Filed pursuant to Rule 424(b)(7)
Registration No. 333-230001

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered(1)	Amount to be Registered(2)	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, par value $0.001 per share	7,719,907	$26.26(3)(4)	$202,724,758(4)	$26,314(4)

(1) This prospectus supplement relates to the resale or other distribution by the selling stockholders named herein of up to 7,719,907 shares of our common stock, par value $0.001 per share (the "*common stock*").

(2) This prospectus supplement shall also include any additional shares of Common Stock as may be issued in connection with a stock split, stock dividend or similar transaction, pursuant to Rule 416 of the Securities Act of 1933, as amended (the "*Securities Act*").

(3) Estimated solely for the purposes of computing the registration fee with respect to 7,719,907 shares of Common Stock pursuant to Rule 457(c) under the Securities Act, based on the average of the high and low prices of the Common Stock on the Nasdaq Global Market on October 22, 2019.

(4) Calculated in accordance with Rule 457(r) under the Securities Act with respect to the 7,719,907 shares of Common Stock registered pursuant to this prospectus supplement that have not previously been registered. Payment of the registration fee at the time of filing of the registrant's registration statement on Form S-3 filed with the Securities and Exchange Commission on March 1, 2019 (File No. 333-230001) was deferred pursuant to Rules 456(b) and 457(r) of the Securities Act, and is paid herewith. This "Calculation of Registration Fee" table shall be deemed to update the "Calculation of Registration Fee" table in such registration statement.

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PROSPECTUS SUPPLEMENT
(To Prospectus dated March 1, 2019)

7,719,907 Shares

ATRICURE, INC.

Common Stock

The selling stockholders of AtriCure, Inc., a Delaware corporation ("*AtriCure*," "*we*," "*us*," "*our*" or the "*Company*"), referred to in this prospectus supplement may offer and resell up to 7,719,907 shares of our common stock under this prospectus supplement. The selling stockholders acquired, or may have certain rights to acquire, as the case may be, these shares from us pursuant to an Agreement and Plan of Merger dated as of August 11, 2019 by and among the Company, Stetson Merger Sub, Inc., a Delaware corporation and wholly-owned subsidiary of the Company, Second Stetson Merger Sub, LLC, a Delaware limited liability company and wholly-owned subsidiary of the Company, SentreHEART, Inc., a Delaware corporation ("*SentreHEART*"), and Shareholder Representative Services LLC, solely in its capacity as Securityholder Representative (as defined in the Merger Agreement), in connection with our acquisition of SentreHEART (the "*Merger Agreement*"). See "Selling Stockholders" herein. We are registering the resale of the 7,719,907 shares of common stock as required by the Merger Agreement.

Our registration of the shares of common stock covered by this prospectus supplement does not mean that the selling stockholders will offer or sell any of the shares. Common Stock offered hereby by the selling stockholders, or their pledgees, donees, assignees, transferees or other successors-in-interest, may be sold from time to time through public or private transactions at market prices prevailing at the time of sale or at negotiated prices. The timing and amount of any sale is within the sole discretion of the applicable selling stockholder, subject to certain restrictions. See "Plan of Distribution" herein.

As of the date of this prospectus supplement, the distribution and sale of the shares of common stock are subject to the provisions of the Lock-Up Agreement between the Company and certain of the selling stockholders. The Lock-Up Agreement prohibits, for a period of 90 days after the Closing (as defined in the Merger Agreement), the selling stockholders and any other person who executes sales for the selling stockholders from, among other things, engaging in any special selling efforts or selling methods in connection with the sale of common stock under this prospectus supplement, or otherwise effecting the sale of common stock in a manner that would constitute a "Distribution" as such term is defined in Regulation M promulgated under the Securities Exchange Act of 1934, as amended ("*Regulation M*").

We will not receive any proceeds from any sale of common stock by any selling stockholder.

Our Common Stock is traded on the Nasdaq Global Market (the "*Nasdaq*") under the symbol "ATRC." On October 24, 2019, the Nasdaq official closing price of our Common Stock was $26.22 per share.

Investing in our Common Stock involves risks. See "Risk Factors" beginning on page S-4 of this prospectus supplement and in our most recent Annual Report on Form 10-K and those contained in our other filings with the Securities and Exchange Commission (the "SEC") that are incorporated by reference herein.

Neither the SEC nor any state securities commission has approved or disapproved of the securities or determined that this prospectus supplement or the accompanying prospectus is accurate or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is October 25, 2019.

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Prospectus Supplement

Prospectus

ABOUT THIS PROSPECTUS SUPPLEMENT

Unless otherwise mentioned or unless the context requires otherwise, all references in this prospectus supplement and the accompanying prospectus to the "Company," "we," "our," or "us," or similar references, mean AtriCure, Inc., a Delaware corporation, and its consolidated subsidiaries.

This document is in two parts. The first part is this prospectus supplement, which adds to and updates information contained in the accompanying prospectus as well as the documents incorporated by reference into this prospectus supplement. The second part, the accompanying prospectus, gives more general information about the common stock that may be offered from time to time. To the extent any inconsistency or conflict exists between the information included in this prospectus supplement and the information included in the accompanying prospectus or any information incorporated by reference, the information contained in this prospectus supplement updates and supersedes such information. The information incorporated by reference into this prospectus supplement contains important business and financial information about us that is not included in, or delivered with, this prospectus supplement.

You should not consider any information in this prospectus supplement or the accompanying prospectus to be investment, legal or tax advice. You should consult your own counsel, accountants and other advisers for legal, tax, business, financial and related advice regarding the purchase of the securities offered by this prospectus supplement.

We have not, and the selling stockholders have not, authorized any person to provide you with any information other than that contained or incorporated by reference in this prospectus supplement and the accompanying prospectus and any free writing prospectus prepared by or on behalf of us. We and the selling stockholders take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We are not, and the selling stockholders are not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus supplement, the accompanying prospectus, and the documents incorporated by reference is accurate only as of the respective dates of those documents in which the information is contained. Our business, financial condition, results of operations, and prospects may have changed since those dates.

CAUTIONARY NOTE ON FORWARD-LOOKING STATEMENTS

This prospectus supplement and the accompanying prospectus, including the documents incorporated by reference herein and therein, and other information that we may furnish to the SEC contain forward–looking statements about us, our future performance and our industry that involve substantial risks and uncertainties. We intend such forward–looking statements to be covered by the safe harbor provisions for forward–looking statements contained in Section 21E of the Securities Exchange Act of 1934, as amended, and Section 27A of the Securities Act of 1933, as amended. All statements, other than statements of historical facts, included in this prospectus supplement and the accompanying prospectus and information that we furnish to or file with the SEC regarding our strategy, future operations, future financial position, future net sales, projected expenses, products' placements, performance and acceptance, prospects and plans and management's objectives, as well as the growth of the overall market for our products in general and certain products in particular and the relative performance of other market participants are forward–looking statements. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievement to be materially different from those expressed or implied by the forward–looking statements.

In some cases, you can identify forward–looking statements by terms such as "anticipate," "believe," "estimate," "hope," "expect," "seek," "intend," "may," "might," "plan," "project," "will," "would," "should," "could," "can," "predict," "potential," "continue," "objective," "target" or the negative of these terms, and similar expressions intended to identify forward–looking statements. However, not all forward–looking statements contain these identifying words. These forward–looking statements reflect our current views about activities, events or developments that we expect, believe or anticipate will or may occur in the future and are based on assumptions and subject to risks and uncertainties which may cause actual results, performance or achievements to differ materially from those expressed or implied. Forward-looking statements are based on our experience and perception of current conditions, trends, expected future developments and other factors we believe are appropriate under the circumstances and are subject to numerous risks and uncertainties, many of which are beyond our control. Given these uncertainties, you should not place undue reliance on these forward–looking statements. 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 but not limited to:

- the ability of our products to achieve widespread market acceptance within the medical community as a standard treatment alternative for the surgical treatment of Afib during open-heart surgical procedures and as a sole-therapy minimally invasive procedure;
- our receipt of additional FDA approvals to promote our products for the treatment of Afib or reduction in stroke risk, which is conditioned on the safety and efficacy of our products as demonstrated in clinical trials;
- our reliance that our ablation, ablation related, and LAA management products will continue to be the primary source of revenue and will not become obsolete;
- competition from new and existing products and procedures in the highly competitive medical device industry;
- failure of government or third–party payors to reimburse our customers for the use of our clinical diagnostic products or reduction of reimbursement levels, which could harm our ability to promote and sell our products;
- failure of our products to perform as expected or to obtain certain approvals or the questioning of the reliability of the technology on which our products are based or the questioning of the promotion by regulatory authorities of our products as "off-label", which could cause lost revenue, delayed or reduced market acceptance of our products, increased costs and damage to our reputation;
- our ability to consummate acquisitions or, if consummated, to successfully integrate acquired businesses into our operations and to recognize the benefits of acquisitions, including potential synergies and cost savings;
- failure of an acquisition or acquired company to achieve its plans and objectives generally, and risk that proposed or consummated acquisitions may disrupt operations or pose difficulties in employee retention or otherwise affect financial or operating results;

- our ability to retain our current employees and/or require additional qualified personnel, upon whom the success of our business is highly dependent;
- domestic and foreign political developments, which may adversely affect our effective tax rate and global economic conditions, including trade wars and tariffs, which could interrupt or harm our operations and earnings;
- risks related to legal proceedings, including litigation, regulatory investigations, and other proceedings related to our compliance with applicable laws and regulations;
- our issuance of additional shares of common stock to stockholders of SentreHEART as a result of the satisfaction of certain milestones set forth in the Merger Agreement, which could result in ownership dilution and depression of our stock price; and
- those set forth under “Risk Factors” in our Annual Report on Form 10–K for the year ended December 31, 2018.

These forward–looking statements represent our estimates and assumptions only as of the date of this prospectus supplement. Unless required by U.S. federal securities laws, we do not intend to publicly update or revise any of these forward–looking statements to reflect new information or future events or otherwise. This prospectus supplement and the accompanying prospectus should be read in conjunction with our consolidated financial statements and notes thereto appearing in our Annual Report on Form 10–K. You should carefully consider all the information in or incorporated by reference in this prospectus supplement and the accompanying prospectus prior to investing in our securities.

SUMMARY

This summary highlights selected information contained elsewhere in, or incorporated by reference into, this prospectus supplement and may not contain all of the information that you should consider in making your investment decision. You should carefully read this entire prospectus supplement, the accompanying prospectus and any free writing prospectus, as well as the information to which we refer you and the information incorporated by reference herein and therein, before deciding whether to invest in our common stock. You should pay special attention to the information contained under the caption entitled "Risk Factors" in this prospectus supplement and "Risk Factors" in our most recent Annual Report on Form 10-K and our most recent Quarterly Reports on Form 10-Q, as the same may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future, to determine whether an investment in our common stock is appropriate for you.

Company Overview

AtriCure, Inc. is a medical device company providing innovative treatments for atrial fibrillation (Afib) and left atrial appendage (LAA) management. Afib affects more than 33 million people worldwide. Electrophysiologists and cardiothoracic surgeons around the globe use AtriCure technologies for the treatment of Afib and reduction of Afib related complications. AtriCure's Synergy™ Ablation System is the first and only medical device to receive FDA approval for the treatment of persistent and longstanding persistent forms of Afib in patients undergoing certain open heart procedures. We believe our AtriClip® Left Atrial Appendage Exclusion System products are the most widely sold LAA management devices worldwide.

