual obligations for contingent consideration payments related to the nContact acquisition. The timing of the payments and amount payable in cash is not determinable as of December 31, 2016. See Note 5 – Business Combinations to our Consolidated Financial Statements.

Off-Balance-Sheet Arrangements

As of December 31, 2016 we had operating lease agreements that were not recorded on the Consolidated Balance Sheets. Operating leases are used in the normal course of business.

Inflation

Inflation has not had a significant impact on our historical operations and we do not expect it to have a significant impact on our results of operations or financial condition in the foreseeable future.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of consolidated financial statements requires management to make estimates and judgments that affect the reported amounts of assets and liabilities, revenue and expenses, and disclosures of contingent assets and liabilities at the date of the financial statements. On a periodic basis, we evaluate our estimates, including those related to sales returns and allowances, accounts receivable, inventories and share-based compensation. We use authoritative pronouncements, historical experience and other assumptions as the basis for making estimates. Actual results could differ from those estimates under different assumptions or conditions. We have described our significant accounting policies in Note 1 – Description of Business and Summary of Significant Accounting Policies to our consolidated financial statements included in this Form 10-K.

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—Revenue is generated primarily from the sale of our disposable surgical devices. Pursuant to our standard terms of sale, revenue is recognized when title to the goods and risk of loss transfers to customers and there are no remaining obligations that will affect customers’ final acceptance of the sale. Generally, our standard terms of sale define the transfer of title and risk of loss to occur upon shipment to the respective customer. We generally do not maintain any post-shipping obligations to the recipients of the products. No installation, calibration or testing of this equipment is performed by AtriCure subsequent to shipment to the customer in order to render it operational. Shipping and handling revenues and cost of freight for shipments made to customers is included in revenue and cost of revenue. Sales and other value-added taxes collected from customers and remitted to governmental authorities are excluded from revenue. We sell our products through a direct sales force, distributors outside of the U.S. and through a wholly-owned subsidiary, AtriCure Europe, B.V. Terms of sale are generally consistent for both end-users and distributors except that payment terms are generally net 30 days for end-users and net 60 days for distributors with limited exceptions.

We account for revenue in accordance with FASB ASC 605, “Revenue Recognition” (ASC 605). We determine the timing of revenue recognition based upon factors such as passage of title, installation, payment terms and ability to return products. We recognize revenue when all of the following criteria are met: (i) there is persuasive evidence that an arrangement exists; (ii) delivery of the products and/or services has occurred; (iii) the selling price is fixed or determinable; and (iv) collectability is reasonably assured.

We maintain a provision for sales returns and allowances to account for potential returns of defective or damaged products, products shipped in error, invoice adjustments and current deferrals of revenue. We estimate such provision quarterly based primarily on a specific identification basis, in addition to estimating a general reserve based on historical experience.

Allowance for Doubtful Accounts Receivable—We evaluate the collectability of accounts receivable to determine the appropriate reserve for doubtful accounts. In determining the amount of the reserve, we consider the aging of account balances, historical credit losses, customer-specific information and other relevant factors. We periodically review accounts receivable and adjust the allowance based on current circumstances and charge off uncollectible receivables against the allowance when all attempts to collect the receivable have failed. Our history of write-offs against the allowance has not been significant.

Inventories—Our inventories are stated at the lower of cost or market using approximate costs based on the first-in, first-out cost method (FIFO) and consist of raw materials, work in process and finished goods. We estimate and record our inventory reserve quarterly based on product usage for excess, slow moving and obsolete inventory as well as for inventory with a carrying value in excess of its net realizable value. Our industry is characterized by rapid product development and frequent new product introductions. Uncertain timing of product approvals, variability in product launch strategies and variation in product use all impact excess and obsolete inventory.

Property and Equipment—We state property and equipment at cost less accumulated depreciation. Depreciation is computed using the straight-line method for financial reporting purposes and applied over the estimated useful lives of the assets. Included in

property and equipment are generators and other capital equipment (such as our RF and cryo generators) that are placed with direct customers that use our disposable products. These generators and other capital equipment are depreciated over a period of one to three years, which approximates their useful lives, and such depreciation is included in cost of revenue. We estimate the useful lives of this equipment based on anticipated usage by our customers and the timing and impact of our expected new technology rollouts. To the extent we experience changes in the usage of this equipment or the introductions of new technologies, the estimated useful lives of this equipment may change in a future period.

Intangible Assets—Intangible assets with a definite life are amortized on a straight-line basis over the estimated periods benefited. Included in intangible assets is In Process Research and Development (IPR&D), an intangible asset with an indefinite life until completion of abandonment of the IPR&D project. We define IPR&D as the value of acquired technology which has not yet reached technological feasibility. The primary basis for determining the technological feasibility is obtaining specific regulatory approvals. Upon completion of the development project, the IPR&D is amortized over its estimated useful life. If the IPR&D project is abandoned, the related IPR&D asset would be written off. We review intangible assets for impairment using our best estimates based on reasonable and supportable assumptions and projections.

Goodwill—Goodwill represents the excess of purchase price over the fair value of the net assets acquired in business combinations. We test goodwill for impairment annually on November 30, or more often if impairment indicators are present. Our goodwill is accounted for in a single reporting unit representing the Company as a whole.

Share-Based Employee Compensation—We account for share-based compensation for all employee share-based payment awards, including stock options, restricted stock, and stock purchases related to an employee stock purchase plan, based on their estimated fair values. We estimate the fair value of options on the date of grant using the Black-Scholes option pricing model (Black-Scholes model). Our determination of fair value of share-based payment awards is affected by our stock price, as well as assumptions regarding a number of highly complex and subjective variables. These variables include but are not limited to our expected stock price volatility over the term of the awards and actual and projected employee stock option exercise behaviors. The fair value of our market-based performance option grants is estimated at the date of grant using a Monte-Carlo simulation. The value of the portion of the award that is ultimately expected to vest is recognized as expense over the requisite service periods in our Consolidated Statement of Operations. The expense has been reduced for estimated forfeitures.

We estimate the fair value of restricted stock awards based upon the grant date closing market price of our common stock. Our determination of fair value is affected by our stock price as well as assumptions regarding the number of shares expected to vest.

We also have an employee stock purchase plan (ESPP) which is available to all eligible employees as defined by the plan document. Under the ESPP, shares of our common stock may be purchased at a discount. We estimate the number of shares to be purchased under the ESPP at the beginning of the purchase period and calculate estimated compensation expense using the Black-Scholes model based upon the fair value of the stock at the beginning of the purchase period. Compensation expense is recognized over each purchase period.

Acquisition-Related Contingent Consideration—Contingent consideration arrangements obligate the Company to pay former shareholders of an acquired entity certain amounts if specified future events occur or conditions are met, such as the achievement of certain technological milestones or the achievement of targeted revenue milestones. We measure such liabilities using unobservable inputs, applying the income approach, such as the discounted cash flow technique or the probability-weighted scenario method. Various key assumptions, including the probability and timing of achievement of the agreed milestones, projected revenues from acquisitions, and the discount rate, are used in the determination of fair value of contingent consideration arrangements and are not observable in the market. Subsequent revisions to key assumptions, which impact the estimated fair value of contingent consideration liabilities, are reflected in the Consolidated Statements of Operations and Comprehensive Loss.

Taxes—Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. 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 from a change in tax rates is recognized in the period that includes the enactment date.

Our estimate of the valuation allowance for deferred tax assets requires us to make significant estimates and judgments about our future operating results. Deferred tax assets are reduced by valuation allowances if, based on the consideration of all available evidence, it is more-likely-than-not that some portion of the deferred tax asset will not be realized. Significant weight is given to evidence that can be objectively verified. We evaluate deferred tax assets on a quarterly basis to determine if valuation allowances are required by considering all available evidence. Deferred tax assets are realized by having sufficient future taxable income to allow the related tax benefits to reduce taxes otherwise payable. The sources of taxable income that may be available to realize the benefit of deferred tax assets are future reversals of existing taxable temporary differences, future taxable income, exclusive of reversing temporary differences and carryforwards, taxable income in carry-back years and tax planning strategies that are both prudent and feasible. In evaluating whether to record a valuation allowance, the applicable accounting standards deem that the existence of cumulative losses in recent years is a significant piece of objectively verifiable negative evidence that must be overcome by

objectively verifiable positive evidence to avoid the need to record a valuation allowance. We have recorded a full valuation allowance against our net deferred tax assets as it is more likely than not that the benefit of the deferred tax assets will not be recognized in future periods.

We believe our critical accounting policies regarding revenue recognition, allowance for uncollectible accounts receivable, inventories, property and equipment, intangible assets, goodwill, share-based employee compensation, acquisition-related contingent consideration and taxes affect our more significant judgments and estimates used in the preparation of our consolidated financial statements. We base our judgments and estimates on historical experience, current conditions and other reasonable factors.

Recent Accounting Pronouncements

See Note 2 – Recent Accounting Pronouncements to our Consolidated Financial Statements for further information.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

(Amounts referenced in this Item 7A are in thousands, except per share amounts.)

The Company has historically had financial instruments accounted for as free-standing derivatives related to certain of the Company's share-based payment arrangements that are outside the scope of FASB ASC 718 and are subject to FASB ASC 815, which requires fully vested stock options held by certain non-employee consultants to be accounted for as liability awards until these awards are exercised or forfeited. The fair value of these awards was remeasured at each reporting period until the awards were settled or expired. The Company was exposed to the volatility of the market price of its stock. As of December 31, 2015, all non-employee stock options had been exercised. Expense (income) recorded based on the remeasurement of these options was approximately \$0, \$57 and (\$183) for 2016, 2015 and 2014.

The Company is exposed to various market risks, which include potential losses arising from adverse changes in market rates and prices, such as foreign exchange fluctuations and changes in interest rates. Interest on the term loan and revolving credit facility accrue at the Prime Rate.

For the years ended December 31, 2016 and 2015, products sold by AtriCure Europe, B.V. accounted for 12.7% and 12.8% of the Company's total revenue. Since such revenue was primarily denominated in Euros, the Company is exposed to exchange rate fluctuations between the Euro and the U.S. Dollar, as well as exchange rate fluctuations between the British Pound and the Euro. For the years ended December 31, 2016 and 2015, foreign currency transaction losses of \$586 and \$339 were recorded primarily in connection with partial settlements of the intercompany receivable balance with the subsidiary and invoices transacted in British Pounds. For revenue denominated in Euros, if there is an increase in the rate at which Euros are exchanged for U.S. Dollars, it will require more Euros to equal a specified amount of U.S. Dollars than before the rate increase. In such cases, and if products are priced in Euros, the Company will receive less in U.S. Dollars than was received before the rate increase went into effect. If products are priced in U.S. Dollars and competitors price their products in Euros, an increase in the relative strength of the U.S. Dollar could result in the Company's price not being competitive in a market where business is transacted in Euros. The Euro to U.S. Dollar conversion rate fluctuations may impact our reported revenue and expenses.

The Company invests its cash primarily in money market accounts, U.S. government agencies and securities, corporate bonds and commercial paper. Although the Company believes its cash to be invested in a conservative manner, with cash preservation being the primary investment objective, the value of the securities held will fluctuate with changes in the financial markets including, among other things, changes in interest rates, credit quality and general volatility. This risk is managed by investing in high quality investment grade securities with short-term maturities.

Financial instruments that potentially subject the Company to credit risk consist of cash and cash equivalent balances and investments in corporate bonds. Certain of AtriCure's cash and cash equivalents balances exceed FDIC insured limits or are invested in money market accounts with investment banks that are not FDIC insured. The Company places its cash and cash equivalents in what it believes to be credit-worthy financial institutions. As of December 31, 2016, \$24,064 of the cash and cash equivalents balance was in excess of the FDIC limits.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

ATRICURE, INC. AND SUBSIDIARIES
INDEX TO FINANCIAL STATEMENTS

	Page
<i>Financial Statements:</i>	
Report of Independent Registered Public Accounting Firm	42
Consolidated Balance Sheets	43
Consolidated Statements of Operations and Comprehensive Loss	44
Consolidated Statements of Stockholders' Equity	45
Consolidated Statements of Cash Flows	46
Notes to Consolidated Financial Statements	47
<i>Financial Statement Schedule:</i>	
Schedule II Valuation and Qualifying Accounts	69

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
AtriCure, Inc. and subsidiaries
Mason, Ohio

We have audited the accompanying consolidated balance sheets of AtriCure, Inc. and subsidiaries (the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of operations and comprehensive loss, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2016. Our audits also included the financial statement schedule listed in the Index at Item 15. These financial statements and financial statement schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on the financial statements and financial statement schedule based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of AtriCure, Inc. and subsidiaries at December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, such financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company's internal control over financial reporting as of December 31, 2016, based on the criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 8, 2017 expressed an unqualified opinion on the Company's internal control over financial reporting.

/s/ Deloitte & Touche LLP

Cincinnati, Ohio
March 8, 2017

ATRICURE, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
DECEMBER 31, 2016 and 2015
(In Thousands, Except Per Share Amounts)

	<u>2016</u>	<u>2015</u>
Assets		
Current assets:		
Cash and cash equivalents	\$ 24,208	\$ 23,764
Short-term investments	19,801	10,814
Accounts receivable, less allowance for doubtful accounts of \$246 and \$136	21,094	19,409
Inventories	17,660	17,659
Other current assets	2,954	3,106
Total current assets	<u>85,717</u>	<u>74,752</u>
Property and equipment, net	29,995	31,279
Long-term investments	3,000	7,706
Intangible assets, net	52,131	53,775
Goodwill	105,257	105,257
Other noncurrent assets	321	323
Total Assets	<u>\$ 276,421</u>	<u>\$ 273,092</u>
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	\$ 10,673	\$ 12,744
Accrued liabilities	16,467	18,394
Other current liabilities and current maturities of capital leases and long-term debt	1,688	450
Total current liabilities	<u>28,828</u>	<u>31,588</u>
Capital leases	13,319	13,710
Long-term debt	23,886	—
Other noncurrent liabilities	41,946	41,109
Total Liabilities	<u>107,979</u>	<u>86,407</u>
Commitments and contingencies (Note 11)		
Stockholders' Equity:		
Common stock, \$0.001 par value, 90,000 shares authorized and 33,342 and 32,274 issued and outstanding	33	32
Additional paid-in capital	367,851	352,900
Accumulated other comprehensive loss	(468)	(611)
Accumulated deficit	(198,974)	(165,636)
Total Stockholders' Equity	<u>168,442</u>	<u>186,685</u>
Total Liabilities and Stockholders' Equity	<u>\$ 276,421</u>	<u>\$ 273,092</u>

See accompanying notes to consolidated financial statements.

ATRICURE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
YEARS ENDED DECEMBER 31, 2016, 2015 and 2014
(In Thousands, Except Per Share Amounts)

	2016	2015	2014
Revenue	\$ 155,109	\$ 129,755	\$ 107,454
Cost of revenue	44,008	36,880	31,704
Gross profit	111,101	92,875	75,750
Operating expenses:			
Research and development expenses	35,824	25,742	18,600
Selling, general and administrative expenses	106,415	93,853	73,510
Total operating expenses	142,239	119,595	92,110
Loss from operations	(31,138)	(26,720)	(16,360)
Other income (expense):			
Interest expense	(1,801)	(292)	(305)
Interest income	227	190	96
Other	(586)	(354)	391
Loss before income tax expense	(33,298)	(27,176)	(16,178)
Income tax expense	40	36	33
Net loss	\$ (33,338)	\$ (27,212)	\$ (16,211)
Basic and diluted net loss per share	\$ (1.05)	\$ (0.97)	\$ (0.61)
Weighted average shares outstanding – basic and diluted	31,609	28,058	26,374
Comprehensive loss:			
Unrealized gains (losses) on investments	\$ 18	\$ 15	\$ (48)
Foreign currency translation adjustment	125	(278)	(161)
Other comprehensive income (loss)	143	(263)	(209)
Net loss	(33,338)	(27,212)	(16,211)
Comprehensive loss	\$ (33,195)	\$ (27,475)	\$ (16,420)

See accompanying notes to consolidated financial statements.