Corporate Information

Our principal executive offices are located at 7555 Innovation Way, Mason, Ohio 45040. Our telephone number is (513) 755-4100. SEC filings, news releases, our Code of Conduct applicable to directors, officers and employees and other information may be accessed free of charge through the "Investors" section of our website at www.atricure.com.

SentreHEART Acquisition

On August 13, 2019, we consummated the acquisition of SentreHEART pursuant to the Merger Agreement (as defined herein). Pursuant to the Merger Agreement, Stetson Merger Sub, Inc. was merged with and into SentreHEART, with SentreHEART as the surviving corporation and a wholly-owned subsidiary of AtriCure, and immediately thereafter, SentreHEART merged with and into Second Stetson Merger Sub, LLC, with such entity surviving as a wholly-owned subsidiary of AtriCure.

As partial consideration for the acquisition, we issued 698,792 shares of our common stock on the closing of the acquisition and agreed to issue up to 7,021,115 shares of our common stock upon the achievement of certain performance based milestones to certain holders of SentreHEART securities. We agreed to register for resale the shares of common stock issued pursuant to the acquisition. See "Recent Developments" herein.

The Offering

The selling stockholders named in this prospectus supplement may offer and sell up to 7,719,907 shares of our common stock that were issued in connection with the closing of the acquisition and upon the achievement of certain performance based milestones. Shares of common stock that may be offered under this prospectus supplement will be fully paid and non-assessable. We will not receive any of the proceeds from any sales by the selling stockholders of any of the common stock covered by this prospectus supplement.

ATRICURE, INC.

We are a leading innovator in treatments for Afib and left atrial appendage (LAA) management. 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 beat rapidly, irregularly, and in an uncoordinated fashion. As a result, blood in the atria may be in stasis, increasing the risk that a blood clot will form and cause a stroke or other serious complications. In patients with Afib, a significant percentage of those clots can form inside of the LAA. 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.

Our products are used by physicians during both open-heart and minimally invasive surgical procedures, either in conjunction with heart surgery for other conditions ("concomitant" to such a procedure), or on a standalone basis. 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 long-standing 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 less invasive cardiac and thoracic surgery. Our cryoICE® cryosurgery product line offers a variety of cryoablation devices for use in multiple types of cardiothoracic surgery. Our AtriClip® LAA Exclusion System is a device specifically designed to occlude the heart's left atrial appendage.

We believe that we are currently the market leader in the surgical treatment of Afib. 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. All of our other ablation devices are cleared for sale in the United States under FDA 510(k) clearances, including our other RF and cryoablation products, which are indicated for the ablation of cardiac tissue and/or the treatment of cardiac arrhythmias. In addition, certain of our cryoablation probes are cleared for managing pain by temporarily ablating peripheral nerves. Our AtriClip products are 510(k)-cleared with an indication for the exclusion of the heart's LAA, performed under direct visualization and in conjunction with other cardiac surgical procedures. Direct visualization, in this context, requires that the surgeon is able to see the heart directly, with or without assistance from a camera, endoscope or other appropriate viewing technologies. We also offer reusable surgical instruments typically used in cardiac valve replacement or repair. Our Isolator Synergy clamps, Isolator Synergy pens, Coolrail® linear pen, cryosurgery devices, certain products of the AtriClip LAA Exclusion System, COBRA Fusion® Ablation System, Numeris™ System and the EPi-Sense® Guided Coagulation System with VisiTrax® technology bear the CE mark and may be commercially distributed throughout the member states of the European Union and other countries that comply with or mirror the Medical Device Directive. 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.

We sell our products to medical centers through our direct sales force in the United States and in certain international markets, such as Germany, France, the United Kingdom and the Benelux region. We also sell our products to distributors who in turn sell our products to medical centers in other international markets. 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.

We were incorporated in the State of Delaware as AtriCure, Inc. on October 31, 2000. Our principal executive offices are located at 7555 Innovation Way, Mason, Ohio 45040. Our telephone number is (513) 755-4100. SEC filings, news releases, our Code of Conduct applicable to directors, officers and employees and other information may be accessed free of charge through the "Investors" section of our website at www.atricure.com. Other than the information specifically incorporated by reference in this prospectus supplement, information on our website is not part of this prospectus supplement. Our common stock is listed on the Nasdaq under the trading symbol "ATRC".

RECENT DEVELOPMENTS

On August 13, 2019, we acquired SentreHEART, Inc., a Delaware corporation ("*SentreHEART*"), pursuant to the Merger Agreement in which we agreed to purchase the outstanding capital stock of SentreHEART in exchange for an upfront payment of approximately $40 million in cash and shares of our common stock, plus additional contingent consideration up to $260 million subject to the achievement of certain performance based milestones. All contingent consideration will be paid in either cash, shares of common stock or a combination thereof, at the discretion of the Company. Pursuant to the Merger Agreement, our merger subsidiary Stetson Merger Sub, Inc. was merged with and into SentreHEART, with SentreHEART as the surviving corporation, and immediately thereafter, the surviving corporation merged with and into another merger subsidiary, Second Stetson Merger Sub, LLC, as part of a single integrated plan.

SentreHEART, a privately owned medical device company based in Redwood City, California, is developing technology for remote suture delivery for closing of anatomic structures including the left atrial appendage. SentreHEART is sponsoring the aMAZE clinical trial which is designed to demonstrate the additive benefits of LARIAT LAA closure combined with pulmonary vein isolation as a means of improving outcomes in patients with persistent and longstanding persistent forms of Afib.

RISK FACTORS

Investing in any of our common stock involves risk. Before making an investment decision, in addition to the other information contained in this prospectus supplement, in the accompanying prospectus, or incorporated by reference into this prospectus supplement or the accompanying prospectus you should carefully consider the risks discussed under the heading “Risk Factors” in our most recent Annual Report on Form 10-K and our most recent Quarterly Reports on Form 10-Q, as they may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future, and any free writing prospectus that we may authorize for use in connection with a specific offering. See “Where You Can Find More Information.” The risks and uncertainties we have described are not the only risks we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations. If any of these risks actually occurs, our business, results of operations and financial condition could suffer. In that case, the trading price of our common stock could decline, and you could lose part of your investment.

USE OF PROCEEDS

We are filing this prospectus supplement to permit the stockholders referred to in the section entitled “Selling Stockholders” and their pledgees, donees, assignees, transferees or other successors-in-interest to resell shares of our common stock in one or more offerings from time to time. We will not receive any proceeds from the sale of common stock pursuant to this prospectus supplement by the selling stockholders. The selling stockholders will receive all of the net proceeds from the sale of such common stock. See “Selling Stockholders” herein.

SELLING STOCKHOLDERS

Up to 7,719,907 shares of common stock are being offered by this prospectus supplement, all of which are being offered for resale for the account of the selling stockholders. The shares being offered by the selling stockholders were issued, or will be issued, as the case may be, in private placements pursuant to the consummation of our acquisition of SentreHEART and the transactions contemplated by the Merger Agreement. 698,792 shares were issued to the selling stockholders on August 13, 2019 as a portion of the base purchase price payable pursuant to the Merger Agreement. Up to an additional 7,021,115 shares may be issued to the selling stockholders subject to the achievement of certain performance based milestones as described in the Merger Agreement. This prospectus supplement has been filed pursuant to registration rights granted to the selling stockholders in the Merger Agreement. We agreed to use commercially reasonable efforts to maintain the effectiveness of the registration statement until the earliest of the date on which all shares of common stock registered hereby (i) have been sold or (ii) may be sold without restriction, including volume or manner of sale restrictions pursuant to Rule 144.

As of the date of this prospectus supplement, the distribution and sale of the shares of common stock are subject to the provisions of the Lock-Up Agreement between the Company and certain of the selling stockholders. The Lock-Up Agreement prohibits, for a period of 90 days after the Closing (as defined in the Merger Agreement), the selling stockholders and any other person who executes sales for the selling stockholders from, among other things, engaging in any special selling efforts or selling methods in connection with the sale of common stock under this prospectus supplement, or otherwise effecting the sale of common stock in a manner that would constitute a “Distribution” as such term is defined in Regulation M promulgated under the Securities Exchange Act of 1934, as amended (“*Regulation M*”).

We have prepared the following table based on information given to us by, or on behalf of, the selling stockholders on or before the date hereof with respect to the beneficial ownership of the shares of our common stock held by the selling stockholders as of August 13, 2019, the date of closing of our acquisition of SentreHEART. We have not independently verified this information. Because the selling stockholders may sell, transfer or otherwise dispose of all, some or none of the shares of our common stock covered by this prospectus supplement, we cannot determine the number of such shares that will be sold, transferred or otherwise disposed of by the selling stockholders, or the amount or percentage of shares of our common stock that will be held by the selling stockholders upon termination of any particular offering. See the section of this prospectus supplement captioned “Plan of Distribution” for additional information. For purposes of the table below, we assume that the selling stockholders will sell all their shares of common stock covered by this prospectus supplement.

In the table below, the percentage of shares beneficially owned is based on 39,546,688 shares of our common stock outstanding as of October 1, 2019, determined in accordance with Rule 13d-3 under the Exchange Act of 1934, as amended (the “Exchange Act”). Under such rule, beneficial ownership includes any shares over which the selling stockholder has sole or shared voting power or investment power and also any shares that the selling stockholder has the right to acquire within 60 days of such date through the exercise of any options or other rights. Except as otherwise indicated, we believe that the selling stockholders have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them. The beneficial ownership information presented in this table is not necessarily indicative of beneficial ownership for any other purpose. When we refer to a “selling stockholder” in this prospectus supplement, we mean such selling stockholder listed in the table below, as well as its pledgees, donees, assignees, transferees and other successors-in-interest and others who may hold any of such selling stockholder’s interest received after the date of this prospectus supplement from the selling stockholder as a gift, pledge, partnership distribution or other non-sale related transfer. Information about any other selling stockholders will be included in prospectus supplements or post-effective amendments, if required. Information about the selling stockholders may change from time to time. Any changed information with respect to which we are given notice will be included in prospectus supplements.

To our knowledge, except as may be disclosed herein, none of the selling stockholders has or within the past three years has had, any position, office or other material relationship with us or any of our affiliates, other than

as a result of the transactions contemplated by the Merger Agreement and that certain of the selling stockholders are or were employees of the successor of SentreHEART after it was acquired by us. To our knowledge, none of the selling stockholders are broker-dealers, nor at the time of the acquisition did any selling stockholders have direct or indirect agreements or understandings with any person to distribute any common stock.

Selling Stockholder	Shares Beneficially Owned Prior to Offering (5)		Number of Shares Being Offered (2) (5)	Shares Beneficially Owned After Offering	
	Number	Percent (1)		Number (3)	Percent
Robert L. Clark III (4)	859	*	859	0	—
Decheng Capital China Life Sciences USD Fund I, L.P. (4)	662,289	1.67%	662,289	0	—
Deerfield Private Design Fund III, L.P. (4)	2,004,346	5.07%	2,004,346	0	—
Glenn Herbst (4)	4,298	*	4,298	0	—
Palace Investments Pte. Ltd. (4)	662,102	1.67%	662,102	0	—
The Board of Trustees of the Leland Stanford Junior University	8,862	*	8,862	0	—
U.S. Venture Partners IX, L.P. (4)	2,006,913	5.07%	2,006,913	0	—
Vivo Ventures Fund VII, L.P. (4)	904,576	2.29%	904,576	0	—
Vivo Ventures VII Affiliates Fund, L.P. (4)	19,714	*	19,714	0	—
Prospect Venture Partners III, L.P. (4)	1,433,265	3.62%	1,433,265	0	—
All other selling stockholders who beneficially own, in the aggregate, less than 1% of our common stock	12,683	*	12,683	0	—
Total shares of common stock registered			**7,719,907**		

* Denotes less than one percent.

(1) Based on 39,546,688 shares of common stock outstanding as of October 1, 2019 (not including the 7,719,907 shares of common stock issued to the selling stockholders in connection with the Merger Agreement).

(2) Represents the number of shares of common stock being offered hereby on behalf of the selling stockholders, which may be less than the total number of shares beneficially owned by such selling stockholder.

(3) Assumes that the selling stockholders dispose of all the shares of common stock covered by this prospectus supplement and do not acquire beneficial ownership of any additional shares of common stock. The registration of the shares of common stock does not necessarily mean that the selling stockholders will sell all or any portion of the shares of common stock covered by this prospectus supplement.

(4) Certain of the selling stockholders are subject to a Lock-Up Agreement which, among other things, prohibits the transfer, directly or indirectly, of the shares of common stock of AtriCure, Inc. received pursuant to the Merger Agreement for a period of 90 days following the Closing (as defined in the Merger Agreement). See “Plan of Distribution” for more information.

(5) Includes shares which may be issued to the selling stockholders upon achievement of certain milestones set forth in the Merger Agreement as follows: Robert L. Clark – 786; Decheng Capital China Life Sciences USD Fund I, L.P. – 616,030 shares; Deerfield Private Design Fund III, L.P. – 1,711,569 shares; Glenn Herbst – 3,924; Palace Investments Pte. Ltd. – 615,870 shares; The Board of Trustees of the Leland Stanford Junior University – 8,165; U.S. Venture Partners IX, L.P. – 1,860,241 shares; Vivo Ventures Fund VII, L.P. – 841,378 shares; Vivo Ventures VII Affiliates Fund, L.P. – 18,339 shares; and Prospect Venture Partners III, L.P. – 1,332,130 shares.

PLAN OF DISTRIBUTION

We are registering the shares of common stock covered by this prospectus supplement to permit the selling stockholders to resell such common stock from time to time after the date of this prospectus supplement. We will not receive any proceeds from the sale of shares of common stock registered hereby. The selling stockholders will receive all of the net proceeds from the sale of such shares of common stock.

The selling stockholders will act independently of us in making decisions with respect to the timing, manner and size of each sale of shares of our common stock. The selling stockholders may, from time to time, sell any or all of the shares of common stock beneficially owned by them and offered hereby.

The sales may be made on one or more exchanges or in the over-the-counter market or otherwise, at prices and at terms then prevailing or at prices related to the then current market price, or in negotiated transactions.

Subject to the terms of the Merger Agreement, the selling stockholders may effect such transactions by selling the shares of common stock to or through one or more underwriters, broker-dealers or agents. The shares of common stock may be sold through broker-dealers by one or more of, or a combination of, the following:

- a block trade in which the broker-dealer so engaged will attempt to sell the shares of common stock as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by such broker-dealer for its account;
- ordinary brokerage transactions and transactions in which the broker solicits purchasers;
- through the writing or settlement of options, whether such options are listed on an options exchange or otherwise;
- an exchange distribution in accordance with the rules of the applicable exchange;
- broker-dealers may agree with a selling stockholder to sell a specified number of shares at a stipulated price per share;
- in privately negotiated transactions;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The selling stockholders may also sell shares under Rule 144 under the Securities Act, if available, rather than under this prospectus supplement.

Certain of the selling stockholders are subject to a Lock-Up Agreement which, among other things, prohibits the transfer, directly or indirectly, of the shares of common stock of AtriCure, Inc. received pursuant to the Merger Agreement for a period of 90 days following the Closing (as defined in the Merger Agreement); *provided* that such prohibitions do not apply to transfers as a bona fide gift, by will or intestacy, to a trust for the benefit of an immediate family member, to a partner, member or stockholder of the selling stockholder or by operation of law, such as pursuant to a qualified domestic order or in connection with a divorce settlement, so long as each transferee, donee or distributee of any such shares of common stock agrees to be bound in writing by the restrictions set forth in the Lock-Up Agreement for the remainder of the lock-up period.

The Lock-Up Agreement prohibits, for a period of 90 days after the Closing (as defined in the Merger Agreement), the selling stockholders and any other person who executes sales for the selling stockholders from, among other things, engaging in any special selling efforts or selling methods in connection with the sale of common shares under this prospectus supplement, or otherwise effecting the sale of common shares in a manner that would constitute a “Distribution” as such term is defined in Regulation M promulgated by the SEC.

The selling stockholders also may transfer the shares of common stock in kind to their respective limited partners or members, in which case the transferees will be the selling beneficial owners for purposes of this prospectus supplement. The selling stockholders may also transfer the shares of common stock in other circumstances, in which case the transferees or other successors in interest will be the selling beneficial owners for purposes of this prospectus supplement.

The selling stockholders may pledge or grant a security interest in some or all of the shares of common stock owned by them and, if the selling stockholders default in their performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock from time to time pursuant to this prospectus supplement or any amendment to this prospectus supplement. The selling stockholders also may transfer and donate the shares of common stock in other circumstances in which case the pledgees, assignees or successors-in-interest will be the selling beneficial owners for purposes of this prospectus supplement.

The selling stockholders and any broker-dealers or agents that are involved in selling the shares may be deemed to be "underwriters" within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act.

The selling stockholders have informed us that, except for the Lock-Up Agreement, none of them have any agreement or understanding, directly or indirectly, with any person to distribute the common stock. If any selling stockholder notifies us that a material arrangement has been entered into with a broker-dealer for the sale of shares through a block trade, special offering or secondary distribution or a purchase by a broker or dealer, we may be required to file a prospectus supplement pursuant to the applicable rules promulgated under the Securities Act. Certain selling stockholders who are entities rather than natural persons may distribute shares to their partners, shareholders or other owners in normal course, who may in turn sell the shares in the manner listed above.

There can be no assurance that any selling stockholder will sell any or all of the shares of common stock registered pursuant to this prospectus supplement and the shelf registration statement of which the accompanying prospectus forms a part. The aggregate proceeds to the selling stockholders from the sale of the shares of common stock offered by them will be the purchase price of the shares of common stock less discounts or commission, if any. Each of the selling stockholders reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of shares of common stock to be made directly or through agents.

We are required to pay all fees and expenses incident to the registration of the shares. We have agreed to indemnify the selling stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act. We may be indemnified by the selling stockholders against civil liabilities, including liabilities under the Securities Act that may arise from written information furnished to us by the selling stockholders specifically for use in this prospectus supplement.

The selling stockholders and any other person participating in such distribution will be subject to applicable provisions of the Exchange Act, and the rules and regulations thereunder, including, without limitation, Regulation M of the Exchange Act, which may limit the timing of purchases and sales of any of the shares of common stock offered by the selling stockholders and any other participating person. Regulation M may also restrict the ability of any person engaged in the distribution of the shares of common stock to engage in market-making activities with respect to the shares of common stock. All of the foregoing may affect the marketability of the common stock and the ability of any person or entity to engage in market-making activates with respect to the shares of common stock.

We may restrict or suspend offers and sales or other dispositions of the shares under this prospectus supplement, at any time from and after the filing date of this prospectus supplement, subject to certain terms and conditions. In the event of such restriction or suspension, the selling stockholders will not be able to offer or sell or otherwise dispose of the shares of common stock under this prospectus supplement.

Once sold under this prospectus supplement the shares of common stock will be freely tradeable in the hands of persons other than our affiliates.

LEGAL MATTERS

The validity of the shares of common stock offered by this prospectus supplement will be passed upon for us by Keating Muething & Klekamp PLL, Cincinnati, Ohio.

EXPERTS

The consolidated financial statements and the related financial statement schedule incorporated in this prospectus supplement by reference from AtriCure, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2018 and the effectiveness of AtriCure, Inc.'s internal control over financial reporting have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports, which are incorporated herein by reference. Such consolidated financial statements and financial statement schedule have been so incorporated in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

The audited consolidated financial statements of SentreHEART, Inc. and its subsidiary as of and for the years ended December 31, 2018 and December 31, 2017, incorporated in this prospectus supplement by reference have been so included in reliance upon the report of RSM US LLP, independent certified public accountants, upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE

We filed a registration statement on Form S-3 with the SEC with respect to the registration of the common stock offered by this prospectus supplement. This prospectus supplement does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information about us, the common stock we are offering by this prospectus supplement, and related matters, you should review the registration statement, including the exhibits filed as a part of the registration statement. Statements contained in this prospectus supplement about the contents of any contract or any other document that is filed as an exhibit to the registration statement are not necessarily complete, and we refer you to the full text of the contract or other document filed as an exhibit to the registration statement. The SEC maintains a website that contains reports, proxy and information statements, and other information regarding registrants that file electronically with the SEC. The address of the site is http://www.sec.gov.

We are subject to the information and periodic reporting requirements of the Exchange Act and, in accordance with such requirements, will file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other information will be available for inspection and copying at the regional offices, public reference facilities and website of the SEC referred to above.

The SEC allows us to "incorporate by reference" in this prospectus supplement the information in other documents that we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus supplement. Information in documents that we file later with the SEC will automatically update and

supersede information contained in documents filed earlier with the SEC or contained in this prospectus supplement. Any information so updated or superseded will not constitute a part of this prospectus supplement, except as so updated or superseded. We incorporate by reference in this prospectus supplement the documents listed below and any future filings that we may make with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act (other than documents and information furnished and not filed in accordance with SEC rules, unless expressly stated otherwise therein), prior to the termination of the offering under this prospectus supplement:

1. Annual Report on Form 10-K for the fiscal year ended December 31, 2018 filed with the SEC on March 1, 2019;
2. The information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2018 from our Definitive Proxy Statement on Schedule 14A filed with the SEC on April 10, 2019;
3. Quarterly Reports on Form 10-Q for the quarters ended March 31, 2019 and June 30, 2019 filed with the SEC on April 26, 2019 and July 31, 2019, respectively;
4. Current Reports on Form 8-K filed with the SEC on January 3, 2019, May 28, 2019, August 12, 2019, and August 13, 2019 and Form 8-K/A filed with the SEC on October 25, 2019; and
5. The description of the common stock, contained in our registration statement on Form 8-A, filed with the SEC on or about August 1, 2005, including any amendments or reports filed for the purpose of updating such description.

We will provide, without charge to each person, including any beneficial owner, to whom this prospectus supplement is delivered, upon his or her written or oral request, a copy of any or all documents referred to above which have been or may be incorporated by reference into this prospectus supplement, excluding exhibits to those documents unless they are specifically incorporated by reference into those documents. You may request a copy of these filings at no cost, by writing or telephoning us at the following address: AtriCure, Inc., 7555 Innovation Way, Mason, Ohio 45040, Attention: Investor Relations or by calling (513) 755-4100. Our website, www.atricure.com, and the information contained on our website are not a part of this prospectus supplement, and you should not rely on any such information in making your decision whether to acquire our common stock.

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Prospectus

Common Stock, Preferred Stock, Debt Securities, Warrants, Depositary Shares and Units and 5,659,984 Shares of Common Stock

By this prospectus and an accompanying prospectus supplement, we may from time to time offer and sell, in one or more offerings, in any combination of common stock, preferred stock, debt securities, warrants, depositary shares and units. Also, selling securityholders identified in this prospectus may, from time to time, offer and sell up to an additional 5,659,984 shares of common stock. See "Selling Securityholders."