ATRICURE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
YEARS ENDED DECEMBER 31, 2016, 2015, and 2014
(In Thousands)

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
	Shares	Amount				
Balance—December 31, 2013	23,248	23	194,933	(122,213)	(139)	72,604
Issuance of common stock through public offering	3,661	4	65,826	—	—	65,830
Issuance of common stock under equity incentive plans	586	1	1,585	—	—	1,586
Issuance of common stock under employee stock purchase plan	85	—	1,320	—	—	1,320
Reclassification of non-employee option liability	—	—	47	—	—	47
Share-based employee compensation expense	—	—	7,571	—	—	7,571
Other comprehensive loss	—	—	—	—	(209)	(209)
Net loss	—	—	—	(16,211)	—	(16,211)
Balance—December 31, 2014	27,580	28	271,282	(138,424)	(348)	132,538
Issuance of common stock through public offering	3,757	3	68,985	—	—	68,988
Issuance of common stock under equity incentive plans	850	1	1,920	—	—	1,921
Issuance of common stock under employee stock purchase plan	87	—	1,539	—	—	1,539
Reclassification of non-employee option liability	—	—	177	—	—	177
Share-based employee compensation expense	—	—	8,997	—	—	8,997
Other comprehensive loss	—	—	—	—	(263)	(263)
Net loss	—	—	—	(27,212)	—	(27,212)
Balance—December 31, 2015	32,274	\$ 32	\$ 352,900	\$ (165,636)	\$ (611)	\$ 186,685
Issuance of common stock under equity incentive plans	934	1	1,636	—	—	1,637
Issuance of common stock under employee stock purchase plan	134	—	1,618	—	—	1,618
Share-based employee compensation expense	—	—	11,697	—	—	11,697
Other comprehensive income	—	—	—	—	143	143
Net loss	—	—	—	(33,338)	—	(33,338)
Balance—December 31, 2016	33,342	\$ 33	\$ 367,851	\$ (198,974)	\$ (468)	\$ 168,442

See accompanying notes to consolidated financial statements.

ATRICURE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
YEARS ENDED DECEMBER 31, 2016, 2015 and 2014
(In Thousands)

	2016	2015	2014
Cash flows from operating activities:			
Net loss	\$ (33,338)	\$ (27,212)	\$ (16,211)
Adjustments to reconcile net loss to net cash used in operating activities:			
Share-based compensation expense	11,697	8,997	7,571
Depreciation	7,655	4,975	3,353
Amortization of intangible assets	1,644	1,303	1,421
Amortization of deferred financing costs	218	61	113
Loss on disposal of equipment and impairment of assets	433	276	118
Realized loss from foreign exchange on intercompany transactions	407	434	544
Amortization/accretion on investments	126	577	500
Change in allowance for doubtful accounts	149	144	(34)
Change in fair value of contingent consideration	969	—	(8,032)
Other	—	—	95
Changes in operating assets and liabilities, net of amounts acquired:			
Accounts receivable	(1,982)	(900)	(4,168)
Inventories	(79)	(2,950)	(4,343)
Other current assets	122	(928)	307
Accounts payable	(1,072)	4,013	(944)
Accrued liabilities	(1,915)	3,070	(1,847)
Other noncurrent assets and liabilities	(153)	298	(43)
Net cash used in operating activities	<u>(15,119)</u>	<u>(7,842)</u>	<u>(21,600)</u>
Cash flows from investing activities:			
Purchases of available-for-sale securities	(28,592)	(19,525)	(41,107)
Sales and maturities of available-for-sale securities	24,202	40,602	19,614
Purchases of property and equipment	(7,692)	(13,445)	(5,508)
Proceeds from sale of property and equipment	3	—	77
Increases in property under build-to-suit obligation	—	(10,552)	(3,699)
Cash paid for nContact business combination	—	(7,581)	—
Net cash used in investing activities	<u>(12,079)</u>	<u>(10,501)</u>	<u>(30,623)</u>
Cash flows from financing activities:			
Proceeds from sale of stock, net of offering costs of \$257 in 2014	—	—	65,830
Proceeds from debt borrowings	25,000	—	—
Payments on debt and capital leases	(439)	(263)	(6,382)
Proceeds from build-to-suit obligation	—	10,552	3,699
Proceeds from economic incentive loan	—	340	—
Payment of debt fees and premium on retirement of debt	(120)	(62)	(181)
Proceeds from stock option exercises	3,337	2,703	1,916
Shares repurchased for payment of taxes on stock awards	(1,701)	(782)	(331)
Proceeds from issuance of common stock under employee stock purchase plan	1,618	1,539	1,320
Payment of stock issuance fees	—	(66)	—
Net cash provided by financing activities	<u>27,695</u>	<u>13,961</u>	<u>65,871</u>
Effect of exchange rate changes on cash and cash equivalents	(53)	(238)	(156)
Net increase (decrease) in cash and cash equivalents	444	(4,620)	13,492
Cash and cash equivalents—beginning of period	23,764	28,384	14,892
Cash and cash equivalents—end of period	<u>\$ 24,208</u>	<u>\$ 23,764</u>	<u>\$ 28,384</u>
Supplemental cash flow information:			
Cash paid for interest	\$ 1,506	\$ 232	\$ 115
Cash paid for taxes	30	20	146
Non-cash investing and financing activities:			
Accrued purchases of property and equipment	340	1,277	547
Assets acquired through capital lease	152	50	47
Capital lease asset early termination	37	—	38
Stock issuance in business combinations	—	69,054	—
Contingent consideration in business combinations	—	40,207	—

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(In Thousands, Except Per Share Amounts)

1. DESCRIPTION OF BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Nature of the Business— AtriCure, Inc. was incorporated in the State of Delaware on October 31, 2000. The “Company” or “AtriCure” consists of AtriCure, Inc. and its wholly owned subsidiaries. The Company is a leading atrial fibrillation (Afib) solutions partner providing innovative products, professional education and support for clinical science to reduce the economic and social burden of atrial fibrillation. The Company sells its products to medical centers globally through a direct sales force and distributors.

Principles of Consolidation— The Consolidated Financial Statements include the accounts of the Company, AtriCure, LLC, Endoscopic Technologies, LLC and nContact Surgical, LLC, the Company’s wholly-owned subsidiaries, all organized in the State of Delaware; AtriCure Europe B.V. (AtriCure Europe), the Company’s wholly-owned subsidiary incorporated in the Netherlands; AtriCure Spain, S.L., AtriCure Europe’s wholly-owned subsidiary incorporated in Spain and AtriCure Hong Kong Limited, the Company’s wholly-owned subsidiary incorporated in Hong Kong. All intercompany accounts and transactions have been eliminated in consolidation.

Cash and Cash Equivalents—The Company considers highly liquid investments with maturities of three months or less at the date of acquisition as cash equivalents in the accompanying Consolidated Financial Statements.

Investments—The Company places its investments primarily in U.S. Government agencies and securities, corporate bonds and commercial paper. The Company classifies all investments as available-for-sale. Investments with maturities of less than one year are classified as short-term investments. Investments are recorded at fair value, with unrealized gains and losses recorded as accumulated other comprehensive income (loss). The Company recognizes gains and losses when these securities are sold using the specific identification method and includes them in interest income or expense in the Consolidated Statements of Operations and Comprehensive Loss.

Revenue Recognition—The Company accounts for revenue in accordance with Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) 605, “Revenue Recognition” (ASC 605). The Company recognizes revenue when all of the following criteria are met: (i) there is persuasive evidence that an arrangement exists; (ii) delivery of the products and/or services has occurred; (iii) the selling price is fixed or determinable; and (iv) collectability is reasonably assured.

Pursuant to the Company’s standard terms of sale, revenue is recognized when title to the goods and risk of loss transfers to customers and there are no remaining obligations that will affect the customers’ final acceptance of the sale. Generally, the Company’s standard terms of sale define the transfer of title and risk of loss to occur upon shipment to the respective customer. The Company generally does not maintain any post-shipment obligations to the recipients of the products. No installation, calibration or testing of products is performed by the Company subsequent to shipment to the customer in order to render it operational.

Revenue includes shipping and handling revenue of \$1,266, \$1,056 and \$952 in 2016, 2015 and 2014. Cost of freight for shipments made to customers is included in cost of revenue. Sales and other value-added taxes collected from customers and remitted to governmental authorities are excluded from revenue. The Company sells its products primarily through a direct sales force, with certain international markets sold through distributors. Terms of sale are generally consistent for both end-users and distributors except that payment terms are generally net 30 days for end-users and net 60 days for distributors with limited exceptions.

Sales Returns and Allowances—The Company maintains a provision for sales returns and allowances to account for potential returns of defective or damaged products, products shipped in error and invoice adjustments, as well as current deferrals of revenue. The Company estimates such provision on a quarterly basis based primarily on a specific identification basis, in addition to estimating a general reserve based on historical experience. Increases to the provision result in a reduction of revenue. The provision is included in accrued liabilities in the Consolidated Balance Sheets.

Allowance for Doubtful Accounts Receivable—The Company evaluates the collectability of accounts receivable to determine the appropriate reserve for doubtful accounts. In determining the amount of the reserve, the Company considers aging of account balances, historical credit losses, customer-specific information and other relevant factors. An increase to the allowance for doubtful accounts results in a corresponding increase in selling, general and administrative expense. The Company reviews accounts receivable and adjusts the allowance based on current circumstances and charges off uncollectible receivables against the allowance when all attempts to collect the receivable have failed. The Company’s history of write-offs against the allowance has not been significant.

Inventories—Inventories are stated at the lower of cost or market using approximate costs based on the first-in, first-out cost method (FIFO) and consist of raw materials, work in process and finished goods. The Company’s industry is characterized by rapid product development and frequent new product introductions. Uncertain timing of product approvals, variability in product launch strategies and variation in product use all impact excess and obsolete inventory. An inventory allowance based on product usage is estimated and recorded quarterly for excess, slow moving and obsolete inventory, as well as for inventory with a carrying value in excess of its net realizable value. An increase to the inventory reserve allowance results in a corresponding increase in cost of revenue. Write-offs are recorded when a product is disposed.

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

Property and Equipment—Property and equipment is stated at cost less accumulated depreciation. Depreciation is computed using the straight-line method of depreciation for financial reporting purposes and applied over the estimated useful lives of the assets. The estimated useful life by major asset category is the following: generators and other capital equipment is one to three years, machinery, equipment and vehicles is three to seven years, computer and other office equipment is three years, furniture and fixtures is three to seven years and leasehold improvements and equipment under capital leases are the shorter of their useful life or remaining lease term. The Company reassesses the useful lives of property and equipment annually, and assets are retired if they are no longer in service. Maintenance and repair costs are expensed as incurred.

Generators and other capital equipment (such as the Company's switchbox units and cryosurgical consoles) are placed with direct customers that use the Company's disposable products. Depreciation of such assets is included in cost of revenue. The estimated useful lives of this equipment are based on anticipated usage by customers and the timing and impact of expected new technology rollouts by the Company. To the extent the Company experiences changes in the usage of this equipment or introduces new technologies, the estimated useful lives of this equipment may change in a future period.

The Company reviews property and equipment for impairment using its best estimates based on reasonable and supportable assumptions and projections of expected future cash flows. Property and equipment impairments recorded by the Company have not been significant.

Intangible Assets—Intangible assets with determinable useful lives are amortized on a straight-line basis over the estimated periods benefited.

Included in intangible assets is In Process Research and Development (IPR&D). The Company defines IPR&D as the value of acquired technology which has not yet reached technological feasibility. The primary basis for determining the technological feasibility is obtaining specific regulatory approvals. IPR&D is accounted for as an indefinite-lived intangible asset until completion or abandonment of the IPR&D project. Upon completion of the development project, the IPR&D is amortized over its estimated useful life. If the IPR&D project is abandoned, the related IPR&D asset would be written off. At December 31, 2016, IPR&D represented an estimate of the fair value of the pre-market approval (PMA) that could result from the CONVERGE IDE clinical trial (see Note 5 – Business Combinations).

The Company reviews intangible assets for impairment using its best estimates based on reasonable and supportable assumptions and projections.

Goodwill—Goodwill represents the excess of purchase price over the fair value of the net assets acquired in business combinations. The Company tests goodwill for impairment annually on November 30, or more often if impairment indicators are present. The Company's goodwill is accounted for in a single reporting unit representing the Company as a whole.

Other Noncurrent Liabilities—Other noncurrent liabilities include contingent consideration recorded in business combinations (see Note 5 – Business Combinations), as well as long-term deferred revenues and other contractual obligations.

Other Income (Expense)—Other income (expense) consists primarily of foreign currency transaction gains and losses, grant income and non-employee option gains and losses related to the fair market value change for fully vested options outstanding for consultants which are accounted for as free-standing derivatives. The Company recorded net foreign currency transaction losses of \$586, \$339 and \$523 for the years ended December 31, 2016, 2015 and 2014, primarily in connection with settlements of its intercompany balances with AtriCure Europe and invoices transacted in British Pounds.

The Company periodically is awarded grants to support research and development activities or education activities. The Company recognizes grant income when the funds are earned. The Company recorded grant income of \$35 and \$731 during 2015 and 2014. No grant income was recorded in 2016.

The Company historically issued stock options to non-employee consultants as a form of compensation for services provided to the Company. Because the non-employee options require settlement by the Company's delivery of registered shares and because the tax withholding provisions in the awards allow the options to be partially net-cash settled, these options, when vested, are no longer eligible for equity classification and are, thus, subsequently accounted for as derivative liabilities under FASB ASC 815, "Derivatives and Hedging" (ASC 815) until the awards are ultimately either exercised or forfeited. Accordingly, the vested non-employee options are classified as liabilities and remeasured at fair value through earnings at each reporting period. All vested non-employee options have been exercised as of December 31, 2015. During the years ended December 31, 2015 and 2014, \$(57) and \$183 of income (loss) was recorded as a result of the remeasurement of the fair value of these fully vested stock options.

Taxes—Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities from a change in tax rates is recognized in the period that includes the enactment date.

The Company's estimate of the valuation allowance for deferred tax assets requires it to make significant estimates and judgments about its future operating results. Deferred tax assets are reduced by valuation allowances if, based on the consideration of all available evidence, it is more-likely-than-not that some portion of the deferred tax asset will not be realized. Significant weight is given to evidence that can be objectively verified. The Company evaluates deferred tax assets on a quarterly basis to determine if valuation allowances are required by considering all available evidence. Deferred tax assets are realized by having sufficient future taxable income to allow the related tax benefits to reduce taxes otherwise payable. The sources of taxable income that may be available to realize the benefit of deferred tax assets are future reversals of existing taxable temporary differences, future taxable income, exclusive of reversing temporary differences and carryforwards, taxable income in carry-back years and tax planning strategies that are both prudent and feasible. In evaluating whether to record a valuation allowance, the applicable accounting standards deem that the existence of cumulative losses in recent years is a significant piece of objectively verifiable negative evidence that must be overcome by objectively verifiable positive evidence to avoid the need to record a valuation allowance. The Company has recorded a full valuation allowance against its net deferred tax assets as it is more likely than not that the benefit of the deferred tax assets will not be recognized in future periods.

A provision of The Patient Protection and Affordable Care Act enacted in 2010, as amended (Patient Act), requires manufacturers of medical devices to pay an excise tax on all U.S. medical device sales. In December 2015, the U.S. government approved the suspension of the excise tax on medical device sales beginning January 1, 2016 through December 31, 2017. The Company's expense related to the medical device excise tax, which was recorded in cost of revenue, was \$667 and \$592 for the years ended December 31, 2015 and 2014.

Net Loss Per Share—Basic and diluted net loss per share is computed in accordance with FASB ASC 260 "Earnings Per Share" (ASC 260) by dividing the net loss by the weighted average number of common shares outstanding during the period. Since the Company has experienced net losses for all periods presented, net loss per share excludes the effect of 4,320, 4,255 and 3,772 stock options and restricted stock shares as of December 31, 2016, 2015 and 2014 because they are anti-dilutive. Therefore, the number of shares calculated for basic net loss per share is also used for the diluted net loss per share calculation.