We will provide you with more specific terms of these securities in one or more supplements to this prospectus. You should read this prospectus and the applicable prospectus supplement carefully before you invest.

We or any selling securityholders may offer these securities from time to time in amounts, at prices and on other terms to be determined at the time of offering. We or any selling securityholders may offer and sell these securities to or through underwriters, dealers or agents, or directly to investors, on a continuous or delayed basis. The supplements to this prospectus will provide the specific terms of the plan of distribution. The price to the public of such securities and the net proceeds we expect to receive from such sale will also be set forth in a prospectus supplement.

Our common stock is listed on the NASDAQ Global Market under the symbol "ATRC."

Investing in our securities involves risks. See "Risk Factors" beginning on page 5 of this prospectus and the information included and incorporated by reference in this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is March 1, 2019

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No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus. You must not rely on any unauthorized information or representations. If you are in a jurisdiction where offers to sell, or solicitations of offers to purchase, the securities offered by this document are unlawful, or if you are a person to whom it is unlawful to direct these types of activities, then the offer presented in this document does not extend to you. The information contained in this document speaks only as of the date of this document, unless the information specifically indicates that another date applies.

ABOUT THIS PROSPECTUS

This prospectus is part of an automatically effective registration statement filed with the Securities and Exchange Commission (the “SEC”) by AtriCure, Inc. as a “well-known seasoned issuer” as defined in Rule 405 of the Securities Act of 1933, as amended (the “Securities Act”) using a “shelf” registration process. Under this shelf process, we or any selling securityholders may sell any combination of the securities described in this prospectus in one or more offerings. This prospectus provides you with a general description of the securities which may be offered. Each time securities are offered for sale, we will provide a free writing prospectus or a prospectus supplement that contains specific information about the terms of that offering. The prospectus supplement may also add, change or update information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with additional information described below under “Where You Can Find More Information” and “Information Incorporated by Reference.” The registration statement that contains this prospectus (including the exhibits thereto) contains additional important information about us and the selling securityholders and the securities we or any selling securityholders may offer under this prospectus. Specifically, we have filed certain legal documents that establish the terms of the securities offered by this prospectus as exhibits to the Registration Statement. We will file certain other legal documents that establish the terms of the securities offered by this prospectus as exhibits to reports we file with the SEC. You may obtain copies of that registration statement and the other reports and documents referenced herein as described below under the heading “Where You Can Find More Information.”

You should rely only on the information contained or incorporated by reference in this prospectus and in any prospectus supplement. We have not authorized any other person to provide you with different information.

If anyone provides you with different or inconsistent information, you should not rely on it. We are not making offers to sell or solicitations to buy the securities in any jurisdiction in which an offer or solicitation is not authorized or in which the person making that offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation. You should not assume that the information in this prospectus, any prospectus supplement or free writing prospectus, as well as the information we file or previously filed with the SEC that we incorporate by reference in this prospectus or any prospectus supplement, is accurate as of any date other than its respective date. Our business, financial condition, results of operations and prospects may have changed since those dates.

In this prospectus, unless the context otherwise requires, references to “we,” “us,” “our” or “AtriCure” refer to AtriCure, Inc. and its subsidiaries. We urge you to read carefully this prospectus (as supplemented and amended) before deciding whether to purchase any of the shares of our common stock, preferred stock, debt securities, warrants, depository shares or units being offered.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at http://www.sec.gov or our website at www.atricure.com. The information contained on our website is not incorporated by reference in, and should not be considered a part of, this prospectus or any accompanying prospectus supplement. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, including any amendments to those reports, and other information that we file with or furnish to the SEC pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") can also be accessed free of charge through the Internet.

We have filed with the SEC a registration statement under the Securities Act relating to the offering of these securities. The Registration Statement, including the attached exhibits, contains additional relevant information about us, and the selling securityholders and the securities. This prospectus does not contain all of the information set forth in the Registration Statement. You can obtain a copy of the Registration Statement from the SEC as described above. The Registration Statement and the documents referred to below under "Information Incorporated by Reference" and our other SEC filings are also available free of charge by accessing the "Investors" section of our website at http://www.atricure.com. We have not incorporated by reference into this prospectus the information on our website, and you should not consider it to be a part of this prospectus.

INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to incorporate by reference into this prospectus certain information we file with it, which means that we can disclose important information by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus, and information that we file later with the SEC will automatically update and supersede information contained in this prospectus and any accompanying prospectus supplement. We incorporate by reference the documents listed below that we have previously filed with the SEC:

- our Annual Report on Form 10-K for the year ended December 31, 2018;
- our Current Report on Form 8-K filed on January 3, 2019 (excluding any information furnished in such reports under Item 2.02, Item 7.01 or Item 9.01); and
- the description of our common stock contained in our Registration Statement on Form 8-A as filed with the SEC on or about August 1, 2005.

We also incorporate by reference into this prospectus additional documents that we may file with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the completion or termination of the offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement. We do not and will not, however, incorporate by reference in this prospectus any documents or portions thereof that are not deemed "filed" with the SEC, including any information furnished pursuant to Item 2.02 or Item 7.01 of our Current Reports on Form 8-K, unless, and except to the extent, specified in such Current Reports. Any statements contained in a previously filed document incorporated by reference into this prospectus is deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus, or in a subsequently filed document also incorporated by reference herein, modifies or supersedes that statement.

This prospectus may contain information that updates, modifies or is contrary to information in one or more of the documents incorporated by reference in this prospectus. You should rely only on the information incorporated by reference or provided in this prospectus. We have not authorized anyone else to provide you with different information. You should not assume that the information in this prospectus is accurate as of any date other than the date of this prospectus or the date of the documents incorporated by reference in this prospectus.

We will provide to each person, including any beneficial owner, to whom this prospectus is delivered, upon written or oral request, at no cost to the requester, a copy of any and all of the information that is incorporated by reference in this prospectus.

Requests for such documents should be directed to:

Investor Relations
AtriCure, Inc.
7555 Innovation Way
Mason, Ohio 45040
Telephone: (513) 755-4100

You may also access the documents incorporated by reference in this prospectus free of charge through the “Investors” section of our website at http://www.atricure.com. Except for the specific incorporated documents listed above, no information available on or through our website shall be deemed to be incorporated in this prospectus or the registration statement of which it forms a part.

RISK FACTORS

Investing in our securities involves risk. Please see the risk factors set forth in Part I, Item 1A in our Annual Report on Form 10-K for our most recent fiscal year, as updated by our quarterly reports on Form 10-Q and other filings we make with the SEC, as incorporated by reference in this prospectus and which may be updated, supplemented or superseded by the risks and uncertainties described in the reports we subsequently filed with the SEC. Additional risk factors may be included in a prospectus supplement relating to a particular series or offering of securities. Before making an investment decision, you should carefully consider these risks as well as other information we include or incorporate by reference in this prospectus. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business operations. These risks could materially affect our business, results of operations or financial condition and cause the value of our securities to decline.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, any prospectus supplement or free writing prospectus (including the information incorporated by reference therein) contains certain statements that may be deemed to be “forward-looking statements” within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. Forward-looking statements anticipate results based on our estimates, assumptions and plans that are subject to uncertainty. The Private Securities Litigation Reform Act of 1995 provides a safe harbor for forward-looking statements. All statements in this prospectus and any accompanying prospectus supplement not dealing with historical results or current facts are forward-looking and are based on estimates, assumptions and projections. Statements which include the words “believes”, “seeks”, “expects”, “may”, “should”, “intends”, “likely”, “targets”, “plans”, “anticipates”, “estimates” or the negative version of those words and similar statements of a future or forward-looking nature identify forward-looking statements. The forward-looking statements reflect the views of our management regarding expectations and projections current as of the date they are made about future events and are based on information available as of the date they are made.

Factors that could cause actual results to differ from those in the forward-looking statements may accompany the statements themselves. In addition, generally applicable factors that could cause actual results or outcomes to differ from those expressed in the forward-looking statements are and will be discussed in our reports on Forms 10-K, 10-Q and 8-K, incorporated by reference in this prospectus.

All forward-looking statements address matters that involve risks and uncertainties. Accordingly, there are or will be important factors that could cause actual results to differ materially from those indicated in these statements. These risks and uncertainties include the rate and degree of market acceptance of AtriCure’s products, AtriCure’s ability to develop and market new and enhanced products, the timing of and ability to obtain and maintain regulatory clearances and approvals for its products, the timing of and ability to obtain reimbursement of procedures utilizing AtriCure’s products, AtriCure’s ability to consummate acquisitions or, if consummated, to successfully integrate acquired businesses into AtriCure’s operations, AtriCure’s ability to recognize the benefits of acquisitions, including potential synergies and cost savings, failure of an acquisition or acquired company to achieve its plans and objectives generally, risk that proposed or consummated acquisitions may disrupt operations or pose difficulties in employee retention or otherwise affect financial or operating results, AtriCure’s ability to raise the capital that may be required to accomplish the foregoing, competition from existing and new products and procedures or AtriCure’s ability to effectively react to other risks and uncertainties described from time to time in AtriCure’s SEC filings, such as fluctuation of quarterly financial results, reliance on third party manufacturers and suppliers, litigation or other proceedings, government regulation and stock price volatility. We do not undertake any obligation to publicly update or review any forward-looking statement.

ATRICURE, INC.

AtriCure, Inc. is a medical device company providing innovative treatments for atrial fibrillation (Afib) and left atrial appendage (LAA) management. Afib affects more than 33 million people worldwide. Electrophysiologists and cardiothoracic surgeons around the globe use AtriCure technologies for the treatment of Afib and reduction of Afib related complications. AtriCure's Synergy™ Ablation System is the first and only medical device to receive FDA approval for the treatment of persistent and longstanding persistent forms of Afib in patients undergoing certain open heart procedures. We believe our AtriClip® Left Atrial Appendage Exclusion System products are the most widely sold LAA management devices worldwide.

We were incorporated in the State of Delaware as AtriCure, Inc. on October 31, 2000. Our principal executive offices are located at 7555 Innovation Way, Mason, Ohio 45040. Our telephone number is (513) 755-4100. SEC filings, news releases, our Code of Conduct applicable to directors, officers and employees and other information may be accessed free of charge through the "Investors" section of our website at http://www.atricure.com. Other than the information specifically incorporated by reference in this prospectus, information on our website is not part of this prospectus.

USE OF PROCEEDS

Unless otherwise indicated in an accompanying prospectus supplement, we expect to use the net proceeds from the sale of any securities offered by us for general corporate purposes, which may include the repayment of outstanding debt. Until the net proceeds are used for these purposes, we may deposit them in interest-bearing accounts or invest them in marketable securities. The specific allocations, if any, of the proceeds from the sale of any of the securities will be described in the prospectus supplement relating to the offering of the securities.

Unless otherwise indicated in a prospectus supplement, we will not receive any proceeds from the sale of securities by any selling securityholder.

DESCRIPTION OF THE SECURITIES WE MAY OFFER

We may issue, from time to time, in one or more offerings, the following securities:

- shares of common stock of the Company;
- shares of preferred stock of the Company;
- debt securities, which may be senior or subordinated, and which may be convertible into our common stock or be non-convertible;
- warrants to purchase from us shares of our common stock or preferred stock or other securities; and
- units representing two or more of the foregoing securities.

This prospectus contains a summary of the general terms of the various securities that we may offer. The prospectus supplement and/or free writing prospectus relating to any particular securities offered will describe the specific terms of the securities. The summary in this prospectus and in any prospectus supplement does not describe every aspect of the securities and is subject to and qualified in its entirety by reference to all applicable provisions of the documents relating to the securities offered. These documents are or will be filed as exhibits to or incorporated by reference in the registration statement.

In addition, the prospectus supplement will set forth the terms of the offering, the initial public offering price and net proceeds to us. Where applicable, the prospectus supplement will also describe any material U.S. federal income tax considerations relating to the securities offered and indicate whether the securities offered are or will be listed on any securities exchange.

DESCRIPTION OF COMMON STOCK

This section summarizes the general terms of our common stock that we may offer. The prospectus supplement and/or free writing prospectus relating to the common stock offered will set forth the number of shares offered, the initial offering price and recent market prices, dividend information and any other relevant information. The summary in this section and in the prospectus supplement does not describe every aspect of the common stock and is subject to and qualified in its entirety by reference to all the provisions of our Second Amended and Restated Certificate of Incorporation and Fourth Amended and Restated Bylaws and to the provisions of the Delaware General Corporation Law.

The following briefly summarizes the material terms of the common stock that we may offer, other than pricing and related terms which will be disclosed in a prospectus supplement. The total number of authorized shares of common stock is 90,000,000, par value $0.001 per share. Holders of common stock are entitled to one vote for each share held of record on all matters submitted to a vote of shareholders. Shareholders do not have the right to cumulate their votes in the election of directors. Our board of directors is authorized to issue the shares of common stock that are authorized but not yet issued without further shareholder approval.

Holders of our common stock are entitled to receive dividends when and if declared by our board of directors out of funds legally available therefor, subject to any contractual restrictions on the payment of dividends and to any restrictions on the payment of dividends imposed by the terms of any outstanding preferred shares or debt securities.

Upon our dissolution or liquidation or the sale of all or substantially all of our assets, after payment in full of all amounts required to be paid to creditors and to the holders of preferred shares having liquidation preferences, if any, the holders of our common stock will be entitled to receive pro rata our remaining assets available for distribution.

As of February 22, 2019, we had 38,605,737 shares of common stock outstanding. Shares of common stock carry no preemptive or conversion or subscription rights and are not subject to redemption or sinking fund provisions. All outstanding shares of common stock are, and any shares of common stock issued upon conversion of any convertible securities or exercise of employee stock options will be, fully paid and non-assessable.

Our common stock is listed on the NASDAQ Global Market and trades under the symbol “ATRC.” Our registrar and transfer agent is American Stock Transfer & Trust Company.

Anti-Takeover Effects of Provisions of Our Certificate of Incorporation and Bylaws

Provisions of our Second Amended and Restated Certificate of Incorporation and Fourth Amended and Restated Bylaws may have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from attempting to acquire, control of us. Because our shareholders do not have cumulative voting rights, our shareholders representing a majority of the shares of common stock outstanding will be able to elect all of our directors. Our Second Amended and Restated Certificate of Incorporation and Fourth Amended and Restated Bylaws provide that all shareholder action must be effected at a duly called meeting of shareholders and not by a consent in writing, and that only our board of directors, chairman of the board, chief executive officer or president (in the absence of a chief executive officer) may call a special meeting of shareholders. Our Second Amended and Restated Certificate of Incorporation requires a 66 2/3% shareholder vote for the amendment, repeal or modification of certain provisions of our Second Amended and Restated Certificate of Incorporation and Fourth Amended and Restated Bylaws relating to the absence of cumulative voting, limitations of liability of our directors, the requirement that shareholder actions be effected at a duly-called meeting and the designated parties entitled to call a special meeting of the shareholders.

The combination of the lack of cumulative voting and the 66 2/3% shareholder voting requirement will make it more difficult for our existing shareholders to replace our board of directors as well as for another party to obtain control of us by replacing our board of directors. Since our board of directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing shareholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change our control.

These provisions may have the effect of deterring hostile takeovers or delaying changes in our control or management. These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and in the policies they implement, and to discourage certain types of transactions that may involve an actual or threatened change of our control. These provisions are designed to reduce our vulnerability to an unsolicited acquisition proposal. The provisions also are intended to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and, as a consequence, they also may inhibit fluctuations in the market price of our shares that could result from actual or rumored takeover attempts. Such provisions may also have the effect of preventing changes in our management.

Delaware Anti-Takeover Statute

We are subject to Section 203 of the Delaware General Corporation Law. This law prohibits a publicly held Delaware corporation from engaging in any "business combination" with any "interested shareholder" for a period of three years following the date that the shareholder became an interested shareholder unless:

- prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction that resulted in the shareholder becoming an interested shareholder;
- upon consummation of the transaction which resulted in the shareholder becoming an interested shareholder, the interested shareholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding those shares owned by persons who are directors or officers or by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or subsequent to the date of the transaction, the business combination is approved by the board of directors and authorized at an annual or special meeting of shareholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested shareholder.

Section 203 defines "business combination" to include:

- any merger or consolidation involving the corporation and the interested shareholder;
- any sale, transfer, pledge or other disposition of 10% or more of our assets involving the interested shareholder;
- in general, any transaction that results in the issuance or transfer by us of any of our stock to the interested shareholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested shareholder; or
- the receipt by the interested shareholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an "interested shareholder" as an entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

Under specific circumstances, Section 203 makes it more difficult for an "interested stockholder" to effect various business combinations with a corporation for a three-year period, although the stockholders may, by adopting an amendment to the corporation's certificate of incorporation or bylaws, elect not to be governed by this section, effective 12 months after adoption.

Our Second Amended and Restated Certificate of Incorporation and Fourth Amended and Restated Bylaws do not exclude us from the restrictions of Section 203. We anticipate that the provisions of Section 203 might encourage companies interested in acquiring us to negotiate in advance with our board of directors since the shareholder approval requirement would be avoided if a majority of the directors then in office approve either the business combination or the transaction that resulted in the shareholder becoming an interested shareholder.

DESCRIPTION OF PREFERRED STOCK

The following briefly summarizes the material terms of the preferred stock that we may offer, other than pricing and related terms which will be disclosed in a prospectus supplement and/or free writing prospectus. You

should read the particular terms of any series of preferred stock that we offer, which we will describe in more detail in any prospectus supplement relating to such series. You should also read the more detailed provisions of our Second Amended and Restated Certificate of Incorporation and the statement with respect to shares relating to each particular series of preferred stock for provisions that may be important to you. The statement with respect to shares relating to each particular series of preferred stock offered by the accompanying prospectus supplement and this prospectus will be filed as an exhibit to a document incorporated by reference in the registration statement. The prospectus supplement will also state whether any of the terms summarized below do not apply to the series of preferred stock being offered.

General

Our board of directors is authorized to issue up to 10,000,000 shares of preferred stock, par value $0.001 per share. As of the date of this prospectus, we have not issued any shares of preferred stock. Our board of directors can issue shares of preferred stock in one or more series and can specify the following terms for each series:

- the number of shares;
- the designation, powers, preferences and rights of the shares; and
- the qualifications, limitations or restrictions, except as otherwise stated in our Second Amended and Restated Certificate of Incorporation.

Before issuing any series of preferred stock, our board of directors will adopt resolutions creating and designating the series as a series of preferred stock, and the resolutions will be filed in a statement with respect to shares as an amendment to our Second Amended and Restated Certificate of Incorporation.

The rights of holders of the preferred stock offered may be adversely affected by the rights of holders of any shares of preferred stock that may be issued in the future. Our board of directors may cause shares of preferred stock to be issued in public or private transactions for any proper corporate purpose. Examples include issuances to obtain additional financing in connection with acquisitions or otherwise, and issuances to our officers, directors and employees and its subsidiaries pursuant to benefit plans or otherwise. The preferred stock could have the effect of acting as an anti-takeover device to prevent a change in control of us.

Unless the particular prospectus supplement states otherwise, holders of each series of preferred stock will not have any preemptive or subscription rights to acquire more of our stock.

The transfer agent, registrar, dividend disbursing agent and redemption agent for shares of each series of preferred stock will be named in the prospectus supplement relating to such series.

Rank

Unless otherwise specified in the prospectus supplement relating to the shares of any series of preferred stock, the shares will rank on an equal basis with each other series of preferred stock and prior to the common stock as to dividends and distributions of assets.

Dividends

Unless the particular prospectus supplement states otherwise, holders of each series of preferred stock will be entitled to receive cash dividends, when, as and if declared by our board of directors out of funds legally available for dividends. The rates and dates of payment of dividends will be set forth in the prospectus supplement relating to each series of preferred stock. Dividends will be payable to holders of record of preferred stock as they appear on our books. Dividends on any series of preferred stock may be cumulative or noncumulative.

We may not declare, pay or set apart for payment dividends on the preferred stock unless full dividends on any other series of preferred stock that ranks on an equal or senior basis have been paid or sufficient funds have been set apart for payment for:

- all prior dividend periods of the other series of preferred stock that pay dividends on a cumulative basis; or
- the immediately preceding dividend period of the other series of preferred stock that pay dividends on a noncumulative basis.

Partial dividends declared on shares of preferred stock and any other series of preferred stock ranking on an equal basis as to dividends will be declared pro rata. A pro rata declaration means that the ratio of dividends declared per share to accrued dividends per share will be the same for all such series of preferred stock.

Similarly, we may not declare, pay or set apart for payment non-stock dividends or make other payments on our common stock or any other stock ranking junior to the preferred stock unless full dividends on all series of preferred stock have been paid or set apart for payment for:

- all prior dividend periods if the preferred stock pays dividends on a cumulative basis; or
- the immediately preceding dividend period if the preferred stock pays dividends on a noncumulative basis.

Conversion and Exchange

The prospectus supplement for any series of preferred stock will state the terms, if any, on which shares of that series are convertible into or exchangeable for shares of our common stock.

Redemption

If so specified in the applicable prospectus supplement, a series of preferred stock may be redeemable at any time, in whole or in part, at our option or at the option of the holders, or may be mandatorily redeemed.

Any partial redemptions of preferred stock will be made in a way that our board of directors decides is equitable.

Unless we default in the payment of the redemption price, dividends will cease to accrue after the redemption date on shares of preferred stock called for redemption and all rights of holders of such shares will terminate except for the right to receive the redemption price.

Liquidation Preference

Upon our voluntary or involuntary liquidation, dissolution or winding up, holders of each series of preferred stock will be entitled to receive distributions upon liquidation in the amount set forth in the prospectus supplement relating to such series of preferred stock, plus an amount equal to any accrued and unpaid dividends. Such distributions will be made before any distribution is made on any securities ranking junior to the preferred stock with respect to liquidation, including common stock.

If the liquidation amounts payable relating to the preferred stock of any series and any other securities ranking on a parity regarding liquidation rights are not paid in full, the holders of the preferred stock of such series and such other securities will share in any such distribution of our available assets on a ratable basis in proportion to the full liquidation preferences. Holders of such series of preferred stock will not be entitled to any other amounts from us after they have received their full liquidation preference.

Voting Rights

If we issue voting preferred stock, holders of preferred stock will be entitled to one vote per share on each matter submitted to our shareholders. If we issue non-voting preferred stock, holders of preferred stock will have no voting rights, except as required by applicable law. The prospectus supplement will state the voting rights, if any, applicable to any particular series of preferred stock.