Comprehensive Income (Loss) and Accumulated Other Comprehensive Loss—In addition to net losses, the comprehensive loss includes foreign currency translation adjustments and unrealized gains and losses on investments.

Accumulated other comprehensive loss consisted of the following:

	2016	2015	2014
Total accumulated other comprehensive loss at beginning of period	\$ (611)	\$ (348)	\$ (139)
<u>Unrealized (losses) gains on investments</u>			
Balance at beginning of period	\$ (39)	\$ (54)	\$ (6)
Other comprehensive income (loss) before reclassifications	18	15	(48)
Amounts reclassified from accumulated other comprehensive income (loss) to other income	—	—	—
Balance at end of period	\$ (21)	\$ (39)	\$ (54)
<u>Foreign currency translation adjustment</u>			
Balance at beginning of period	\$ (572)	\$ (294)	\$ (133)
Other comprehensive income (loss) before reclassifications	532	156	362
Amounts reclassified from accumulated other comprehensive income (loss) to other income	(407)	(434)	(523)
Balance at end of period	\$ (447)	\$ (572)	\$ (294)
Total accumulated other comprehensive loss at end of period	<u>\$ (468)</u>	<u>\$ (611)</u>	<u>\$ (348)</u>

Research and Development Costs— Research and development costs are expensed as incurred. These costs include compensation and other internal and external costs associated with the development and research related to new and existing products or concepts, preclinical studies, clinical trials, healthcare compliance and regulatory affairs.

Advertising Costs— The Company expenses advertising costs as incurred. Advertising expense was \$625, \$476 and \$529 during the years ended December 31, 2016, 2015 and 2014.

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

Share-Based Compensation—The Company follows FASB ASC 718 “Compensation-Stock Compensation” (ASC 718) to record share-based compensation for all employee share-based payment awards, including stock options, restricted stock and stock purchases related to an employee stock purchase plan, based on estimated fair values. The Company’s share-based compensation expense recognized under ASC 718 for the years ended December 31, 2016, 2015 and 2014 was \$11,697, \$8,997 and \$7,571, on a before and after tax basis.

FASB ASC 718 requires companies to estimate the fair value of share-based payment awards on the date of grant using an option-pricing model. The value of the portion of the award that is ultimately expected to vest is recognized as expense over the requisite service periods in the Company’s Consolidated Statement of Operations and Comprehensive Loss. The expense has been reduced for estimated forfeitures. FASB ASC 718 requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

The Company estimates the fair value of time-based options on the date of grant using the Black-Scholes option-pricing model (Black-Scholes model). The Company’s determination of fair value of share-based payment awards on the date of grant using an option-pricing model is affected by the Company’s stock price, as well as assumptions regarding a number of subjective variables. These variables include but are not limited to the Company’s expected stock price volatility over the term of the awards and actual and projected employee stock option exercise behaviors. The fair value of market-based performance option grants is estimated at the date of grant using a Monte-Carlo simulation. The value of the portion of the award that is ultimately expected to vest is recognized as expense over the requisite service periods in the Consolidated Statement of Operations and Comprehensive Loss.

The Company estimates the fair value of restricted stock based upon the grant date closing market price of the Company’s common stock. The Company’s determination of fair value is affected by the Company’s stock price as well as assumptions regarding the number of shares expected to be granted.

The Company also has an employee stock purchase plan (ESPP) which is available to all eligible employees as defined by the plan document. Under the ESPP, shares of the Company’s common stock may be purchased at a discount. The Company estimates the number of shares to be purchased under the ESPP and records compensation expense during the period based upon the fair value of the stock at the beginning of the purchase period using the Black-Scholes model.

Use of Estimates—The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expense during the reporting period. Actual results could differ from those estimates.

Fair Value Disclosures— The Company classifies and records cash and investments in U.S. government agencies and securities as Level 1 within the fair value hierarchy. Accounts receivable, short-term other assets, accounts payable and accrued liabilities are also classified as Level 1. The carrying amounts of these assets and liabilities approximate their fair value due to their relatively short-term nature. Cash equivalents and investments in corporate bonds and commercial paper are classified as Level 2 within the fair value hierarchy. Fixed term debt fair value is determined by calculating the net present value of future debt payments at current market interest rates and is classified as Level 2. The book value of the Company’s fixed term debt approximates its fair value as of December 31, 2016. Significant unobservable inputs with respect to the fair value measurement of the Level 3 non-employee stock options and contingent consideration liabilities are developed using Company data. When an input is changed, the corresponding valuation models are updated and the results are analyzed for reasonableness. See Note 3 – Fair Value for further information on fair value measurements.

2. RECENT ACCOUNTING PRONOUNCEMENTS

In May 2014 the FASB issued a final standard on revenue from contracts with customers. The standard, issued as FASB Accounting Standard Update (ASU) 2014-09, “Revenue from Contracts with Customers” (ASU 2014-09), outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and supersedes most current revenue recognition guidance. In July 2015 the FASB deferred the effective date of ASU 2014-09 for entities reporting under U.S. GAAP from interim and annual reporting periods beginning after December 15, 2016 to interim and annual reporting periods beginning after December 15, 2017 and allow early adoption as of the original effective date. A full retrospective or modified retrospective approach may be taken to adopt the guidance in the ASU. FASB ASU 2016-08, “Revenue from Contracts with Customers (Topic 606): Principal Versus Agent Considerations (Reporting Revenue Gross Versus Net)”, FASB ASU 2016-10, “Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing”, and FASB ASU 2016-12, “Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients”, have been issued in 2016 to further refine the guidance in ASU 2014-09. The Company is evaluating the impact of the provisions of the revenue-related ASUs on its consolidated financial position, results of operations and related disclosures.

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

In November 2015 the FASB issued ASU 2015-17, “Income Taxes (Topic 740), Balance Sheet Classification of Deferred Taxes” (ASU 2015-17), which requires companies to classify all deferred tax assets and liabilities as noncurrent on the balance sheet instead of separating deferred taxes into current and noncurrent amounts. Also, companies will no longer allocate valuation allowances between current and noncurrent deferred tax assets because those allowances also will be classified as noncurrent. ASU 2015-17 is effective for financial statements issued for annual periods beginning after December 15, 2016, and interim periods within those annual periods. Early adoption is permitted for financial statements that have not been issued. The Company has applied the provisions of ASU 2015-17 effective December 31, 2016; however, the impact on the consolidated financial position and related disclosures is not significant as a result of the offsetting valuation allowances.

In January 2016 the FASB issued ASU 2016-01, “Financial Instruments — Overall — Recognition and Measurement of Financial Assets and Financial Liabilities” (ASU 2016-01), which amends the guidance in U.S. GAAP on the classification and measurement of financial instruments. Although the ASU retains many current requirements, it significantly revises an entity’s accounting related to (1) the classification and measurement of investments in equity securities and (2) the presentation of certain fair value changes for financial liabilities measured at fair value. The ASU also amends certain disclosure requirements associated with the fair value of financial instruments. The new standard is effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2017. The Company has evaluated the impact of ASU 2016-01 on its consolidated financial position and related disclosures and has determined that the new guidance does not have a material impact on its financial reporting.

In February 2016 the FASB issued ASU 2016-02, “Leases” (ASU 2016-02) which requires lessees to record most leases onto their balance sheet but recognize expenses on their income statement in a manner similar to today’s accounting. The guidance is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. Entities are required to use a modified retrospective approach for leases that exist or are entered into after the beginning of the earliest comparative period in the financial statements. Full retrospective application is prohibited. The Company is evaluating the provisions of ASU 2016-02 to determine the impact on its consolidated financial position, results of operations and related disclosures.

In March 2016 the FASB issued ASU 2016-09, “Improvements to Employee Share-Based Payment Accounting” (ASU 2016-09), which changes certain aspects of accounting for share-based payments to employees. The new guidance requires all income tax effects of awards to be recognized in the income statement when the awards vest or are settled, which will be applied prospectively. The guidance also allows an employer to repurchase more of an employee’s shares for tax withholding purposes without triggering liability accounting. Companies will apply the guidance to outstanding liability awards at the date of adoption using a modified retrospective transition method, with a cumulative-effect adjustment to retained earnings. The new guidance also allows companies to make a policy election to account for forfeitures as they occur rather than apply an estimate for expense recognition. Companies will make this election at the entity level using a modified retrospective transition method, with a cumulative-effect adjustment to retained earnings. ASU 2016-09 is effective for fiscal years beginning after December 15, 2016, and interim periods within those years. The Company will adopt ASU 2016-09 effective January 1, 2017. Upon adoption of ASU 2016-09, the unrecognized deferred tax assets that arose from tax deductions for equity compensation in excess of compensation recognized for financial reporting will be recorded with a corresponding increase to the valuation allowance.

In June 2016 the FASB issued ASU 2016-13, “Financial Instruments—Credit Losses—Measurement of Credit Losses on Financial Instruments” (ASU 2016-13), which changes how entities will measure credit losses for most financial assets and certain other instruments that are not measured at fair value through net income. The standard replaces the “incurred loss” approach with an “expected loss” model for instruments measured at amortized cost and requires entities to record allowances for available-for-sale debt securities rather than reduce the carrying amount, as they do today under the other-than-temporary impairment model. It also simplifies the accounting model for purchased credit-impaired debt securities and loans. The standard’s provisions are to be applied as a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective (modified retrospective approach). ASU 2016-13 is effective for fiscal years beginning after December 15, 2019, and interim periods therein. Early adoption is permitted for fiscal years beginning after December 15, 2018, and interim periods therein. The Company has evaluated the impact of ASU 2016-13 on its consolidated financial position, results of operations and related disclosures and has determined that the new guidance does not have a material impact on its financial reporting.

In August 2016 the FASB issued ASU 2016-15, “Classification of Certain Cash Receipts and Cash Payments” (ASU 2016-15), which amends ASC 230, “Statement of Cash Flows”, to add or clarify guidance on the classification of certain cash receipts and payments in the statement of cash flows. ASC 230 lacks consistent principles for evaluating the classification of cash payments and receipts in the statement of cash flows. Therefore, the FASB issued the ASU with the intent of reducing diversity in practice. ASU 2016-15 is effective for fiscal years beginning after December 15, 2017, and interim periods therein. Early adoption is permitted. The guidance must be applied retrospectively to all periods presented but may be applied prospectively if retrospective application is impracticable. The Company has evaluated the impact of ASU 2016-15 on its consolidated financial position, results of operations and related disclosures and has determined that the new guidance does not have a material impact on its financial reporting.

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

In January 2017 the FASB issued ASU 2017-04, “Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment” (ASU 2017-04), which simplifies the accounting for goodwill impairment for all entities by requiring impairment charges to be based on the first step in today’s two-step impairment test under ASC 350, “Intangibles—Goodwill and Other”. Under the new guidance, if a reporting unit’s carrying amount exceeds its fair value, an entity will record an impairment charge based on that difference. The impairment charge will be limited to the amount of goodwill allocated to that reporting unit. The standard eliminates the current ASC 350 requirement to calculate a goodwill impairment charge using Step 2. ASU 2017-14 will be applied prospectively and is effective for annual and interim impairment tests performed in periods beginning after December 15, 2019. Early adoption is permitted for annual and interim goodwill impairment testing dates after January 1, 2017. The Company has evaluated the impact of ASU 2017-04 on its consolidated financial position, results of operations and related disclosures and has determined that the new guidance does not have a material impact on its current financial reporting.

3. FAIR VALUE

FASB ASC 820, “Fair Value Measurements and Disclosures” (ASC 820), defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. The standard 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—Quoted prices in active markets for identical assets or liabilities that the Company has the ability to access at the measurement date. An active market for the asset or liability is a market in which transactions for the asset or liability occur with sufficient frequency and volume to provide pricing information on an ongoing basis. The valuation under this approach does not entail a significant degree of judgment.
- Level 2—Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities. The valuation technique for the Company’s Level 2 assets is based on quoted market prices for similar assets from observable pricing sources at the reporting date.
- Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. Unobservable inputs shall be used to measure fair value to the extent that observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date. The fair value of the Company’s Level 3 derivative instruments (non-employee stock options) were estimated on the grant date using the Black-Scholes model and revalued at the end of each reporting period using the Black-Scholes model. The fair value of the Company’s Level 3 contingent consideration liabilities was estimated on the respective acquisition dates of Endoscopic Technologies, Inc. (Estech) and nContact Surgical, Inc. (nContact), and is revalued at the end of each subsequent reporting period (see Note 5 – Business Combination for further information).

In accordance with ASC 820, the following table represents the Company’s fair value hierarchy for its financial assets and liabilities measured at fair value on a recurring basis as of December 31, 2016:

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Unobservable Inputs (Level 3)	Total
Assets:				
Money market funds	\$ —	\$ 17,085	\$ —	\$ 17,085
Commercial paper	—	5,996	—	5,996
U.S. government agencies and securities	7,000	1,529	—	8,529
Corporate bonds	—	8,276	—	8,276
Total assets	<u>\$ 7,000</u>	<u>\$ 32,886</u>	<u>\$ —</u>	<u>\$ 39,886</u>
Liabilities:				
Acquisition-related contingent consideration	\$ —	\$ —	\$ 41,176	\$ 41,176
Total liabilities	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 41,176</u>	<u>\$ 41,176</u>

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

The following table represents the Company's fair value hierarchy for its financial assets and liabilities measured at fair value on a recurring basis as of December 31, 2015:

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Unobservable Inputs (Level 3)	Total
Assets:				
Money market funds	\$ —	\$ 18,572	\$ —	\$ 18,572
U.S. government agencies and securities	1,590	—	—	1,590
Corporate bonds	—	16,930	—	16,930
Total assets	\$ 1,590	\$ 35,502	\$ —	\$ 37,092
Liabilities:				
Acquisition-related contingent consideration	\$ —	—	40,207	40,207
Total liabilities	\$ —	\$ —	\$ 40,207	\$ 40,207

There were no changes in the levels or methodology of measurement of financial assets and liabilities during the years ended December 31, 2016 and 2015.

Derivative Instruments. Vested non-employee options historically issued by the Company were accounted for as derivative liabilities and remeasured at fair value through earnings at each reporting period until exercised or forfeited. All vested non-employee options have been exercised as of December 31, 2015.

In accordance with ASC 820, the following table represents the Company's Level 3 fair value measurements using significant other unobservable inputs for derivative instruments as of December 31:

	2016	2015	2014
Beginning Balance – January 1	\$ —	\$ 120	\$ 350
Total losses (gains) included in earnings	—	57	(183)
Exercises	—	(177)	(47)
Ending Balance – December 31	\$ —	\$ —	\$ 120

Acquisition-Related Contingent Consideration. Contingent consideration arrangements obligate the Company to pay former shareholders of an acquired entity if specified future events occur or conditions are met, such as the achievement of certain technological milestones or the achievement of targeted revenue milestones. The Company measures such liabilities using unobservable inputs, applying the income approach, such as the discounted cash flow technique or the probability-weighted scenario method. Various key assumptions, such as the probability and timing of achievement of the agreed milestones, projected revenues from acquisitions and the discount rate, are used in the determination of fair value of contingent consideration arrangements and are not observable in the market, thus representing a Level 3 measurement within the fair value hierarchy. Subsequent revisions to key assumptions, which impact the estimated fair value of contingent consideration liabilities, are reflected in the Consolidated Statements of Operations and Comprehensive Loss.

The Company acquired nContact on October 13, 2015. The aggregate consideration paid to nContact shareholders includes up to \$50,000 in contingent consideration based on completion of enrollment of the CONVERGE IDE trial and corresponding PMA approval by December 31, 2020. nContact shareholders are entitled to additional sales-based contingent consideration on revenue in excess of an annual growth rate of more than 25% over a specified baseline through 2019. The fair value of the nContact contingent consideration was remeasured as of December 31, 2016, resulting in an increase in fair value of \$969. The adjustment to fair value was recorded as a component of selling, general and administrative expenses in the accompanying 2016 Consolidated Statement of Operations and Comprehensive Loss.