DESCRIPTION OF DEBT SECURITIES

General

The debt securities will be governed by documents called "indentures". An indenture is a contract between AtriCure and the trustee named in the applicable prospectus supplement, which acts as trustee for the debt securities. There may be more than one trustee under each indenture for different series of debt securities. The trustee has two main roles. First, the trustee can enforce your rights against AtriCure if AtriCure defaults. There are some limitations on the extent to which the trustee acts on your behalf, described under "—Remedies If An Event of Default Occurs". Second, the trustee may perform administrative duties for AtriCure, such as sending you interest payments, transferring your debt securities to a new buyer if you sell, and sending you notices.

The debt securities will be unsecured general obligations of AtriCure and may include:

- senior debt securities, to be issued under the senior indenture; and
- subordinated debt securities, to be issued under the subordinated indenture.

The prospectus supplement relating to any particular debt securities offered will indicate whether the debt securities are senior debt securities or subordinated debt securities and will describe the specific terms of the debt securities. The summary in this section and in any prospectus supplement does not describe every aspect of the senior or subordinated indenture or the debt securities, and is subject to and qualified in its entirety by reference to all the provisions of the applicable indenture and the debt securities. The forms of the senior indenture and subordinated indenture and the forms of the debt securities are or will be filed as exhibits to or incorporated by reference in the registration statement. See "Where You Can Find More Information" for information on how to obtain a copy.

This section summarizes the general terms of the senior and subordinated debt securities that we may offer. When we refer to the indenture, we mean the senior indenture and the subordinated indenture collectively, unless we indicate otherwise. When we refer to the trustee, we mean the senior trustee and the subordinated trustee collectively, unless we indicate otherwise. When we refer to the debt securities, we mean the senior and subordinated debt securities, unless we indicate otherwise.

The prospectus supplement relating to any series of debt securities will describe the following specific financial, legal and other terms particular to such series of debt securities:

- the title of the debt securities;
- any limit on the aggregate principal amount of the debt securities;
- the date or dates on which the debt securities will mature;
- the rate or rates (which may be fixed or variable) at which the debt securities will bear interest, if any, and the date or dates from which the interest will accrue;
- the dates on which interest on the debt securities will be payable and the regular record dates for those interest payment dates;

- the place or places where the principal and premium, if any, and interest, if any, shall be payable, where the debt securities may be surrendered for transfer or exchange, and where notices and demands may be served;
- the date, if any, after which and the price or prices at which the debt securities may, in accordance with any option or mandatory redemption provisions, be redeemed and the other detailed terms and provisions of any such optional or mandatory redemption provision;
- any mandatory or optional sinking funds or analogous provisions or provisions for redemption at the holder's option;
- the denomination in which the debt securities will be issuable, if other than denominations of $1,000 and any integral multiple thereof;
- if other than the principal amount thereof, the portion of the principal amount of the debt securities which will be payable upon the declaration of acceleration of the maturity of those debt securities;
- any addition to, or modification or deletion of, any events of default or covenants with respect to the securities;
- any provision relating to the defeasance of our obligations in connection with the debt securities;
- any provision regarding exchangeability or conversion of the debt securities into our common stock or other securities;
- whether any debt securities will be issued in the form of a global security, and, if different than described below under "Book-Entry Securities," any circumstances under which a global security may be exchanged for debt securities registered in the names of persons other than the depositary for the global security or its nominee;
- the subordination provisions applicable to the subordinated debt securities; and
- any other material terms of the debt securities.

The terms of any series of debt securities may vary from the terms described here. Thus, this summary also is subject to and qualified by reference to the description of the particular terms of your debt securities to be described in the prospectus supplement. The prospectus supplement relating to the debt securities will be attached to the front of this prospectus.

The indenture and its associated documents will contain the full legal text of the matters described in this section. The indenture and the debt securities will be governed by New York law.

Events of Default

You will have special rights if an "event of default" occurs, with respect to any series of debt securities, and is not cured, as described later in this subsection. Under the indenture, the term "event of default" will mean any of the following:

- AtriCure does not pay interest on a debt security within 30 days of its due date;
- AtriCure does not pay the principal or any premium on a debt security on its due date;
- AtriCure remains in breach of any covenant or warranty described in the indenture for 90 days after AtriCure receives a notice stating it is in breach, which notice must be sent by either the trustee or direct holders of at least 25% of the principal amount of outstanding debt securities;
- AtriCure fails to pay an amount of debt as defined in any mortgage, indenture, security agreement or other instrument totaling more than $25,000,000 in principal amount, AtriCure's obligation to repay is accelerated by its lenders, and this payment obligation remains accelerated for 30 days after AtriCure receives notice of default as described in the previous paragraph;

- AtriCure becomes subject to one or more final, non-appealable judgments, orders or decrees requiring payments of more than $25,000,000 and such judgments, orders or decrees remain unsatisfied for 60 days during which a stay of enforcement has not been in effect after AtriCure receives notice as described two paragraphs above; or
- certain events of bankruptcy, insolvency or reorganization of AtriCure.

Remedies if an Event of Default Occurs

If an event of default has occurred and has not been cured (if a cure period is provided for), the trustee or the direct holders of 25% in principal amount of the outstanding debt securities may declare the entire principal amount of all the debt securities of that series to be due and immediately payable. This is called a “declaration of acceleration of maturity”.

Except in cases of default, whereby a trustee has some special duties, a trustee will not be required to take any action under the indenture at the request of any direct holders unless the direct holders offer the trustee reasonable protection from costs, expenses and liability (called an “indemnity”). If reasonable indemnity is provided, the direct holders of a majority in principal amount of the outstanding debt securities of the relevant series may direct the time, method and place of conducting any lawsuit or other formal legal action seeking any remedy available to the trustee. These majority direct holders may also direct the trustee in performing any other action under the indenture.

In general, before you bypass the trustee and bring your own lawsuit or other formal legal action or take other steps to enforce your rights or protect your interests relating to the debt securities, the following must occur:

- you must give the trustee written notice that an event of default has occurred and remains uncured;
- the direct holders of at least 25% in principal amount of all outstanding debt securities of the relevant series must make a written request that the trustee take action in its own name as trustee because of the default, and must offer reasonable indemnity to the trustee against the costs, expenses and other liabilities of taking that action;
- the trustee must have not taken action for 60 days after receipt of the above notice and offer of indemnity; and
- the trustee must not have received from direct holders of a majority in principal amount of the outstanding debt securities of that series a direction inconsistent with the written notice during the 60 day period after receipt of the above notice.

However, you are entitled at any time to bring a lawsuit for the payment of money due on your debt security on or after its due date.

Modification

There are three types of changes we can make to the indentures and the debt securities.

Changes Requiring Your Approval

First, there are changes that cannot be made to the indentures or your debt securities without your specific approval. The following is a list of those types of changes:

- change the payment due date;
- reduce any amounts due on a debt security;

- reduce the amount of principal payable upon acceleration of the maturity of a debt security following a default;
- impair your right to sue for payment;
- reduce the percentage in principal amount of debt securities, the consent of whose holders is required to modify or amend the indenture;
- reduce the percentage in principal amount of debt securities, the consent of whose holders is required to waive compliance with certain provisions of the indenture or to waive certain defaults; and
- modify any other aspect of the provisions dealing with modification and waiver of the indenture.

Changes Requiring a Majority Vote

The second type of change to the indentures and the debt securities is the kind that requires consent of the holders of a majority in principal amount of the outstanding debt securities of the particular series affected. With a majority vote, the holders may waive past defaults, provided that such defaults are not of the type described previously under “Changes Requiring Your Approval”.

Changes Not Requiring Approval

The third type of change does not require any vote by direct holders of debt securities. This type is limited to clarifications and certain other changes that would not adversely affect holders of the debt securities.

Consolidation, Merger and Sale of Assets

AtriCure may consolidate or merge with or into another entity, and AtriCure may sell or lease substantially all of AtriCure’s assets to another corporation if the following conditions, among others, are met:

- where AtriCure merges out of existence or sells or leases substantially all its assets, the other entity must be a corporation, partnership or trust organized under the laws of a state or the District of Columbia or under federal law, and it must agree to be legally responsible for the debt securities; and
- the merger, sale of assets or other transaction must not cause a default or an event of default on the debt securities.

Form, Exchange, Registration and Transfer

Generally, we will issue debt securities only in registered global form. See “Book-Entry Securities” below. However, if specified in the prospectus supplement, we may issue certificated securities in definitive form.

You may have your debt securities broken into more debt securities of smaller denominations or combined into fewer debt securities of larger denominations, as long as the total principal amount is not changed. This is called an “exchange”.

You may exchange or transfer debt securities at the office of the trustee. The trustee acts as our agent for registering debt securities in the names of holders and transferring debt securities. We may appoint another entity or perform this role itself. The entity performing the role of maintaining the list of registered direct holders is called the “security registrar”. It will also perform transfers. You will not be required to pay a service charge to transfer or exchange debt securities, but you may be required to pay for any tax or other governmental charge associated with the exchange or transfer. The transfer or exchange will only be made if the security registrar is satisfied with your proof of ownership.

If the debt securities are redeemable and AtriCure redeems less than all of the debt securities of a particular series, AtriCure may block the transfer or exchange of those debt securities during the period beginning 15 days

before the day AtriCure mails the notice of redemption and ending on the day of that mailing, in order to freeze the list of holders to prepare the mailing. We may also refuse to register transfers or exchanges of debt securities selected for redemption, except that we will continue to permit transfers and exchanges of the unredeemed portion of any debt security being partially redeemed.

Book-Entry Securities

The debt securities will be represented by one or more global securities. Unless otherwise indicated in the prospectus supplement, the global security representing the debt securities will be deposited with, or on behalf of, The Depository Trust Company ("DTC"), New York, New York, or other successor depository we appoint, and registered in the name of the depository or its nominee. The debt securities will not be issued in definitive form unless otherwise provided in the prospectus supplement.

DTC will act as securities depository for the securities. The debt securities will be issued as fully registered securities registered in the name of Cede & Co. (DTC's nominee).

DTC has informed us as follows:

- DTC is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Exchange Act.
- DTC holds securities that its participants deposit with DTC and facilitates the settlement among participants of securities transactions, such as transfers and pledges, in deposited securities through electronic computerized book-entry changes in participants' accounts, thereby eliminating the need for physical movement of securities certificates.
- Direct participants include securities brokers and dealers, trust companies, clearing corporations, and certain other organizations.
- DTC is owned by a number of its direct participants and by the New York Stock Exchange, Inc., the American Stock Exchange, Inc. and the Financial Industry Regulatory Authority.
- Access to the DTC system is also available to indirect participants such as securities brokers and dealers, banks and trust companies that clear through or maintain a custodial relationship with a direct participant, either directly or indirectly.
- The rules applicable to DTC and its direct and indirect participants are on file with the SEC.

We have provided the following descriptions of the operations and procedures of DTC solely as a matter of convenience. These operations and procedures are solely within the control of DTC and are subject to change by them from time to time. Neither we, any underwriter nor the trustee take any responsibility for these operations or procedures, and you are urged to contact DTC or its participants directly to discuss these matters.

We expect that under procedures established by DTC:

- Upon deposit of the global securities with DTC or its custodian, DTC will credit on its internal system the accounts of direct participants designated by the underwriters with portions of the principal amounts of the global securities; and
- Ownership of the debt securities will be shown on, and the transfer of ownership of the debt securities will be effected only through, records maintained by DTC or its nominee, with respect to interests of direct participants, and the records of direct and indirect participants, with respect to interests of persons other than participants.

The laws of some jurisdictions require that purchasers of securities take physical delivery of those securities in the form of a certificate. For that reason, it may not be possible to transfer interests in a global security to those persons. In addition, because DTC can act only on behalf of its participants, who in turn act on behalf of persons who hold interests through participants, the ability of a person having an interest in a global security to pledge or transfer that interest to persons or entities that do not participate in DTC's system, or otherwise to take actions in respect of that interest, may be affected by the lack of a physical definitive security in respect of that interest.