On December 31, 2013, the Company acquired Estech. The aggregate consideration paid to Estech shareholders included up to \$26,000 of contingent consideration to be paid based on the achievement of certain performance-based milestones in 2014 and 2015. The Company initially recorded \$8,032 in contingent consideration in connection with the Estech acquisition, and, based on results during 2014, reduced the value of the contingent consideration to \$0 at December 31, 2014. The \$8,032 adjustment was recorded as a

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

reduction of selling, general and administrative expenses in the accompanying 2014 Consolidated Statement of Operations and Comprehensive Loss.

The following table represents the company's Level 3 fair value measurements using significant other unobservable inputs for acquisition-related contingent consideration as of December 31:

	2016	2015	2014
Beginning Balance – January 1	\$ 40,207	\$ —	\$ 8,032
Amounts acquired	—	40,207	—
Transfers in (out) of Level 3	—	—	—
Changes in fair value included in loss from operations	969	—	(8,032)
Ending Balance – December 31	<u>\$ 41,176</u>	<u>\$ 40,207</u>	<u>\$ —</u>

4. INVESTMENTS

Investments as of December 31, 2016 consisted of the following:

	Cost Basis	Unrealized Gains (Losses)	Fair Value
Corporate bonds	\$ 8,284	\$ (8)	\$ 8,276
U.S. government agencies and securities	8,542	(13)	8,529
Commercial paper	5,996	—	5,996
Total	<u>\$ 22,822</u>	<u>\$ (21)</u>	<u>\$ 22,801</u>

Investments as of December 31, 2015 consisted of the following:

	Cost Basis	Unrealized Gains (Losses)	Fair Value
Corporate bonds	\$ 16,963	\$ (33)	\$ 16,930
U.S. government agencies and securities	1,596	(6)	1,590
Total	<u>\$ 18,559</u>	<u>\$ (39)</u>	<u>\$ 18,520</u>

The Company has not experienced any significant realized gains or losses on its investments in the periods presented in the Consolidated Statements of Operations and Comprehensive Loss. Long term investments held by the Company have maturities between one and two years at both December 31, 2016 and 2015.

5. BUSINESS COMBINATION

nContact Surgical, Inc. (nContact). On October 13, 2015 the Company completed its acquisition of nContact, pursuant to a merger agreement (Agreement) under which the Company acquired 100% of the outstanding equity interests of nContact. Incorporated in 2004 and based in Morrisville, North Carolina, nContact developed and marketed a portfolio of innovative devices that provide for less invasive ablation options for the treatment of cardiac arrhythmias. The company's technology is used in the Convergent procedure, a multi-disciplinary therapy in which a closed-chest surgical epicardial ablation is performed, and then complemented by an endocardial catheter ablation performed by an electrophysiologist. The CONVERGE IDE clinical trial is currently being conducted and is the first head-to-head study to evaluate the Convergent procedure versus catheter ablation in patients with persistent Afib.

AtriCure's management believes the acquisition of nContact will expand and strengthen the Company's presence in the Afib market, reinforce the Company's commitment to clinical science, and provide improved market access and additional collaboration opportunities with cardiac surgeons and electrophysiologists. The combination of the two companies expands AtriCure's addressable market with the addition of proven technology that treats an under-served population of patients, complements the Company's current product portfolio and minimally invasive (MIS) intellectual property portfolio, accelerates and sustains the Company's revenue growth rate, and drives continued margin expansion and worldwide operating leverage opportunities.

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

The total consideration paid to nContact's former shareholders at acquisition date was 3,757 shares of AtriCure common stock, valued at \$69,054 at the closing of the transaction, and \$7,581 in cash. Although the cash paid at acquisition was subject to adjustment for net working capital balances outside of a specified range, no such adjustment was made as a result of the final net working capital delivered. In addition, the Agreement provides for the Company to pay contingent consideration, as follows:

- *Trial Enrollment Milestone*— \$7,500 upon completion of patient enrollment in the CONVEGE IDE clinical trial. Such payment is due on or before 30 days following enrollment of the final patient.
- *Regulatory Milestone*— up to \$42,500 upon the completion of the CONVERGE IDE clinical trial and receiving a PMA by the FDA for the EPi-Sense-AF Guided Coagulation System and/or any other nContact product with an indication for symptomatic persistent Afib or a similar or related indication. The full contingent consideration amount of \$42,500 is only earned if such regulatory approvals are received on or before January 1, 2020. The potential contingent consideration is reduced by 8.33% (or one-twelfth) each month following January 2020, and is reduced to zero if the regulatory milestone is achieved after December 31, 2020. Any payment of the regulatory contingent consideration is due on or before 30 days following the receipt of the related PMA approval.
- *Commercial Milestone*— for the calendar years 2016 through 2019, nContact revenues in excess of specified target revenue amounts, will result in contingent consideration equal to 1.5 times the revenues in excess of target. Payments of contingent consideration under the annual commercial milestones are due within 65 days of each calendar year end.

Subject to the terms and conditions of the Agreement, all contingent consideration can be paid in cash and AtriCure common stock. The Agreement limits the total number of shares of AtriCure common stock issued in connection with the acquisition to 5,660.

The Company accounted for the acquisition in accordance with FASB ASC 805, "Accounting for Business Combinations". The assets acquired, liabilities assumed and the estimated future contingent consideration obligation were recorded at their respective fair values as of the date of acquisition. The process for estimating fair values of identifiable intangible assets and certain tangible assets and assumed liabilities requires the use of judgment in determining the appropriate assumptions and estimates. The judgments used to determine the estimated fair value assigned to each class of assets acquired and liabilities assumed, as well as asset lives, can materially impact the Company's results of operations.

The components of the aggregate purchase price for the nContact acquisition were as follows:

Fair value of AtriCure common stock issued at closing	\$ 69,054
Cash	7,581
Fair value of contingent consideration liabilities	40,207
Total purchase price	<u>\$ 116,842</u>

The fair value of contingent consideration liabilities was determined by applying an income valuation approach, including the discounted cash flow technique probability-weighted scenario method. Key assumptions in the valuation of contingent consideration liabilities are based on management's judgment and estimates, and include the probability and timing of achievement of each of the milestones, projected revenues from the acquisition, and the discount rates, which ranged from 3% to 14%, reflecting the inherent risks of achieving the respective milestones. These assumptions are not observable in the market, thus represent a Level 3 measurement within the fair value hierarchy.

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

The following table summarizes the fair values of the assets acquired and liabilities assumed on the acquisition date:

	October 13, 2015
Accounts receivable	\$ 1,450
Inventories	682
Other current assets	166
Property and equipment	311
Intangible assets	46,200
Other assets	7
Total identifiable assets	\$ 48,816
Accounts payable	\$ 256
Accrued liabilities	1,589
Total liabilities assumed	\$ 1,845
Net identifiable assets acquired	\$ 46,971
Goodwill	69,871
Total consideration	\$ 116,842

The above fair values of assets acquired and liabilities assumed are based on the information that was available as of the acquisition date. Deferred tax assets and liabilities were also recognized at acquisition date for the future tax consequences attributable to differences between the above financial statement carrying amounts of existing assets and liabilities and their respective tax bases and acquired operating loss and tax credit carryforwards of nContact. At acquisition, nContact had approximately \$59,000 of net operating loss carryforwards, which begin to expire in 2025 and are subject to certain limitations under Internal Revenue Code Section 382. The Company recorded a full valuation allowance against the net deferred tax assets at acquisition.

The valuation of the intangible assets acquired and related amortization periods are as follows:

	Valuation	Amortization Term (in years)
SUBTLE access technology	\$ 2,179	5
IPR&D	44,021	
Total	\$ 46,200	

The fair value of the SUBTLE access technology and IPR&D both were estimated using an income approach. Under this method, an intangible asset's fair value is equal to the present value of the incremental after-tax cash flows (excess earnings) attributable solely to the intangible asset over its remaining useful life. The Company believes that the level and timing of cash flows related to each asset appropriately reflects market participant assumptions, and such cash flows were discounted at rates considered appropriate given the inherent risks associated with each type of intangible asset. The SUBTLE access technology asset is amortized on a straight-line basis over its estimated useful life. The IPR&D asset, which is accounted for as an indefinite-lived intangible asset until completion or abandonment of the project, represents an estimate of the fair value of the PMA approval from the in-process CONVERGE IDE clinical trial.

The Company recorded the excess of the aggregate purchase price over the estimated fair values of the identifiable net assets acquired as goodwill. Goodwill is primarily attributable to the benefits the Company expects to realize by enhancing its product offering and addressable markets, thereby contributing to an expanded revenue base and improved margins. None of the goodwill recorded in the acquisition is deductible for income tax purposes. As discussed in Note 1, the Company accounts for goodwill in a single reporting unit representing the Company as a whole.

The operating results of nContact, including \$2,192 of revenue in 2015, are included in the Consolidated Statements of Operations and Comprehensive Loss beginning October 14, 2015. The Consolidated Balance Sheet as of December 31, 2015 reflects the acquisition of nContact. The Company recognized approximately \$2,489 of acquisition-related costs that were expensed during 2015. The costs consisted of \$1,767 for investment bank fees and expenses and \$722 for legal, audit, tax and other costs. These costs are included in selling, general and administrative expenses in the accompanying 2015 Consolidated Statements of Operations and Comprehensive Loss.

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

The following supplemental pro forma information presents the financial results of the Company for the years ended December 31, 2015 and 2014 as if the acquisition of nContact had occurred on January 1, 2014.

	Year Ended December 31, (unaudited)	
	2015	2014
Revenue	\$ 137,882	\$ 115,979
Net loss	(30,745)	(21,438)
Basic and diluted net loss per share	(0.99)	(0.71)

Certain pro forma adjustments have been made when calculating the amounts above to reflect the impact of the purchase transaction, primarily consisting of inclusion of amortization of intangible assets with determinable lives and exclusion of nContact's interest expense incurred on debt paid off in the acquisition. The Company also eliminated transaction expenses incurred by both AtriCure and nContact. This supplemental pro forma information has been prepared for comparative purposes and does not purport to be indicative of what would have occurred had the acquisition been made on January 1, 2014, nor are they indicative of any future results. The pro forma information does not include any adjustment for potential revenue enhancements, cost synergies or other operating efficiencies that could result from the acquisition.

6. INTANGIBLE ASSETS AND GOODWILL

The following table provides a summary of the Company's intangible assets at December 31:

	2016		2015	
	Cost	Accumulated Amortization	Cost	Accumulated Amortization
	Fusion technology	\$ 9,242	\$ 2,773	\$ 9,242
Clamp & probe technology	829	829	829	552
SUBTLE access technology	2,179	538	2,179	96
IPR&D	44,021	—	44,021	—
Total	\$ 56,271	\$ 4,140	\$ 56,271	\$ 2,496

For the years ended December 31, 2016, 2015 and 2014, amortization expense related to intangible assets with definite lives was \$1,644, \$1,303 and \$1,421. The IPR&D asset is not amortized until the completion of the project.

Future amortization expense related to intangible assets with definite lives is projected as follows:

2017	\$ 1,367
2018	1,367
2019	1,367
2020	1,235
2021	924
2022 and thereafter	1,850
Total	\$ 8,110

The following table provides a summary of the Company's goodwill, which is not amortized, but rather tested annually for impairment:

Net carrying amount as of December 31, 2014	\$ 35,386
Additions	69,871
Net carrying amount as of December 31, 2015	105,257
Additions	—
Net carrying amount as of December 31, 2016	\$ 105,257

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

7. INVENTORIES

Inventories consisted of the following at December 31:

	2016	2015
Raw materials	\$ 5,719	\$ 6,159
Work in process	1,221	974
Finished goods	10,720	10,526
Inventories	<u>\$ 17,660</u>	<u>\$ 17,659</u>

8. PROPERTY AND EQUIPMENT

Property and equipment consisted of the following at December 31:

	2016	2015
Building under capital lease	\$ 14,250	\$ 14,250
Generators and other capital equipment	13,087	10,041
Computer and other office equipment	5,321	4,303
Furniture and fixtures	3,676	3,211
Machinery, equipment and vehicles	3,731	2,551
Leasehold improvements	3,319	2,151
Construction in progress	539	1,978
Equipment under capital leases	215	212
Total	<u>44,138</u>	<u>38,697</u>
Less accumulated depreciation	(14,143)	(7,418)
Property and equipment, net	<u>\$ 29,995</u>	<u>\$ 31,279</u>

Property and equipment depreciation expense was \$7,655, \$4,975 and \$3,353 for the years ended December 31, 2016, 2015 and 2014. Depreciation related to generators and other capital equipment was \$3,591, \$2,944 and \$2,172 in 2016, 2015 and 2014. As of December 31, 2016 and 2015, the net carrying amount of generators and other capital equipment was \$5,692 and \$5,447.

9. ACCRUED LIABILITIES

Accrued liabilities consisted of the following at December 31:

	2016	2015
Accrued commissions	\$ 5,737	\$ 6,061
Accrued payroll and employee-related expenses	4,326	4,076
Accrued bonus	2,871	6,088
Accrued taxes and value-added taxes payable	1,289	912
Other accrued liabilities	929	668
Sales returns and allowances	834	207
Accrued royalties	481	382
Total	<u>\$ 16,467</u>	<u>\$ 18,394</u>

10. INDEBTEDNESS

Bank Credit Facility. The Company has a debt agreement (Loan Agreement) with Silicon Valley Bank (SVB). The Loan Agreement, as amended, restated and modified, effective April 25, 2016, includes a \$25,000 term loan and \$15,000 revolving line of credit, both which mature in April 2021. Borrowing availability under the revolving credit facility is based on the lesser of \$15,000 or a borrowing base calculation as defined by the Loan Agreement. As of December 31, 2016, the Company had no borrowings under the revolving credit facility and had borrowing availability of \$15,000. The revolving line of credit is subject to an annual commitment fee of \$50, and any borrowings thereunder bear interest at the Prime Rate. Financing costs related to the revolving line of credit are included in other assets in the Consolidated Balance Sheets and amortized ratably over the term of the Loan Agreement.

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

The term loan has a five-year term, with principal payments to be made ratably commencing twelve months after the inception of the loan through to the loan's maturity date. The Company has met certain conditions, as specified by the Loan Agreement, to defer the commencement of term loan principal payments by an additional six months until November 2017. The term loan accrues interest at the Prime Rate and is subject to an additional 4.0% fee on the original \$25,000 term loan principal amount at maturity or prepayment of the term loan. The Company is accruing the 4.0% fee over the term of the Loan Agreement. As of December 31, 2016, the Company has accrued \$137 of this fee and included it in the outstanding loan balance in the Consolidated Balance Sheets. Financing costs related to the term loan are net against the outstanding loan balance in the Consolidated Balance Sheets and amortized ratably over the term of the Loan Agreement.

The Loan Agreement also provides for certain prepayment and early termination fees, as well as establishes covenants related to liquidity, sales growth and a minimum cash balance, and includes other customary terms and conditions. Specified assets have been pledged as collateral.

As of December 31, 2016, the Company has an outstanding letter of credit of \$1,250 related to the Company's headquarters lease in Mason, Ohio. The letter of credit may be reduced or removed entirely based on the Company's future financial performance, as specified in the lease agreement.

Capital Lease Obligations. As of December 31, 2016, the Company had capital leases for its corporate headquarters building and computer equipment that expire at various terms through 2030.

In August 2014 the Company entered into a new building lease (Mason Lease) in order to re-locate its corporate headquarters and West Chester, Ohio facilities to a building constructed in Mason, Ohio. The term of the Mason Lease is fifteen years with three separate five-year renewal options, at the Company's option, and commenced in October 2015. The Company was deemed the owner of the project during the construction period. As a result, project costs incurred during construction of the building were included in property and equipment as construction in progress and the corresponding financing obligation was included in other current liabilities during the construction period. Increases in purchases of building under construction and proceeds from the construction financing obligation were also included in the Consolidated Statement of Cash Flows during the construction period. Upon completion of construction, the Company recorded the current and noncurrent portions of the Mason Lease obligation within capital leases and the value of the underlying asset in property and equipment in the Consolidated Balance Sheet.