So long as DTC or its nominee is the registered owner of a global security, DTC or that nominee will be considered the sole owner or holder of the debt securities represented by that global security for all purposes under the mortgage indenture and under the debt securities. Except as described below, owners of beneficial interests in a global security will not be entitled to have debt securities represented by that global security registered in their names, will not receive or be entitled to receive the debt securities in the form of a physical certificate and will not be considered the owners or holders of the debt securities under the mortgage indenture or under the debt securities, and may not be entitled to give the trustee directions, instructions or approvals. For that reason, each holder owning a beneficial interest in a global security must rely on DTC's procedures and, if that holder is not a direct or indirect participant in DTC, on the procedures of the DTC participant through which that holder owns its interest, to exercise any rights of a holder of debt securities under the mortgage indenture or the global security.

We will not have any responsibility or liability for any aspect of DTC's records relating to the debt securities or relating to payments made by DTC on account of the debt securities, or any responsibility to maintain, supervise or review any of DTC's records relating to the debt securities.

We will make payments on the debt securities represented by the global securities to DTC or its nominee, as the registered owner of the debt securities. We expect that when DTC or its nominee receives any payment on the debt securities represented by a global security, DTC will credit participants' accounts with payments in amounts proportionate to their beneficial interests in the global security as shown in DTC's records. We also expect that payments by DTC's participants to owners of beneficial interests in the global security held through those participants will be governed by standing instructions and customary practice as is now the case with securities held for the accounts of customers registered in the names of nominees for such customers. DTC's participants will be responsible for those payments.

Payments on the debt securities represented by the global securities will be made in immediately available funds. Transfers between participants in DTC will be made in accordance with DTC's rules and will be settled in immediately available funds.

Notices

Notices to holders of debt securities will be given by mail to the addresses of such holders as they appear in the security register.

The Trustee

U.S. Bank National Association will act as trustee under each of the senior debt indenture and the subordinated debt indenture.

DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of common stock, debt securities or other securities registered pursuant to this registration statement and described in this prospectus. We may issue warrants independently or together with other securities that may be attached to or separate from the warrants. We will issue each series of

warrants under a separate warrant agreement that will be entered into between us and a bank or trust company, as warrant agent, and will be described in the prospectus supplement relating to the particular issue of warrants. The warrant agent will act solely as our agent in connection with the warrant of such series and will not assume any obligation or relationship of agency for or with holders or beneficial owners of warrants. The following describes certain general terms and provisions of debt warrants or common stock warrants we may offer. We will set forth further terms of the debt warrants, common stock warrants or warrants to purchase other securities and the applicable warrant agreement in the applicable prospectus supplement.

Common Stock and Preferred Stock Warrants

The applicable prospectus supplement will describe the terms of any common stock or preferred stock warrants, including the following:

- the title of such warrants;
- the offering price of such warrants, which we may distribute proportionately free of charge to our shareholders (in the applicable prospectus supplement, we may refer to warrants distributed proportionately free of charge to our shareholders as rights to purchase our common stock and any securities not taken by our shareholders may be reoffered to the public);
- the aggregate number of such warrants;
- the designation and terms of the securities purchasable upon exercise of such warrants;
- if applicable, the designation and terms of the securities with which such warrants are issued and the number of such warrants issued with each such security;
- if applicable, the date from and after which such warrants and any securities issued therewith will be separately transferable;
- the number of shares of securities purchasable upon exercise of the warrants and the price at which such shares may be purchased upon exercise;
- the date on which the right to exercise such warrants shall commence and the date on which such right shall expire;
- if applicable, the minimum or maximum amount of such warrants which may be exercised at any one time;
- the currency, currencies or currency units in which the offering price, if any, and the exercise price are payable;
- if applicable, a discussion of certain U.S. federal income tax considerations;
- the identity of the warrant agent for the warrants; and
- the antidilution provisions of the warrants, if any.

Debt Warrants

The applicable prospectus supplement will describe the terms of any debt warrants, including the following:

- the title of the debt warrants;
- the offering price for the debt warrants;
- the aggregate number of the debt warrants;
- the designation and terms of the debt securities purchasable upon exercise of such debt warrants;
- if applicable, the designation and terms of the securities with which such debt warrants are issued and the number of such debt warrants issued with each security;

- if applicable, the date from and after which such debt warrants and any securities issued therewith will be separately transferable;
- the principal amount of debt securities purchasable upon exercise of a debt warrant and the price at which such principal amount of debt securities may be purchased upon exercise;
- the date on which the right to exercise such debt warrants shall commence and the date on which such right shall expire;
- if applicable, the minimum or maximum amount of such debt warrants which may be exercised at any one time;
- whether the debt warrants represented by the debt warrant certificates or debt securities that may be issued upon exercise of the debt warrants will be issued in registered form;
- information with respect to book-entry procedures, if any;
- the currency, currencies or currency units in which the offering price, if any, and the exercise price are payable;
- if applicable, a discussion of certain U.S. federal income tax considerations;
- the identity of the warrant agent for the warrants;
- the antidilution provisions of such debt warrants, if any;
- the redemption or call provisions, if any, applicable to such debt warrants; and
- any additional terms of the debt warrants, including terms, procedures and limitations relating to the exchange and exercise of such debt warrants.

DESCRIPTION OF DEPOSITARY SHARES

The following briefly summarizes the provisions of the depositary shares and depositary receipts that we may issue from time to time and which would be important to holders of depository shares and depositary receipts, other than pricing and related terms, which will be disclosed in the applicable prospectus supplement. The prospectus supplement will also state whether any of the general provisions summarized below do not apply to the depositary shares or depositary receipts being offered and provide any additional provisions applicable to the depositary shares or depositary receipts being offered. The following description and any description in a prospectus supplement may not be complete and are subject to, and qualified in their entirety by reference to the terms and provisions of the form of deposit agreement filed as an exhibit to the registration statement which contains this prospectus.

Depositary Shares

We may offer depositary shares evidenced by depositary receipts. Each depositary share represents a fraction or a multiple of a share of a particular series of preferred stock that we issue and deposit with a depositary. The fraction or the multiple of a share of preferred stock, which each depositary share represents, will be set forth in the applicable prospectus supplement.

We will deposit the shares of any series of preferred stock represented by depositary shares according to the provisions of a deposit agreement to be entered into between us and a bank or trust company, which we will select as its preferred stock depositary. We will name the depositary in the applicable prospectus supplement. Each holder of a depositary share will be entitled to all the rights and preferences of the underlying preferred stock in proportion to the applicable fraction or multiple of a share of preferred stock represented by the depositary share. These rights include any applicable dividend, voting, redemption, conversion and liquidation rights. The depositary will send the holders of depositary shares all reports and communications that we deliver to the depositary and which we are required to furnish to the holders of depositary shares.

Depositary Receipts

The depositary shares will be evidenced by depositary receipts issued pursuant to the deposit agreement. Depositary receipts will be distributed to anyone who is buying the fractional shares of preferred stock in accordance with the terms of the applicable prospectus supplement.

Withdrawal of Preferred Stock

Unless the related depositary shares have previously been called for redemption, a holder of depositary shares may receive the number of whole shares of the related series of preferred stock and any money or other property represented by the holder's depositary receipts after surrendering the depositary receipts at the corporate trust office of the depositary, paying any taxes, charges and fees provided for in the deposit agreement and complying with any other requirement of the deposit agreement. Partial shares of preferred stock will not be issued. If the surrendered depositary shares exceed the number of depositary shares that represent the number of whole shares of preferred stock the holder wishes to withdraw, then the depositary will deliver to the holder at the same time a new depositary receipt evidencing the excess number of depositary shares. Once the holder has withdrawn the preferred stock, the holder will not be entitled to re-deposit that preferred stock under the deposit agreement or to receive depositary shares in exchange for such preferred stock.

Dividends and Other Distributions

The depositary will distribute to record holders of depositary shares any cash dividends or other cash distributions it receives on preferred stock. Each holder will receive these distributions in proportion to the number of depositary shares owned by the holder. The depositary will distribute only whole U.S. dollars and cents. The depositary will add any fractional cents not distributed to the next sum received for distribution to record holders of depositary shares.

In the event of a non-cash distribution, the depositary will distribute property to the record holders of depositary shares, unless the depositary determines that it is not feasible to make such a distribution. If this occurs, the depositary may, with our approval, sell the property and distribute the net proceeds from the sale to the holders.

The amounts distributed to holders of depositary shares will be reduced by any amounts required to be withheld by the preferred stock depositary or by us on account of taxes or other governmental charges.

Redemption of Depositary Shares

If the series of preferred stock represented by depositary shares is subject to redemption, then we will give the necessary proceeds to the depositary. The depositary will then redeem the depositary shares using the funds it received from us for the preferred stock. The redemption price per depositary share will be equal to the redemption price payable per share for the applicable series of the preferred stock and any other amounts per share payable with respect to the preferred stock multiplied by the fraction of a share of preferred stock represented by one depositary share. Whenever we redeem shares of preferred stock held by the depositary, the depositary will redeem the depositary shares representing the shares of preferred stock on the same day, provided we have paid in full to the depositary the redemption price of the preferred stock to be redeemed and any accrued and unpaid dividends. If fewer than all the depositary shares of a series are to be redeemed, the depositary shares will be selected by lot or ratably or by any other equitable method as the depositary will decide.

After the date fixed for redemption, the depositary shares called for redemption will no longer be considered outstanding. Therefore, all rights of holders of the depositary shares will cease, except that the holders will still be entitled to receive any cash payable upon the redemption and any money or other property to which the holder was entitled at the time of redemption. To receive this amount or other property, the holders must surrender the

depositary receipts evidencing their depositary shares to the preferred stock depositary. Any funds that we deposit with the preferred stock depositary for any depositary shares that the holders fail to redeem will be returned to us after a period of two years from the date we deposit the funds.

Voting the Preferred Stock

Upon receipt of notice of any meeting at which the holders of preferred stock are entitled to vote, the depositary will notify holders of depositary shares of the upcoming vote and arrange to deliver our voting materials to the holders. The record date for determining holders of depositary shares that are entitled to vote will be the same as the record date for the preferred stock. The materials the holders will receive will describe the matters to be voted on and explain how the holders, on a certain date, may instruct the depositary to vote the shares of preferred stock underlying the depositary shares. For instructions to be valid, the depositary must receive them on or before the date specified. To the extent possible, the depositary will vote the shares as instructed by the holder. We agree to take all reasonable actions that the depositary determines are necessary to enable it to vote as a holder has instructed. The depositary will abstain from voting shares of preferred stock deposited under a deposit agreement if it has not received specific instructions from the holder of the depositary shares representing those shares.

Amendment and Termination of the Deposit Agreement

We may agree with the depositary to amend the deposit agreement and the form of depositary receipt at any time. However, any amendment that materially and adversely alters the rights of the holders of depositary receipts will not be effective unless it has been approved by the holders of at least a majority of the affected depositary shares then outstanding. We will make no amendment that impairs the right of any holder of depositary shares, as described above under "– Withdrawal of Preferred Stock," to receive shares of preferred stock and any money or other property represented by those depositary shares, except in order to comply with mandatory provisions of applicable law. If an amendment becomes effective, holders are deemed to agree to the amendment and to be bound by the amended deposit agreement if they continue to hold their depositary receipts.