The cost of the leased assets, both building and computer equipment, under lease at December 31, 2016 was \$14,465. The assets are depreciated over their estimated useful lives, which equal the terms of the respective leases. Accumulated amortization on the capital leases was \$1,245 at December 31, 2016.

Future maturities on debt and capital lease obligations are projected as follows:

2017	\$	2,631
2018		8,610
2019		8,629
2020		8,645
2021		3,964
2022 and thereafter		14,486
Total payments	\$	46,965
Imputed interest on capital lease obligations		(8,072)
Net debt obligations, of which \$1,688 is current and \$37,205 is noncurrent	\$	<u>38,893</u>

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

11. COMMITMENTS AND CONTINGENCIES

Lease Commitments. The Company leases certain office and warehouse facilities and equipment under noncancelable operating leases that expire at various terms through 2022. Future minimum lease payments under non-cancelable operating leases are projected as follows:

2017	\$	752
2018		885
2019		893
2020		702
2021		409
2022 and thereafter		306
Total	\$	<u>3,947</u>

Rent expense was approximately \$1,250, \$1,515 and \$1,331 in 2016, 2015, and 2014.

Royalty Agreements. The Company has certain royalty agreements in place with terms that include payment of royalties based on product revenue from sales of specified current products. The royalty agreements have effective dates as early as 2003 and terms ranging from three years to at least twenty years. The royalties range from 0.75% to 5% of specified product sales. One of the agreements included minimum quarterly payments of \$50 through 2015 and a maximum of \$2,000 in total royalties over the term of the agreement. Parties to the royalty agreements have the right at any time to terminate the agreement immediately for cause. Royalty expense of \$1,895, \$1,799 and \$1,322 was recorded as part of cost of revenue for the years ended December 31, 2016, 2015 and 2014.

Purchase Agreements. The Company enters into standard purchase agreements with certain vendors in the ordinary course of business. Outstanding commitments at December 31, 2016 were not significant.

Legal. The Company is from time to time subject to, and is presently involved in, various pending or threatened legal actions and proceedings, including those that arise in the ordinary course of its business. Such matters are subject to many uncertainties and to outcomes the financial impacts of which are not predictable with assurance and that may not be known for extended periods of time. When management has assessed that a loss is probable and an amount can be reasonably estimated, the Company records a liability in the Consolidated Financial Statements. The costs associated with legal proceedings that may be commenced could have a material adverse effect on the Company's future consolidated results of operations, financial position, or cash flows.

12. INCOME TAXES

The Company files federal, state, local and foreign income tax returns in jurisdictions with varying statutes of limitations. Income taxes are computed using the asset and liability method in accordance with FASB ASC 740, "Income Taxes", under which deferred income taxes are provided for the temporary differences between the financial reporting basis and the tax basis of the Company's assets and liabilities. Deferred taxes are measured using provisions of currently enacted tax laws. A valuation allowance against deferred tax assets is recorded when it is more likely than not that such assets will not be fully realized. The Company has recorded a full valuation allowance against its net deferred tax assets as it is more likely than not that the benefit of the deferred tax assets will not be recognized in future periods. Tax credits are accounted for as a reduction of income taxes in the year in which the credit originates.

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

The detail of deferred tax assets and liabilities at December 31 is as follows:

	2016	2015
Deferred tax assets (liabilities):		
Net operating loss carryforward	\$ 84,056	\$ 78,178
Research and development and AMT credit carryforwards, net	5,446	5,677
Equity compensation	8,406	6,618
Accruals and reserves	914	539
Inventories	1,503	1,310
Intangible assets	(16,922)	(16,953)
Property and equipment, net	(1,487)	(1,740)
Other, net	66	53
Subtotal	81,982	73,682
Less valuation allowance	(81,982)	(73,682)
Total	\$ —	\$ —

The Company's provision for income taxes is as follows:

	2016	2015	2014
Current Tax Expense			
Federal	\$ —	\$ 2	\$ 1
State	32	34	32
Foreign	8	—	—
Total current tax expense	40	36	33
Deferred Tax Expense			
Federal	\$ (7,333)	\$ (7,154)	\$ (4,272)
State	210	(398)	(455)
Foreign	(1,177)	(955)	(579)
Change in valuation allowance	8,300	8,507	5,306
Total deferred tax expense	—	—	—
Total tax expense	\$ 40	\$ 36	\$ 33

The Company has a federal net operating loss carryforward of \$222,816 which have expirations between 2021 and 2037 and state net operating loss carryforwards of \$135,620 with varying expirations from 2017 to 2037. At December 31, 2016 there were \$8,282 of unrecognized deferred tax assets that arose from tax deductions for equity compensation in excess of compensation recognized for financial reporting during years when net operating losses were created. Additional paid in capital will be increased if such deferred tax assets are realized and reduce current tax payable prior to the adoption of ASU 2016-09, "Improvements to Employee Share-Based Payment Accounting". Upon adoption of ASU 2016-09, the unrecognized deferred tax assets that arose from tax deductions for equity compensation in excess of compensation recognized for financial reporting will be recorded with a corresponding increase to valuation allowance. A portion of the Company's federal and state net operating loss carryforwards are subject to certain limitations under Internal Revenue Code Sections 382 and 383. The Company has foreign net operating loss carryforwards of approximately \$22,190 which have expirations between 2017 and 2026. Additionally, the Company has federal research and development credit carryforwards of \$5,344 which have expirations between 2022 and 2037.

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

The Company's 2016, 2015 and 2014 effective income tax rates differ from the federal statutory rate as follows:

	2016		2015		2014	
Federal tax at statutory rate	34.00	% \$ (11,322)	34.00	% \$ (9,240)	34.00	% \$ (5,501)
Federal R&D credit	2.89	(962)	3.23	(878)	2.32	(374)
Valuation allowance	(24.93)	8,300	(31.30)	8,507	(32.80)	5,306
State income taxes	(0.69)	231	1.38	(375)	2.68	(433)
Foreign NOL rate change	(1.36)	452	(2.02)	549	(4.29)	694
Foreign tax rate differential	(1.62)	539	(1.99)	542	(2.83)	458
Other	(8.41)	2,802	(3.43)	931	0.72	(117)
Effective tax rate	(0.12)	% \$ 40	(0.13)	% \$ 36	(0.20)	% \$ 33

The Company's pre-tax book loss for domestic and international operations was \$(27,271) and \$(6,027), for 2016, (\$21,157) and (\$6,019), for 2015 and (\$11,085) and (\$5,093), for 2014.

The Company had undistributed earnings of foreign subsidiaries of approximately \$45 at December 31, 2016. The Company does not consider these earnings as permanently reinvested and thus has recognized appropriate U.S. current and deferred taxes on such amounts.

The Company has not had to accrue any interest and penalties related to unrecognized income tax benefits as a result of offsetting of net operating losses. However, if the situation occurs, the Company will recognize interest and penalties within the income tax expense line in the Consolidated Statements of Operations and Comprehensive Loss and within the related tax liability line in the Consolidated Balance Sheets.

Federal, state, and local tax returns of the Company are routinely subject to examination by various taxing authorities. Federal and foreign income tax returns for periods beginning in 2013 are open for examination. However, taxing authorities have the ability to adjust net operating loss and tax credit carryforwards from years prior to these periods. The Company has not recognized certain tax benefits because of the uncertainty of realizing the entire value of the tax position taken on income tax returns upon review by the taxing authorities. The Internal Revenue Service completed its review of the Company's 2014 federal income tax return in February 2017.

A reconciliation of the change in federal and state unrecognized tax benefits for 2016, 2015 and 2014 is presented below:

	2016	2015	2014
Balance at the beginning of the year	\$ 1,982	\$ 1,982	\$ 1,982
Increases (decreases) for prior year tax positions	1,193	—	—
Increases (decreases) for current year tax positions	—	—	—
Increases (decreases) related to settlements	—	—	—
Decreases related to statute lapse	—	—	—
Balance at the end of the year	\$ 3,175	\$ 1,982	\$ 1,982

There are no amounts included in the balance of unrecognized tax benefits at December 31, 2016, 2015 and 2014 that, if recognized, would affect the effective tax rate. Included in the balance of unrecognized tax benefits at December 31, 2016 are \$3,175 of tax benefits that, if recognized, would result in adjustments to other tax accounts, primarily deferred taxes and valuation allowance. It is reasonably possible that the amount of the Company's unrecognized tax benefits for research credits could significantly change within twelve months of December 31, 2016 as a result of IRS examination. There are no accrued interest and penalties associated with the unrecognized tax benefit.

13. CONCENTRATIONS

During 2016, 2015 and 2014 approximately 14.4%, 12.9% and 13.6%, of the Company's total net revenue was derived from its top ten customers. During 2016, 2015 and 2014 no individual customer accounted for more than 10% of the Company's revenue. No individual customer accounted for more than 10% of the Company's accounts receivable as of December 31, 2016 and 2015.

The Company maintains cash and cash equivalents balances at financial institutions which at times exceed FDIC limits. As of December 31, 2016, \$24,064 of the cash and cash equivalents balance was in excess of the FDIC limits.

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

14. EMPLOYEE BENEFIT PLANS

The Company sponsors the AtriCure, Inc. 401(k) Plan (401(k) Plan), a defined contribution plan covering substantially all U.S. employees of the Company. The nContact 401(k) plan acquired by the Company through its acquisition of nContact was merged into the 401(k) Plan during 2016. Eligible employees may contribute pre-tax annual compensation up to specified maximums under the Internal Revenue Code. During 2016, 2015 and 2014 the Company made matching contributions of 50% of the first 6% of employee contributions to the 401(k) Plan. The Company's matching contributions expensed during 2016, 2015 and 2014 were \$1,222, \$1,007 and \$807. Additional amounts may be contributed to the 401(k) Plan at the discretion of the Company's Board of Directors. No such discretionary contributions were made during 2016, 2015 or 2014. The Company also provides retirement benefits for AtriCure Europe employees. Total contributions to retirement plans for AtriCure Europe employees were \$101, \$133 and \$176 in 2016, 2015 and 2014.

15. EQUITY COMPENSATION PLANS

The Company has several share-based incentive plans: the 2005 Equity Incentive Plan (2005 Plan), the Second Amended and Restated 2014 Stock Incentive Plan (2014 Plan) and the 2008 Employee Stock Purchase Plan (ESPP).

Equity Incentive Plans

The Company granted awards under the 2005 Plan until the 2014 Annual Meeting of Stockholders at which stockholders adopted the 2014 Plan. Pursuant to its terms, the 2014 Plan supersedes and replaces the 2005 Plan. Under the 2014 Plan, the Board of Directors may grant incentive stock options to employees and any parent or subsidiary's employees, and may grant nonstatutory stock options, restricted stock or stock appreciation rights to employees, directors and consultants of the Company and any parent or subsidiary's employees, directors and consultants. The administrator (currently the Compensation Committee of the Board of Directors) has the power to determine the terms of any awards, including the number of shares subject to each award, the exercisability of the awards and the form of consideration.

Options granted under the plans generally expire ten years from the date of grant. Options granted from the 2005 Plan and 2014 Plan generally vest at a rate of 25% on the first anniversary date of the grant and ratably each month thereafter over the following three years. Restricted stock awards granted under the 2005 Plan and 2014 Plan generally vest 25% annually over four years from the date of grant.

As of December 31, 2016, 9,399 shares of common stock had been reserved for issuance under the 2014 Plan. The shares authorized for issuance under the 2014 Plan include shares reserved but unissued under the 2005 Plan as of May 14, 2014 and 1,750 additional shares authorized under the 2014 Plan. As of December 31, 2016 there were 1,068 shares available for future grants under the plans.

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

Activity under the plans during 2016 was as follows:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
Time-Based Stock Options				
Outstanding at January 1, 2016	2,734	\$ 11.75		
Granted	215	16.74		
Cancelled or forfeited	(101)	16.66		
Exercised	(394)	8.47		
Outstanding at December 31, 2016	2,454	\$ 12.51	6.02	\$ 18,295
Vested and expected to vest	2,420	\$ 12.42	5.99	\$ 18,228
Exercisable at December 31, 2016	1,914	\$ 11.01	5.40	\$ 16,897

	Number of Shares	Weighted Average Grant Date Fair Value
Restricted Stock		
Outstanding at January 1, 2016	1,071	\$ 17.30
Awarded	710	16.35
Forfeited	(70)	17.31
Released	(295)	14.49
Outstanding at December 31, 2016	1,416	\$ 17.40

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
Performance Stock Options				
Outstanding at January 1, 2016	450	\$ 13.48		
Granted	—	—		
Cancelled or forfeited	—	—		
Exercised	—	—		
Outstanding at December 31, 2016	450	\$ 13.48	6.45	\$ 3,074
Exercisable at December 31, 2016	250	\$ 13.48	6.45	\$ 1,708

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

Activity under the plans during 2015 was as follows:

	Number of Shares Outstanding	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
Time-Based Stock Options				
Outstanding at January 1, 2015	2,762	\$ 10.93		
Granted	228	21.10		
Cancelled or forfeited	(13)	15.17		
Exercised	(243)	11.10		
Outstanding at December 31, 2015	<u>2,734</u>	<u>\$ 11.75</u>	6.15	\$ 29,331
Vested and expected to vest	<u>2,660</u>	<u>\$ 11.57</u>	6.09	\$ 28,974
Exercisable at December 31, 2015	<u>1,862</u>	<u>\$ 9.94</u>	5.28	\$ 23,263

	Number of Shares Outstanding	Weighted Average Grant Date Fair Value
Restricted Stock		
Outstanding at January 1, 2015	560	\$ 16.33
Awarded	648	17.82
Forfeited	(2)	17.76
Released	(135)	15.78
Outstanding at December 31, 2015	<u>1,071</u>	<u>\$ 17.30</u>

	Number of Shares Outstanding	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
Performance Stock Options				
Outstanding at January 1, 2015	450	\$ 13.48		
Granted	—	—		
Cancelled or forfeited	—	—		
Exercised	—	—		
Outstanding at December 31, 2015	<u>450</u>	<u>\$ 13.48</u>	7.46	\$ 4,034
Exercisable at December 31, 2015	<u>250</u>	<u>\$ 13.48</u>	7.46	\$ 2,241

The total intrinsic value of options exercised during the years ended December 31, 2016, 2015 and 2014 was \$3,550, \$2,740 and \$2,311. As a result of the Company's tax position, no tax benefit was recognized related to the stock option exercises. For 2016, 2015 and 2014, \$3,337, \$2,703 and \$1,916 in cash proceeds were included in the Company's Consolidated Statements of Cash Flows as a result of the exercise of stock options. The total fair value of restricted stock vested during 2016, 2015 and 2014 was \$5,102, \$2,767 and \$1,434.

The exercise price per share of each option is equal to the fair market value of the underlying share on the date of grant. The Company issues registered shares of common stock to satisfy stock option exercises and restricted stock grants.

The Company recognized expense related to time-based stock options and restricted stock for 2016, 2015, and 2014 of \$10,872, \$8,072 and \$5,383. As of December 31, 2016 there was \$23,239 of unrecognized compensation costs related to non-vested stock option and restricted stock arrangements (\$5,203 relating to stock options and \$18,036 relating to restricted stock). This cost is expected to be recognized over a weighted-average period of 2.0 years for stock options and 2.5 years for restricted stock.

The Company has awarded 450 performance options to its President and Chief Executive Officer. The options expire ten years from the date of grant and vest in increments of 25 shares when the volume adjusted weighted average closing price of the common stock of the Company as reported by NASDAQ (or any other exchange on which the common stock of the Company is listed) for 30 consecutive days equals or exceeds each of \$10.00 per share, \$12.50 per share, \$15.00 per share, \$17.50 per share, \$20.00 per share, \$25.00 per share, \$30.00 per share, \$35.00 per share and \$40.00 per share. In accordance with FASB ASC 718, a Monte Carlo simulation was performed for both grants to estimate the fair values, vesting terms and vesting probabilities for each tranche of options. Expense calculated using these estimates is being recorded over the estimated vesting terms. The Company recognized

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

expense related to the performance options during 2016, 2015 and 2014 of \$269, \$546 and \$1,767. As of December 31, 2016 there was \$44 of unrecognized compensation costs related to non-vested performance options. This cost is expected to be recognized over a weighted-average period of 0.10 to 1.05 years.

Employee Stock Purchase Plan (ESPP)

During 2008 the Company established the Employee Stock Purchase Plan which is available to eligible employees as defined in the ESPP. Under the ESPP, shares of the Company's common stock may be purchased at a discount (currently 15%) of the lesser of the closing price of the Company's common stock on the first trading day or the last trading day of the offering period. The offering period (currently six months) and the offering price are subject to change. Participants may not purchase more than \$25 of the Company's common stock in a calendar year and, effective January 1, 2014, may not purchase a value of more than 3 shares during an offering period. Beginning on January 1, 2009 and on the first day of each year thereafter during the term of the ESPP, the number of shares available for sale under the ESPP shall be increased by the lesser of (i) two percent (2%) of the Company's outstanding shares of common stock as of the close of business on the last business day of the prior calendar year, not to exceed 600 shares, or (ii) a lesser amount determined by the Board of Directors. Shares have not been added to the ESPP since 2011. At December 31, 2016, there were 357 shares available for future issuance under the ESPP. Share-based compensation expense with respect to the ESPP was \$556, \$379 and \$421 for 2016, 2015 and 2014.

Valuation and Expense Information Under FASB ASC 718

The following table summarizes share-based compensation expense related to employee share-based compensation under FASB ASC 718 for 2016, 2015 and 2014. This expense was allocated as follows:

	2016	2015	2014
Cost of revenue	\$ 420	\$ 416	\$ 335
Research and development expenses	1,825	1,373	937
Selling, general and administrative expenses	9,452	7,208	6,299
Total	<u>\$ 11,697</u>	<u>\$ 8,997</u>	<u>\$ 7,571</u>

In calculating compensation expense, the fair value of the options is estimated on the grant date using the Black-Scholes model including the following assumptions:

	2016	2015	2014
Risk-free interest rate	1.06 - 2.02 %	1.30 - 1.96 %	1.56 - 2.12 %
Expected life of option (years)	5.27 to 7.10	5.20 to 6.89	5.31 to 6.72
Expected volatility of stock	46.00 - 51.00 %	46.00 - 67.00 %	47.00 - 70.00 %
Weighted-average volatility	48.87 %	54.75 %	69.19 %
Dividend yield	0.00 %	0.00 %	0.00 %

The Company's estimate of volatility is based solely on the Company's trading history over the expected option life. The risk-free interest rate assumption is based upon the U.S. treasury yield curve at the time of grant for the expected option life. The Company estimates the expected terms of options using historical employee exercise behavior.

The fair value of restricted stock awards is based on the market value of the Company's stock on the date of the awards.

Based on the assumptions noted above, the weighted average estimated grant date fair value per share of the stock options and restricted stock granted for 2016, 2015 and 2014 was as follows:

	2016	2015	2014
Stock options	\$ 8.25	\$ 11.12	\$ 12.33
Restricted stock	16.35	17.82	20.25

In calculating compensation expense for performance options, the fair value of the options was estimated on the grant date using a Monte Carlo simulation including the following assumptions:

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

	2016	2015	2014
Strike price	\$ 5.91 - 21.04	\$ 5.91 - 21.04	\$ 5.91 - 21.04
Contractual term (years)	10.00	10.00	10.00
Expected volatility of stock	60.50 - 69.60%	60.50 - 69.60%	60.50 - 69.60%
Interest rate	1.75 - 2.73%	1.75 - 2.73%	1.75 - 2.73%
Dividend yield	0.00 %	0.00 %	0.00 %

The contractual term assumes that the performance options issued to the CEO of the Company in 2012 and 2014 will be held until expiration. Expected volatility was estimated based on the Company's trading history over the expected option life. The expected rate of return assumption was based upon the U.S. treasury yield curve at the time of grant for the expected option life.

Based on the assumptions noted above, the estimated grant date fair value per share of the performance options granted were as follows:

	Price Target	Fair Value of 2012 Grant	Fair Value of 2014 Grant
Tranche 1	\$ 10.00	\$ 4.32	\$ 14.74
Tranche 2	12.50	4.30	14.74
Tranche 3	15.00	4.27	14.74
Tranche 4	17.50	4.23	14.74
Tranche 5	20.00	4.19	14.73
Tranche 6	25.00	4.10	14.73
Tranche 7	30.00	4.01	14.71
Tranche 8	35.00	3.92	14.67
Tranche 9	40.00	3.83	14.61

16. SEGMENT AND GEOGRAPHIC INFORMATION

The Company evaluates reporting segments in accordance with FASB ASC 280, "Segment Reporting". The Company develops, manufactures, and sells devices designed primarily for the surgical ablation of cardiac tissue and systems designed for the exclusion of the left atrial appendage. These devices are developed and marketed to a broad base of medical centers in the United States and internationally. Management considers all such sales to be part of a single reportable segment. Revenue attributed to geographic areas is based on the location of the customers to whom products are sold.

Revenue by geographic area was as follows:

	2016	2015	2014
Revenue:			
United States	\$ 122,385	\$ 102,212	\$ 80,203
Europe	19,772	17,180	18,163
Asia	12,223	9,510	8,552
Other international	729	853	536
Total international	32,724	27,543	27,251
Total revenue	\$ 155,109	\$ 129,755	\$ 107,454

ATRICURE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In Thousands, Except Per Share Amounts)

Domestic revenue by product type was as follows:

	2016	2015	2014
Revenue:			
Open-heart ablation	\$ 58,050	\$ 53,541	\$ 44,662
Minimally invasive ablation	31,169	21,564	16,050
AtriClip	30,321	24,377	16,675
Total ablation and AtriClip	119,540	99,482	77,387
Valve tools	2,845	2,730	2,816
Total domestic	<u>\$ 122,385</u>	<u>\$ 102,212</u>	<u>\$ 80,203</u>

International revenue by product type was as follows:

	2016	2015	2014
Revenue:			
Open-heart ablation	\$ 20,189	\$ 16,287	\$ 16,445
Minimally invasive ablation	8,065	7,964	7,881
AtriClip	3,986	2,868	2,158
Total ablation and AtriClip	32,240	27,119	26,484
Valve tools	484	424	767
Total international	<u>\$ 32,724</u>	<u>\$ 27,543</u>	<u>\$ 27,251</u>

The majority of the Company's long-lived assets are located in the United States.

17. SELECTED QUARTERLY FINANCIAL DATA (UNAUDITED)

	For the Three Months Ended							
	March 31,		June 30,		September 30,		December 31,	
	2016	2015	2016	2015	2016	2015	2016	2015
Operating Results:								
Revenue	\$ 35,940	\$ 29,886	\$ 39,672	\$ 32,583	\$ 38,340	\$ 31,423	\$ 41,157	\$ 35,863
Gross profit	25,914	21,735	28,818	23,117	27,472	22,478	28,897	25,545
Loss from operations	(9,419)	(5,144)	(7,738)	(4,819)	(6,286)	(6,127)	(7,695)	(10,630)
Net loss	(9,724)	(5,266)	(8,206)	(4,891)	(6,783)	(6,141)	(8,625)	(10,914)
Net loss per share (basic and diluted)	\$ (0.31)	\$ (0.19)	\$ (0.26)	\$ (0.18)	\$ (0.21)	\$ (0.22)	\$ (0.27)	\$ (0.36)

Amounts may not sum to consolidated totals for the full year due to rounding. Basic and diluted net loss per share is computed independently for each of the quarters presented. Therefore, the sum of the quarterly per share amounts will not necessarily equal the total for the year.

SCHEDULE II
VALUATION AND QUALIFYING ACCOUNTS

	Beginning Balance	Additions	Deductions	Ending Balance
Reserve for sales returns and allowances				
Year ended December 31, 2016	\$ 207	\$ 634	\$ 7	\$ 834
Year ended December 31, 2015	135	78	6	207
Year ended December 31, 2014	105	34	4	135
Allowance for inventory valuation				
Year ended December 31, 2016	\$ 843	\$ 1,692	\$ 1,455	\$ 1,080
Year ended December 31, 2015	522	720	399	843
Year ended December 31, 2014	782	441	701	522
Valuation allowance for deferred tax assets				
Year ended December 31, 2016	\$ 73,682	\$ 8,300	\$ —	\$ 81,982
Year ended December 31, 2015	59,554	14,128	—	73,682
Year ended December 31, 2014	54,211	5,343	—	59,554

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

We have evaluated the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13(a)-15(e) and 15(d)-15(e) of the Securities Exchange Act of 1934 (Exchange Act), as of the end of the period covered by this report. Our management, including the Chief Executive Officer and Chief Financial Officer, supervised and participated in the evaluation. Based on the evaluation, we concluded that, as of the end of the period covered by this report, our disclosure controls and procedures were effective in providing reasonable assurance that information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's forms and rules, and the material information relating to the Company is accumulated and communicated to management, including the Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosures.

Control systems, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that control objectives are met. Because of inherent limitations in all control systems, no evaluation of controls can provide assurance that all control issues and instances of fraud, if any, within a company will be detected. Additionally, controls can be circumvented by individuals, by collusion of two or more people or by management override. Over time, controls can become inadequate because of changes in conditions or the degree of compliance may deteriorate. Further, the design of any system of controls is based in part upon assumptions about the likelihood of future events. There can be no assurance that any design will succeed in achieving its stated goals under all future conditions. Because of the inherent limitations in any cost-effective control system, misstatements due to errors or fraud may occur and not be detected.

Changes in Internal Control over Financial Reporting

There were no changes in the Company's internal control over financial reporting that occurred during the quarter ended December 31, 2016 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Management's Annual Report on Internal Control Over Financial Reporting

The management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting. The 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 accounting principles generally accepted in the United States of America. Internal control over financial reporting includes policies and procedures that: (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. 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 (iii) 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. The Company's management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2016. No matter how well designed, because of inherent limitations in all control systems, internal control over financial reporting may not prevent or detect misstatements should they occur. 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 control procedures may deteriorate. In making this assessment, the Company's management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control-Integrated Framework (2013)*. Based on such assessment, management has concluded that the Company's internal control over financial reporting was effective as of December 31, 2016.

Deloitte & Touche LLP, the Company's independent registered public accounting firm has audited the consolidated financial statements included in this Annual Report on Form 10-K and, as part of its audit, has issued an attestation report on the effectiveness of the Company's internal control over financial reporting. The attestation report can be found on the following page as part of this Item 9A.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
AtriCure, Inc. and subsidiaries
Mason, Ohio

We have audited the internal control over financial reporting of AtriCure, Inc. and subsidiaries (the "Company") as of December 31, 2016, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. 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 Annual 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 conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). 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 included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed by, or under the supervision of, the company's principal executive and principal financial officers, or persons performing similar functions, and effected by the company's board of directors, management, and other personnel 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 the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on the criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements and financial statement schedule as of and for the year ended December 31, 2016 of the Company and our report dated March 8, 2017 expressed an unqualified opinion on those financial statements and financial statement schedule.

/s/ Deloitte & Touche LLP

Cincinnati, Ohio
March 8, 2017

ITEM 9B. OTHER INFORMATION

None.

PART III**ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE**

The information required by this Item is incorporated by reference to the definitive proxy statement for our 2017 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission within 120 days after the end of 2016 (the "Proxy Statement").

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item is incorporated by reference to the Proxy Statement.

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

The following table summarizes information about our equity compensation plans as of December 31, 2016.

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (1) (a)	Weighted-average exercise price of outstanding options, warrants and rights (2) (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders (3)	4,319,320	\$ 11	1,068,483
Equity compensation plans not approved by security holders	—	—	—
Total	4,319,320	\$ 11	1,068,483

(1) Represents outstanding stock options and restricted stock as of December 31, 2016.

(2) The weighted average exercise price is calculated without taking into account restricted stock that will become issuable, without any cash consideration or other payment, as vesting requirements are achieved.

(3) Amounts include awards under our 2005 Equity Incentive Plan and 2014 Stock Incentive Plan but exclude shares purchased under our 2008 Employee Stock Purchase Plan.

The remaining information required by this Item is incorporated by reference to the Proxy Statement.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item is incorporated by reference to the Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this Item is incorporated by reference to the Proxy Statement.

PART IV**ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES**

- (1) The financial statements required by Item 15(a) are filed in Item 8 of this Form 10-K.
- (2) The financial statement schedules required by Item 15(a) are filed in Item 8 of this Form 10-K.
- (3) The following exhibits are included in this Form 10-K or incorporated by reference in this Form 10-K:

Exhibit No.	Description
3.1	Second Amended and Restated Certificate of Incorporation (incorporated by reference to our Current Report on Form 8-K, filed on May 27, 2016).
3.2	Third Amended and Restated Bylaws (incorporated by reference to our Current Report on Form 8-K filed on February 8, 2016).
4.1	Warrant to purchase AtriCure, Inc. common stock issued to Silicon Valley Bank on May 1, 2009 (incorporated by reference to our Quarterly Report on Form 10-Q, filed on August 10, 2009).
10.1#	Agreement, dated as of July 18, 2006, by and between AtriCure, Inc. and the Cleveland Clinic (incorporated by reference to our Current Report on Form 8-K, filed on July 20, 2006).
10.2#	Amendment No. 1, dated as of December 1, 2008, to Agreement dated as of July 18, 2006 by and between AtriCure, Inc. and the Cleveland Clinic (incorporated by reference to our Annual Report on Form 10-K filed on March 16, 2009).
10.3#	Amendment No. 2, effective as of December 28, 2009, to Agreement dated as of July 18, 2006 by and between AtriCure, Inc. and the Cleveland Clinic (incorporated by reference to our Annual Report on Form 10-K filed on March 30, 2010).
10.4#	Employment Agreement, dated as of January 16, 2012, between AtriCure, Inc. and Andrew L. Lux (incorporated by reference to our Current Report on Form 8-K, filed on January 17, 2012).
10.5#	Employment Agreement, dated as of November 1, 2012, between AtriCure, Inc. and Michael H. Carrel (incorporated by reference to our Current Report on Form 8-K, filed on November 1, 2012).
10.6#	2005 Equity Incentive Plan, as amended on September 19, 2007 and on March 6, 2013 (incorporated by reference to our Annual Report on Form 10-K filed on March 8, 2013).
10.7#	2008 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Form S-8 Registration Statement (File No. 333-152013) filed on June 30, 2008).
10.8#	Form of Change in Control Agreement between AtriCure and AtriCure Executive Officers (incorporated by reference to our Annual Report on Form 10-K filed on March 8, 2013).
10.9	Second Amended and Restated Loan and Security Agreement dated as of April 25, 2016 by and among Silicon Valley Bank, AtriCure, Inc., AtriCure, LLC, Endoscopic Technologies, LLC and nContact Surgical, LLC (incorporated by reference to our Current Report on Form 8-K, filed on April 28, 2016).
10.10	Lease Agreement Dated August 20, 2014 between LM-VP AtriCure, LLC, as Landlord, and AtriCure, Inc., as Tenant (incorporated by reference to our Current Report on Form 8-K, filed on August 25, 2014).
10.11#	AtriCure, Inc. Second Amended and Restated 2014 Stock Incentive Plan (incorporated by reference to our Proxy Statement on Schedule 14A, filed on April 15, 2016).
10.12#	Form of Restricted Stock Award Agreement under the Amended and Restated AtriCure, Inc. 2014 Stock Incentive Plan (incorporated by reference to our Quarterly Report on Form 10-Q, filed on October 31, 2014).
10.13#	Form of Stock Option Award Agreement for Executive Officers under the Amended and Restated AtriCure, Inc. 2014 Stock Incentive (incorporated by reference to our Quarterly Report on Form 10-Q, filed on October 31, 2014).
10.14#	Form of Stock Option Award Agreement for Non-Employee Directors under the Amended and Restated AtriCure, Inc. 2014 Stock Incentive Plan (incorporated by reference to our Quarterly Report on Form 10-Q, filed on October 31, 2014).
10.15	Merger Agreement dated as of October 4, 2015 among nContact Surgical, Inc., AtriCure, Inc., Portal Merger Sub, Inc., Second Portal Merger Sub, LLC and WRYP Stockholder Services, LLC, as Representative of nContact stockholders (incorporated by reference to our Current Report on Form 8-K, filed on October 5, 2015).

Table of Contents

<u>Exhibit No.</u>	<u>Description</u>
10.16	First Loan Modification Agreement, dated as of February 27, 2017, between Silicon Valley Bank and AtriCure, Inc.
12.1	Ratio of Earnings to Fixed Charges (incorporated by reference to our Registration Statement on Form S-3 (Registration No. 333-212088), filed on June 17, 2016).
21	Subsidiaries of the Registrant.
23.1	Consent of Deloitte & Touche LLP.
31.1	Rule 13a-14(a) Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Rule 13a-14(a) Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification pursuant to 18 U.S.C. Section 1350 by the Chief Executive Officer, as adopted, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification pursuant to 18 U.S.C. Section 1350 by the Chief Financial Officer, as adopted, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

Compensatory plan or arrangement.

ITEM 16. FORM 10-K SUMMARY

Not provided

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this Form 10-K to be signed on our behalf by the undersigned, thereunto duly authorized.

AtriCure, Inc.
(REGISTRANT)

Date: March 8, 2017

/s/ Michael H. Carrel

Michael H. Carrel
President and Chief Executive Officer
(Principal Executive Officer)

Date: March 8, 2017

/s/ M. Andrew Wade

M. Andrew Wade
Senior Vice President and Chief Financial Officer
(Principal Accounting and Financial Officer)

KNOW ALL MEN AND WOMEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Michael H. Carrel, his attorney-in-fact, with the power of substitution, for him in any and all capacities, to sign any and all amendments to this Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the U.S. Securities and Exchange Commission, granting unto said attorneys-in-fact, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact, and any of them or his substitute or substitutes, may do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Form 10-K has been signed by the following persons on behalf of the registrant and in the capacities indicated on March 8, 2017.

<u>Signature</u>	<u>Title(s)</u>
/s/ Richard M. Johnston _____ Richard M. Johnston	Richard M. Johnston <i>Chairman of the Board</i>
/s/ Michael H. Carrel _____ Michael H. Carrel	Michael H. Carrel <i>Director, President and Chief Executive Officer</i> <i>(Principal Executive Officer)</i>
/s/ M. Andrew Wade _____ M. Andrew Wade	M. Andrew Wade <i>Senior Vice President and Chief Financial Officer</i> <i>(Principal Accounting and Financial Officer)</i>
/s/ Mark A. Collar _____ Mark A. Collar	Mark A. Collar <i>Director</i>
/s/ Scott W. Drake _____ Scott W. Drake	Scott W. Drake <i>Director</i>
/s/ Michael D. Hooven _____ Michael D. Hooven	Michael D. Hooven <i>Director</i>
/s/ Elizabeth D. Krell _____ Elizabeth D. Krell	Elizabeth D. Krell <i>Director</i>
/s/ Mark R. Lanning _____ Mark R. Lanning	Mark R. Lanning <i>Director</i>
/s/ Karen P. Robards _____ Karen P. Robards	Karen P. Robards <i>Director</i>
/s/ Sven A. Wehrwein _____ Sven A. Wehrwein	Sven A. Wehrwein <i>Director</i>
/s/ Robert S. White _____ Robert S. White	Robert S. White <i>Director</i>

EXHIBIT INDEX

Exhibit No.	Description
3.1	Second Amended and Restated Certificate of Incorporation (incorporated by reference to our Current Report on Form 8-K, filed on May 27, 2016).
3.2	Third Amended and Restated Bylaws (incorporated by reference to our Current Report on Form 8-K, filed on February 8, 2016).
4.1	Warrant to purchase AtriCure, Inc. common stock issued to Silicon Valley Bank on May 1, 2009 (incorporated by reference to our Quarterly Report on Form 10-Q, filed on August 10, 2009).
10.1 [#]	Agreement, dated as of July 18, 2006, by and between AtriCure, Inc. and the Cleveland Clinic (incorporated by reference to our Current Report on Form 8-K, filed on July 20, 2006).
10.2 [#]	Amendment No. 1, dated as of December 1, 2008, to Agreement dated as of July 18, 2006 by and between AtriCure, Inc. and the Cleveland Clinic (incorporated by reference to our Annual Report on Form 10-K filed on March 16, 2009).
10.3 [#]	Amendment No. 2, effective as of December 28, 2009, to Agreement dated as of July 18, 2006 by and between AtriCure, Inc. and the Cleveland Clinic (incorporated by reference to our Annual Report on Form 10-K filed on March 30, 2010).
10.4 [#]	Employment Agreement, dated as of January 16, 2012, between AtriCure, Inc. and Andrew L. Lux (incorporated by reference to our Current Report on Form 8-K, filed on January 17, 2012).
10.5 [#]	Employment Agreement, dated as of November 1, 2012, between AtriCure, Inc. and Michael H. Carrel (incorporated by reference to our Current Report on Form 8-K, filed on November 1, 2012).
10.6 [#]	2005 Equity Incentive Plan, as amended on September 19, 2007 and on March 6, 2013 (incorporated by reference to our Annual Report on Form 10-K filed on March 8, 2013).
10.7 [#]	2008 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Form S-8 Registration Statement (File No. 333-152013) filed on June 30, 2008).
10.8 [#]	Form of Change in Control Agreement between AtriCure and AtriCure Executive Officers (incorporated by reference to our Annual Report on Form 10-K filed on March 8, 2013).
10.9	Second Amended and Restated Loan and Security Agreement dated as of April 25, 2016 by and among Silicon Valley Bank, AtriCure, Inc., AtriCure, LLC, Endoscopic Technologies, LLC and nContact Surgical, LLC (incorporated by reference to our Current Report on Form 8-K, filed on April 28, 2016).
10.10	Lease Agreement Dated August 20, 2014 between LM-VP AtriCure, LLC, as Landlord, and AtriCure, Inc., as Tenant (incorporated by reference to our Current Report on Form 8-K, filed on August 25, 2014).
10.11 [#]	AtriCure, Inc. Second Amended and Restated 2014 Stock Incentive Plan (incorporated by reference to our Proxy Statement on Schedule 14A, filed on April 15, 2016).
10.12 [#]	Form of Restricted Stock Award Agreement under the Amended and Restated AtriCure, Inc. 2014 Stock Incentive Plan (incorporated by reference to our Quarterly Report on Form 10-Q, filed on October 31, 2014).
10.13 [#]	Form of Stock Option Award Agreement for Executive Officers under the Amended and Restated AtriCure, Inc. 2014 Stock Incentive (incorporated by reference to our Quarterly Report on Form 10-Q, filed on October 31, 2014).
10.14 [#]	Form of Stock Option Award Agreement for Non-Employee Directors under the Amended and Restated AtriCure, Inc. 2014 Stock Incentive Plan (incorporated by reference to our Quarterly Report on Form 10-Q, filed on October 31, 2014).
10.15	Merger Agreement dated as of October 4, 2015 among nContact Surgical, Inc., AtriCure, Inc., Portal Merger Sub, Inc., Second Portal Merger Sub, LLC and WRYP Stockholder Services, LLC, as Representative of nContact stockholders (incorporated by reference to our Current Report on Form 8-K, filed on October 5, 2015).
10.16	First Loan Modification Agreement, dated as of February 27, 2017, between Silicon Valley Bank and AtriCure, Inc.
12.1	Ratio of Earnings to Fixed Charges (incorporated by reference to our Registration Statement on Form S-3 (Registration No. 333-212088), filed on June 17, 2016).
21	Subsidiaries of the Registrant.
23.1	Consent of Deloitte & Touche LLP.
31.1	Rule 13a-14(a) Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Rule 13a-14(a) Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification pursuant to 18 U.S.C. Section 1350 by the Chief Executive Officer, as adopted, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

Table of Contents

<u>Exhibit No.</u>	<u>Description</u>
--------------------	--------------------

32.2	Certification pursuant to 18 U.S.C. Section 1350 by the Chief Financial Officer, as adopted, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
------	---

101.INS	XBRL Instance Document
---------	------------------------

101.SCH	XBRL Taxonomy Extension Schema Document
---------	---

101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
---------	---

101.DEF	XBRL Taxonomy Definition Linkbase Document
---------	--

101.LAB	XBRL Taxonomy Extension Label Linkbase Document
---------	---

101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
---------	--

Compensatory plan or arrangement.

FIRST LOAN MODIFICATION AGREEMENT

This First Loan Modification Agreement (this “**Loan Modification Agreement**”) is entered into and effective as of February 27, 2017 (the “**First Loan Modification Effective Date**”), by and between (i) **SILICON VALLEY BANK**, a California corporation, with its principal place of business at 3003 Tasman Drive, Santa Clara, California 95054 and with a loan production office located at 380 Interlocken Crescent, Suite 600, Broomfield, Colorado 80021 (“**Bank**”), (ii) **ATRICURE, INC.**, a Delaware corporation with its chief executive office located at 7555 Innovation Way, Mason, Ohio 45040 (“**Atricure**”), (iii) **ATRICURE, LLC**, a Delaware limited liability company (“**Atricure LLC**”) (iv) **ENDOSCOPIC TECHNOLOGIES, LLC**, a Delaware limited liability company (“**Endoscopic**”) and (v) **nCONTACT SURGICAL, LLC**, a Delaware limited liability company (“**nContact**”, and together with Atricure, Atricure LLC and Endoscopic, individually and collectively, jointly and severally, the “**Borrower**”).

1. DESCRIPTION OF EXISTING INDEBTEDNESS AND OBLIGATIONS. Among other indebtedness and obligations which may be owing by Borrower to Bank, Borrower is indebted to Bank pursuant to a loan arrangement dated as of April 25, 2016, evidenced by, among other documents, a certain Second Amended and Restated Loan and Security Agreement dated as of April 25, 2016, between Borrower and Bank (as amended, the “**Loan Agreement**”). Capitalized terms used but not otherwise defined herein shall have the same meaning as in the Loan Agreement.

2. DESCRIPTION OF COLLATERAL. Repayment of the Obligations is secured by the Collateral as described (i) in the Loan Agreement; (ii) in a certain Second Amended and Restated Joint Intellectual Property Security Agreement dated as of April 25, 2016 (the “**IP Agreement**”); and (iii) in a certain Unconditional Guaranty dated as of September 26, 2012, a certain Guarantor Security Agreement, dated as of September 26, 2012 and the Dutch Security Documents, in each case executed by Atricure Europe, B.V., a company organized under the laws of The Netherlands and a wholly owned Subsidiary of Borrower (the documents described in the foregoing clauses (i) through (iii), together with any other collateral security granted to Bank, are collectively referred to as the “**Security Documents**”).

Hereinafter, the Security Documents, together all other documents evidencing or securing the Obligations shall be referred to as the “**Existing Loan Documents**”.

3. DESCRIPTION OF CHANGE IN TERMS.

A. Modifications to Loan Agreement.

1 The Loan Agreement shall be amended by deleting the following text appearing as Section 6.9(a) thereof:

“(a) Minimum Revenue. Minimum revenue, measured monthly on a trailing twelve month basis and determined in accordance with GAAP, of at least the following for the periods indicated below:

Monthly Period Ending	Trailing Twelve Month Revenue
April 30, 2016	\$129,305,000.00
May 31, 2016	\$131,235,000.00
June 30, 2016	\$133,957,000.00
July 31, 2016	\$136,886,000.00
August 31, 2016	\$138,115,000.00

September 30, 2016	\$139,227,000.00
October 31, 2016	\$140,432,000.00
November 30, 2016	\$142,323,000.00
December 31, 2016	\$144,706,000.00

; provided, that the foregoing minimum revenue financial covenant will not be tested for any monthly compliance period in which a Streamline Period has been in effect for each day in such monthly compliance period. Minimum revenue financial covenant levels for the fiscal year commencing January 1, 2017 and thereafter shall be mutually determined by Borrower and Bank on or before February 15 of each fiscal year, based on the Borrower’s annual forecast for each such fiscal year; provided, that such financial covenant levels shall in any event reflect and require not less than five percent (5.00%) year-over-year organic growth.”

and inserting in lieu thereof the following:

“(a) Minimum Revenue. Minimum revenue, measured monthly on a trailing twelve month basis and determined in accordance with GAAP, of at least the following for the periods indicated below:

Monthly Period Ending	Trailing Twelve Month Revenue
January 31, 2017	\$144,423,000.00
February 28, 2017	\$146,214,000.00
March 31, 2017	\$148,613,000.00
April 30, 2017	\$149,364,000.00
May 31, 2017	\$151,000,000.00
June 30, 2017	\$153,189,000.00
July 31, 2017	\$152,208,000.00
August 31, 2017	\$153,930,000.00
September 30, 2017	\$157,709,000.00
October 31, 2017	\$158,533,000.00
November 30, 2017	\$161,691,000.00
December 31, 2017	\$162,888,000.00

; provided, that the foregoing minimum revenue financial covenant will not be tested for any monthly compliance period in which a Streamline Period has been in effect for each day in such monthly compliance period. Minimum revenue financial covenant levels for

the fiscal year commencing January 1, 2018 and thereafter shall be mutually determined by Borrower and Bank on or before February 15 of each fiscal year, based on the Borrower's annual forecast for each such fiscal year; provided, that such financial covenant levels shall in any event reflect and require not less than five percent (5.00%) year-over-year organic growth."

- 2 The Loan Agreement shall be amended by deleting the following text appearing as clause (f) of the definition of "Permitted Investments" in Section 13.1 of the Loan Agreement.

"(f) Investments (i) by Borrower in Subsidiaries (other than Foreign Subsidiaries) that are Secured Guarantors; (ii) by Subsidiaries in Borrower; and (iii) Investments of any Borrower in any other Borrower;"

and inserting in lieu thereof the following:

"(f) Investments (i) by Borrower in Subsidiaries (other than Foreign Subsidiaries) that are Secured Guarantors; (ii) by Borrower in Foreign Subsidiaries in the ordinary course of business, consistent with past practices; (iii) by Subsidiaries in Borrower; and (iv) by any Borrower in any other Borrower;"

- 3 The Loan Agreement shall be amended by inserting the following new definition in Section 13.1 thereof, in its applicable alphabetical order:

"First Loan Modification Effective Date" is February 27, 2017.

- 4 The Loan Agreement shall be amended by deleting the Compliance Certificate attached as Exhibit B thereto and inserting Exhibit A attached hereto in lieu thereof.

4. CONDITIONS PRECEDENT. As a condition precedent to the effectiveness of this Loan Modification Agreement and the Bank's obligation to make further Advances under the Revolving Line, the Bank shall have received the following documents prior to or concurrently with this Loan Modification Agreement, each in form and substance satisfactory to the Bank:

- A. this Loan Modification Agreement duly executed on behalf of each Borrower and signed by way of acknowledgement by Guarantor;
- B. Bank shall have received copies, **if** necessary, certified by a duly authorized officer of each Borrower, to be true and complete as of the date hereof, of each of (i) the governing documents of each Borrower as in effect on the date hereof (but only to the extent changed since last delivered to Bank), (ii) the resolutions of each Borrower authorizing the execution and delivery of this Loan Modification Agreement, the other documents executed in connection herewith and each Borrower's performance of all of the transactions contemplated hereby (but only to the extent required by Borrower's board of directors and/or Operating Documents), and (iii) an incumbency certificate giving the name and bearing a specimen signature of each individual who shall be so authorized on behalf of each Borrower (but only to the extent such officers have changed since the Effective Date);
- C. certified copies, dated as of a recent date, of financing statement and other lien searches of each Borrower, as Bank may request and which shall be obtained by Bank, accompanied by written evidence (including any UCC termination statements) that the Liens revealed in any such searches will be terminated prior to or in connection with the Loan Modification Agreement;
- D. updated evidence satisfactory to Bank that the insurance policies required for Borrower are in full force and effect, together with appropriate evidence showing lender loss payable and/or additional insured clauses or endorsements in favor of Bank; and

- E. such other documents as Bank may reasonably request.
5. FEES. Borrower shall reimburse Bank for all reasonable legal fees and expenses incurred in connection with this amendment to the Existing Loan Documents.
6. AUTHORIZATION TO FILE. Borrower hereby authorizes Bank to file UCC financing statements without notice to Borrower, with all appropriate jurisdictions, as Bank deems appropriate, in order to further perfect or protect Bank's interest in the Collateral, including a notice that any disposition of the Collateral, by either the Borrower or any other Person, shall be deemed to violate the rights of the Bank under the Code.
7. CONSISTENT CHANGES. The Existing Loan Documents are hereby amended wherever necessary to reflect the changes described above.
8. RATIFICATION OF LOAN DOCUMENTS. Other than as expressly altered by this Loan Modification Agreement, Borrower hereby ratifies, confirms, and reaffirms all terms and conditions of the Loan Documents and all security or other collateral granted to the Bank, and confirms that the indebtedness secured thereby includes, without limitation, the Obligations.
9. NO DEFENSES OF BORROWER. Borrower hereby acknowledges and agrees that Borrower has no offsets, defenses, claims, or counterclaims against Bank with respect to the Obligations, or otherwise, and that if Borrower now has, or ever did have, any offsets, defenses, claims, or counterclaims against Bank, whether known or unknown, at law or in equity, all of them are hereby expressly WAIVED and Borrower hereby RELEASES Bank from any liability thereunder.
10. CONTINUING VALIDITY. Borrower understands and agrees that in modifying the existing Obligations, Bank is relying upon Borrower's representations, warranties, and agreements, as set forth in the Existing Loan Documents. Except as expressly modified pursuant to this Loan Modification Agreement, the terms of the Existing Loan Documents remain unchanged and in full force and effect. Bank's agreement to modifications to the existing Obligations pursuant to this Loan Modification Agreement in no way shall obligate Bank to make any future modifications to the Obligations. Nothing in this Loan Modification Agreement shall constitute a satisfaction of the Obligations. It is the intention of Bank and Borrower to retain as liable parties all makers of Existing Loan Documents, unless the party is expressly released by Bank in writing. No maker will be released by virtue of this Loan Modification Agreement.
11. RIGHT OF SET-OFF. In consideration of Bank's agreement to enter into this Loan Modification Agreement, Borrower hereby reaffirms and hereby grants to Bank, a lien, security interest and right of set off as security for all Obligations to Bank, whether now existing or hereafter arising upon and against all deposits, credits, collateral and property, now or hereafter in the possession, custody, safekeeping or control of Bank or any entity under the control of Silicon Valley Bank (including a Bank subsidiary) or in transit to any of them. At any time after the occurrence and during the continuance of an Event of Default, without demand or notice, Bank may set off the same or any part thereof and apply the same to any liability or obligation of Borrower even though unmatured and regardless of the adequacy of any other collateral securing the loan. ANY AND ALL RIGHTS TO REQUIRE BANK TO EXERCISE ITS RIGHTS OR REMEDIES WITH RESPECT TO ANY OTHER COLLATERAL WHICH SECURES THE OBLIGATIONS, PRIOR TO EXERCISING ITS RIGHT OF SETOFF WITH RESPECT TO SUCH DEPOSITS, CREDITS OR OTHER PROPERTY OF BORROWER, ARE HEREBY KNOWINGLY, VOLUNTARILY AND IRREVOCABLY WAIVED.
12. CONFIDENTIALITY. Without limiting Section 12.9 of the Loan Agreement (which is and shall remain in full force and effect), Bank may use confidential information for the development of databases, reporting purposes, and market analysis, so long as such confidential information is aggregated and anonymized prior to distribution unless otherwise expressly permitted by Borrower. The provisions of the immediately preceding sentence shall survive the termination of the Loan Agreement.
13. JURISDICTION/VENUE. Section 11 of the Loan Agreement is hereby incorporated by reference.

14. COUNTERSIGNATURE. This Loan Modification Agreement shall become effective only when it shall have been executed by each Borrower and Bank.

[The remainder of this page is intentionally left blank]

BORROWER:

ATRICURE, INC.

By: /s/ M. Andrew Wade
Name: M. Andrew Wade
Title: SVP and Chief Financial
Officer

ATRICURE, LLC

By: /s/ M. Andrew Wade
Name: M. Andrew Wade
Title: SVP and Chief Financial
Officer

ENDOSCOPIC TECHNOLOGIES, LLC

By: /s/ M. Andrew Wade
Name: M. Andrew Wade
Title: SVP and Chief Financial
Officer

nCONTACT SURGICAL, LLC

By: /s/ M. Andrew Wade
Name: M. Andrew Wade
Title: SVP and Chief Financial
Officer

BANK:

SILICON VALLEY BANK

By: /s/ Tom Hertzberg
Name: Tom Hertzberg
Title: Director

The undersigned, M. Andrew Wade, Director of **ATRICURE EUROPE, B.V.**, a company organized under the laws of The Netherlands and a wholly owned Subsidiary of Borrower, ratifies, confirms and reaffirms, all and singular, the terms and conditions of (i) a certain Unconditional Guaranty dated as of September 26, 2012 (the "**Guaranty**") (ii) a certain Guarantor Security Agreement, dated as of September 26, 2012 (the "**Guarantor Security Agreement**"), and (iii) the Dutch Security Documents (as in effect on the date hereof, the "**Dutch Security Documents**"), and acknowledges, confirms and agrees that the Guaranty, the Guarantor Security Agreement and the Dutch Security Documents shall remain in full force and effect and shall in no way be limited by the execution of this Loan Modification Agreement, or any other documents, instruments and/or agreements executed and/or delivered in connection herewith.

ATRICURE EUROPE, B.V.

By: /s/ M. Andrew Wade
Name: M. Andrew Wade
Title: Managing Director

EXHIBIT B

COMPLIANCE CERTIFICATE

TO: SILICON VALLEY BANK
 FROM: ATRICURE, INC., ATRICURE, LLC,
 ENDOSCOPIC TECHNOLOGIES, LLC and nCONTACT SURGICAL, LLC

Date:

The undersigned authorized officer of Atricure, Inc. (“**Borrower**”) certifies for itself and each other Borrower that under the terms and conditions of the Second Amended and Restated Loan and Security Agreement between Borrower and Bank (as amended, the “**Agreement**”):

(1) Borrower is in complete compliance for the period ending _____ with all required covenants except as noted below; (2) there are no Events of Default; (3) all representations and warranties in the Agreement are true and correct in all material respects on this date except as noted below; provided, however, that such materiality qualifier shall not be applicable to any representations and warranties that already are qualified or modified by materiality in the text thereof; and provided, further that those representations and warranties expressly referring to a specific date shall be true, accurate and complete in all material respects as of such date; (4) Borrower, and each of its Subsidiaries, has timely filed all required tax returns and reports, and Borrower has timely paid all foreign, federal, state and local taxes, assessments, deposits and contributions owed by Borrower except as otherwise permitted pursuant to the terms of Section 5.9 of the Agreement; and (5) no Liens have been levied or claims made against Borrower or any of its Subsidiaries relating to unpaid employee payroll or benefits of which Borrower has not previously provided written notification to Bank.

Attached are the required documents supporting the certification. The undersigned certifies that these are prepared in accordance with GAAP consistently applied from one period to the next except as explained in an accompanying letter or footnotes. The undersigned acknowledges that no borrowings may be requested at any time or date of determination that Borrower is not in compliance with any of the terms of the Agreement, and that compliance is determined not just at the date this certificate is delivered. Capitalized terms used but not otherwise defined herein shall have the meanings given them in the Agreement.

Please indicate compliance status by circling Yes/No under “Complies” column.

<u>Reporting Covenant</u>	<u>Required</u>	<u>Complies</u>
Transaction Reports	Non-Streamline: Weekly; Streamline or if no outstanding Advances: monthly within 30 days of month end	Yes No
Monthly payable & receivable items, check registers, general ledger, & reconciliations	Monthly within 30 days of month end	Yes No
Borrower financial statements with Compliance Certificate	Monthly within 30 days of month end	Yes No
Annual financial statement (CPA Audited)	Within 120 days after FYE	Yes No
Annual budgets and projections	Within 30 days after FYE	Yes No

<u>Financial Covenants</u>	<u>Required</u>	<u>Actual</u>	<u>Complies</u>
Maintain as indicated			
Minimum Revenue (monthly, on a trailing twelve month basis)	*	\$	Yes No
Minimum Liquidity Ratio (when required; monthly)	1.50:1.00	:1.00	Yes No
*See Loan Agreement			

Performance Pricing/Streamline Period		
Streamline Requirement Met?	See Loan Agreement	Yes No

Yes, interest rate on Advances equal to the Prime Rate

No, interest rate on Advances equal to the Prime Rate plus one and one-quarter percent (1.25%)

Borrower is party to, or bound by, the following material Restricted Licenses that were not previously noted in the Perfection Certificate or a prior Compliance Certificate:

Borrower intends to register the following copyrights or mask works with the United States Copyright Office that were not previously noted in a prior Compliance Certificate:

Borrower has (i) obtained the following Patents, registered Trademarks, registered Copyrights, registered mask work, or any pending application for any of the foregoing, whether as owner, licensee or otherwise, and (ii) applied for the following Patents and the registration of the following Trademarks; in each case, that were not previously noted in the Perfection Certificate or a prior Compliance Certificate (to be reported on as part of the Compliance Certificate due following the last month of each fiscal quarter):

The following financial covenant analyses and information set forth in Schedule 1 attached hereto are true and accurate as of the date of this Certificate.

The following are the exceptions with respect to the certification above: (If no exceptions exist, state "No exceptions to note.")

ATRICURE, INC.
 ATRICURE, LLC
 ENDOSCOPIC TECHNOLOGIES, LLC
 nCONTACT SURGICAL, LLC

BANK USE ONLY

Received by: _____
 authorized signer
 Date: _____

By: _____
 Name: _____
 Title: _____

Verified: _____
 authorized signer
 Date: _____

Compliance Status: Yes No

Schedule 1 to Compliance Certificate

Financial Covenants of Borrower

In the event of a conflict between this Schedule and the Loan Agreement, the terms of the Loan Agreement shall govern.

Dated: _____

I. Minimum Revenue (Section 6.9(a))

Required: Achieve minimum revenue, measured monthly on a trailing twelve month basis and determined in accordance with GAAP, of at least the following for the periods indicated below:

Monthly Period Ending	Trailing Twelve Month Revenue
January 31, 2017	\$144,423,000.00
February 28, 2017	\$146,214,000.00
March 31, 2017	\$148,613,000.00
April 30, 2017	\$149,364,000.00
May 31, 2017	\$151,000,000.00
June 30, 2017	\$153,189,000.00
July 31, 2017	\$152,208,000.00
August 31, 2017	\$153,930,000.00
September 30, 2017	\$157,709,000.00
October 31, 2017	\$158,533,000.00
November 30, 2017	\$161,691,000.00
December 31, 2017	\$162,888,000.00

; provided, that the foregoing minimum revenue financial covenant will not be tested for any monthly compliance period in which a Streamline Period has been in effect for each day in such monthly compliance period. Minimum revenue financial covenant levels for the fiscal year commencing January 1, 2018 and thereafter shall be mutually determined by Borrower and Bank on or before February 15 of each fiscal year, based on the Borrower's annual forecast for each such fiscal year; provided, that such financial covenant levels shall in any event reflect and require not less than five percent (5.00%) year-over-year organic growth.

Actual: Minimum revenue measured on a trailing twelve month basis:

A. Borrower's revenue \$ _____

Has a Streamline Period been in effect for each day in the applicable monthly compliance period?

No, minimum revenue financial covenant tested Yes, testing not required

Is line A greater than or equal to \$[]?

No, not in compliance

Yes, in compliance

II. Minimum Liquidity Ratio (Section 6.9(b))

Required: Maintain a minimum Liquidity Ratio of at least 1.50 to 1.00 at all times.

Actual:

A.	Borrower's unrestricted cash (and Cash Equivalents) held with Bank and its Affiliates (which shall be not less than \$15,000,000.00) (for purposes of clarity, the parties acknowledge that Borrower's cash or Cash Equivalents shall not be considered to be restricted by reason of the fact that they are subject to Bank's Lien)	\$ _____
B.	Borrower's Eligible Accounts	\$ _____
C.	Without duplication, up \$4,375,000.00 of Borrower's Eligible Foreign Accounts	\$ _____
D.	Line A plus line B plus line C	\$ _____
E.	All Indebtedness of Borrower owed to Bank (exclusive of the undrawn portion of the Revolving Line), including, without limitation or duplication, the face amount of any outstanding Letters of Credit (including drawn but unreimbursed Letters of Credit but excluding the undrawn portion of the Revolving Line)	\$ _____
E.	Liquidity Ratio (line C divided by line D)	:1.00

Is line A equal to or greater than \$15,000,000.00?

No, not in compliance

Yes, in compliance

Is line E greater than or equal to 1.50:1.00?

No, not in compliance

Yes, in compliance

Has line E been greater than or equal to 1.75:1.00 for three consecutive monthly compliance periods (including this monthly compliance period)?

No, Streamline Period NOT in effect

Yes Streamline Period in effect

SUBSIDIARIES OF ATRICURE, INC.

AtriCure Europe, B.V., incorporated in the Netherlands

AtriCure, LLC, a Delaware limited liability company

Endoscopic Technologies, LLC, a Delaware limited liability company

nContact Surgical LLC, a Delaware limited liability company

AtriCure Spain, S.L., incorporated in Spain

AtriCure Hong Kong Limited, incorporated in Hong Kong

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-144126, 333-207916, and 333-212088 on Form S-3 and Registration Statement Nos. 333-199744, 333-194481, 333-187123, 333-180037, 333-173204, 333-173203, 333-165781, 333-165780, 333-157974, 333-157972, 333-152014, and 333-152013 on Form S-8 of our reports dated March 8, 2017, relating to the consolidated financial statements and financial statement schedule of AtriCure, Inc. and subsidiaries, and the effectiveness of AtriCure, Inc. and subsidiaries' internal control over financial reporting, appearing in this Annual Report on Form 10-K of AtriCure, Inc. and subsidiaries for the year ended December 31, 2016.

/s/ Deloitte & Touche LLP

Cincinnati, Ohio

March 8, 2017

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

I, Michael H. Carrel, certify that:

1. I have reviewed this annual report on Form 10-K of AtriCure, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 8, 2017

By: /s/ Michael H. Carrel
Michael H. Carrel
President and Chief Executive Officer
(Principal Executive Officer)

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

I, M. Andrew Wade, certify that:

1. I have reviewed this annual report on Form 10-K of AtriCure, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 8, 2017

By: /s/ M. Andrew Wade
M. Andrew Wade
Senior Vice President and Chief Financial Officer
(Principal Accounting and Financial Officer)

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

In connection with the annual report of AtriCure, Inc. (the "Company") on Form 10-K for the year ended December 31, 2016 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Michael H. Carrel, President and Chief Executive Officer of the Company, certify, pursuant to Rule 13a-14(b) and Section 1350 of Chapter 63 of Title 18 of the United States Code, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 8, 2017

By: /s/ Michael H. Carrel
Michael H. Carrel
President and Chief Executive Officer
(Principal Executive Officer)

A signed original of this written statement or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement has been provided to AtriCure, Inc. and will be retained by AtriCure, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

The foregoing certification is being furnished solely pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code) and is not being filed as part of the report or as a separate disclosure document.

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

In connection with the annual report of AtriCure, Inc. (the "Company") on Form 10-K for the year ended December 31, 2016 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, M. Andrew Wade, Senior Vice President and Chief Financial Officer of the Company, certify, pursuant to Rule 13a-14(b) and Section 1350 of Chapter 63 of Title 18 of the United States Code, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 8, 2017

By: /s/ M. Andrew Wade
M. Andrew Wade
Senior Vice President and Chief Financial Officer
(Principal Accounting and Financial Officer)

A signed original of this written statement or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement has been provided to AtriCure, Inc. and will be retained by AtriCure, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

The foregoing certification is being furnished solely pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code) and is not being filed as part of the report or as a separate disclosure document.