The deposit agreement automatically terminates if a final distribution in respect of the preferred stock has been made to the holders of depositary receipts in connection with our liquidation, dissolution or winding-up. We may also terminate the deposit agreement at any time we wish with at least 60 days prior written notice to the depositary. If we do so, the depositary will give notice of termination to the record holders not less than 30 days before the termination date. Once depositary receipts are surrendered to the depositary, it will send to each holder the number of whole or fractional shares of the series of preferred stock underlying that holder's depositary receipts.

Charges of Depositary and Expenses

We will pay all transfer and other taxes and governmental charges arising solely from the existence of the depositary arrangements. We will pay all charges of the depositary in connection with the initial deposit of the related series of offered preferred stock, the initial issuance of the depositary shares, all withdrawals of shares of the related series of offered preferred stock by holders of the depositary shares and the registration of transfers of title to any depositary shares. However, holders of depositary receipts will pay other taxes and governmental charges and any other charges provided in the deposit agreement to be payable by them.

Limitations on Our Obligations and Liability to Holders of Depositary Receipts

The deposit agreement will expressly limit our obligations and the obligations of the depositary. It will also limit our liability and the liability of the depositary as follows:

- we and the depositary are only liable to the holders of depositary receipts for negligence or willful misconduct; and

- we and the depositary have no obligation to become involved in any legal or other proceeding related to the depositary receipts or the deposit agreement on your behalf or on behalf of any other party, unless you provide us with satisfactory indemnity.

Resignation and Removal of Depositary

The depositary may resign at any time by notifying us of its election to do so. In addition, we may remove the depositary at any time. Within 60 days after the delivery of the notice of resignation or removal of the depositary, we will appoint a successor depositary.

Reports to Holders

We will deliver all required reports and communications to holders of the offered preferred stock to the depositary, and it will forward those reports and communications to the holders of depositary shares.

DESCRIPTION OF UNITS

We may issue units consisting of any combination of the other types of securities offered under this prospectus in one or more series. We may evidence each series of units by unit certificates that we will issue under a separate agreement. We may enter into unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units.

The following description, together with the additional information included in any applicable prospectus supplement, summarizes the general features of the units that we may offer under this prospectus. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of units being offered, as well as the complete unit agreements that contain the terms of the units. Specific unit agreements will contain additional important terms and provisions and we will file with the SEC the form of each unit agreement relating to units offered under this prospectus.

If we offer any units, certain terms of that series of units will be described in the applicable prospectus supplement, including, without limitation, the following, as applicable:

- the title of the series of units;
- identification and description of the separate constituent securities comprising the units;
- the price or prices at which the units will be issued; the date, if any, on and after which the constituent securities comprising the units will be separately transferable;
- a discussion of certain U.S. federal income tax considerations applicable to the units; and
- any other terms of the units and their constituent securities.

ISSUANCE OF COMMON STOCK PURSUANT TO OUR ACQUISITION OF NCONTACT

Effective October 13, 2015, we acquired nContact pursuant to the terms of the Merger Agreement (the “Merger Agreement”), by and among AtriCure, two wholly-owned subsidiaries of AtriCure, and WRYP Stockholders Services, LLC, solely in its capacity as representative of the stockholders (“Representative”). As consideration for the merger, we paid upfront consideration of 3,452,152 shares of our common stock and approximately $7.6 million in cash and deposited an additional 304,876 shares of our common stock into an escrow established pursuant to the Merger Agreement for post-closing claims.

Subject to meeting certain additional performance milestones throughout the five-year period beginning January 1, 2016, as more particularly described in the Merger Agreement, the nContact stockholders will be eligible to receive additional consideration in the form of earn out payments (the "Earn-Out"). The Earn-Out may be paid in a combination of cash and our common stock. The Merger Agreement provides that the maximum number of shares that may be issued by AtriCure in connection with all of the transactions contemplated by the Merger Agreement, including the Earn-Out, shall not exceed 19.9% of AtriCure's outstanding shares of common stock prior to the acquisition of nContact. This prospectus relates to the resale of the 3,757,028 shares of our common stock previously issued at the closing of the merger, 231,963 shares issued to the former stockholders of nContact (the "selling securityholders") on September 20, 2018 pursuant to the Merger Agreement as contingent consideration, and up to 1,670,993 additional shares that may be issued pursuant to the Earn-Out by us to the selling securityholders in connection with the Merger Agreement.

SELLING SECURITYHOLDERS

The shares of common stock to be sold pursuant to this prospectus identified in the table below were issued in a private placement to the selling securityholders in connection with the consummation of transactions contemplated by the Merger Agreement described above in "Issuance of Common Stock Pursuant to our Acquisition of nContact." When we refer to the selling securityholders in this prospectus, we mean the holders listed in the table below, as well as their permitted transferees, assignees, donees, pledgees and successors in interest.

The Registration Statement of which this prospectus forms a part has been filed pursuant to registration rights granted to the selling securityholders in the Merger Agreement in order to permit the selling securityholders to resell to the public shares of our common stock, as well as any shares of common stock that we may issue or may be issuable by reason of the Earn-Out. We will pay certain expenses of the registration of the selling securityholders' shares of our common stock, including SEC filing fees, but the selling securityholders will pay all underwriting discounts and commissions, if any.

Securityholders that received shares pursuant to the Merger Agreement entered into a Lock-Up and Liquidity Agreement. Pursuant to the Lock-Up and Liquidity Agreement and subject to certain exceptions, for a period that ended the 180th day following the closing of the Merger (the "Lock-Up Period"), the selling securityholders agreed that they would not offer, sell, contract to sell, pledge, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, make any short sale or otherwise transfer, hedge or dispose of any of our shares, enter into any swap or other arrangement that transfers our shares, make any demand for or exercise any right with respect to registration of any of our shares, or publicly announce the intention to do any of the foregoing, without our prior written consent. Notwithstanding the foregoing, AtriCure agreed to use commercially reasonable efforts after the closing to undertake an organized liquidity event that gives selling securityholders the right, during the Lock-Up Period, to sell up to 50% of such selling securityholder's shares received pursuant to the Merger Agreement. The Lock-Up Period does not apply to any of our shares issued as part of any Earn-Outs.

Pursuant to registration rights granted in the Merger Agreement, each selling securityholder must promptly notify us in writing of any changes in the information set forth in the Registration Statement regarding the selling securityholder. We may, by giving two (2) days prior written notice to each selling securityholder, delay or suspend the Registration Statement and require that all selling securityholders immediately cease sales of shares of our common stock pursuant to the Registration Statement, for a period no longer than fourteen (14) calendar days, in the event that: (i) we are involved in any activity, transaction, preparations or negotiations that we desire to keep confidential for business reasons and we in good faith determine that the public disclosure requirements imposed on us pursuant to the Registration Statement would require a disclosure that could cause us imminent and material harm; or (ii) any other event occurs that makes any statement of a material fact in the Registration Statement untrue or requires additions or changes to the Registration Statement; provided, however, that we may only use this right twice in any twelve-month period.

The table below sets forth certain information known to us with respect to the beneficial ownership of the shares of our common stock held by the selling securityholders as of October 13, 2015. Given that the selling securityholders may sell, transfer or otherwise dispose of all, some or none of the shares of our common stock covered by this prospectus, we cannot determine the number of such shares that will be sold, transferred or otherwise disposed of by the selling securityholders, or the amount or percentage of shares of our common stock that will be held by the selling securityholders upon termination of this offering. See "Plan of Distribution". For the purposes of the table below, we assume that the selling securityholders will sell all of their shares of our common stock covered by this prospectus.

In the table below, the percentage of shares beneficially owned is based on 38,605,737 shares of our common stock outstanding as of February 22, 2019. Beneficial ownership is determined under the rules of the

SEC and generally includes voting or investment power with respect to securities. The entities named in the table below have sole voting and sole investment power with respect to all shares beneficially owned.

Except as described herein, none of the selling securityholders has had any material relationship with us except with respect to ownership of the shares of common stock.

	Shares beneficially owned prior to this offering			Shares beneficially owned after offering	
Name and address of beneficial owner	Common stock (1)	Percentage of shares	Shares to be sold in offering	Common stock	Percentage of shares
Intersouth Partners VI, L.P. (2) 102 City Mall Plaza, Suite 200 Durham, NC 27701	1,998,465	5.18%	1,998,465	—	—
Massey Burch Venture Fund II, L.P. (3) 4007 Hillsboro Rd. Suite A Nashville, TN 37215	657,225	1.70%	657,225	—	—
Village Ventures Partners Fund, L.P. (4) 1 Bank Street, 2nd Floor Williamstown, MA 01267	25,969	*	25,969	—	—
Village Ventures Partners Fund A, L.P. (4) 1 Bank Street, 2nd Floor Williamstown, MA 01267	1,874	*	1,874	—	—
Tall Oaks Capital Investments, LLC (5) 315 Old Ivy Way, Suite 301 Charlottesville, VA 22903	79,406	*	79,406	—	—
Finistere-Chicago Partners Fund I L.P. (6) 4365 Executive Drive, Suite 1500 San Diego, CA 92121	393,425	1.02%	393,425	—	—
Finistere-Oceania Partners Fund I L.P. (6) 4365 Executive Drive, Suite 1500 San Diego, CA 92121	108,247	*	108,247	—	—
Hippo Ventures, L.L.C. (7) 3101 Hillsborough St. Raleigh, NC 27607	336,190	*	336,190	—	—
Hippo Ventures II, L.L.C. (7) 3101 Hillsborough St. Raleigh, NC 27607	264,812	*	264,812	—	—
Harbert Venture Partners, LLC (8) 2100 Third Avenue North, Suite 600 Birmingham, AL 35203	309,678	*	309,678	—	—
Harbert Venture Partners II, L.P. (9) 2100 Third Avenue North, Suite 600 Birmingham, AL 35203	436,463	1.14%	436,463	—	—
SVB Financial Group 3005 Tasman Dr. Santa Clara, CA 95054	151	*	151	—	—
ZMV Associates, LLC (10) 114 River Road Scarborough, NY 10510	215,528	*	215,528	—	—
NCON Co-Investor, LLC (9) 2100 Third Avenue North, Suite 600 Birmingham, AL 35203	308,875	*	308,875	—	—

Name and address of beneficial owner	Shares beneficially owned prior to this offering: Common stock (1)	Shares beneficially owned prior to this offering: Percentage of shares	Shares beneficially owned after offering: Shares to be sold in offering	Shares beneficially owned after offering: Common stock	Shares beneficially owned after offering: Percentage of shares
Harbert Venture Partners (Annex Fund), LLC (8) 2100 Third Avenue North, Suite 600 Birmingham, AL 35203	38,902	*	38,902	—	—
Excelleration MedTech, LLC (11) 3550 Lakeline Blvd., Suite 170-1520 Leander, TX 78641	367,920	*	367,920	—	—
Lakestone Capital, LLC (12) 2626 Glenwood Avenue, Suite 483 Raleigh, NC 27608	17,487	*	17,487	—	—
Hercules Technology III, L.P. (13) 400 Hamilton Ave., Suite 310 Palo Alto, CA 94301	11,341	*	11,341	—	—
Michael S. Estes PhD 1173 Brown Ave. Lafayette, CA 94549	5,078	*	5,078	—	—
John P. Funkhouser 3340 Alleghany Drive Raleigh, NC 27609	50,819	*	50,819	—	—
James G. Whayne 3922 Overcup Oak Lane Cary, NC 27519	11,306	*	11,306	—	—
Sidney D. Fleischman 1147 Scholastic Circle Durham, NC 27713	20,823	*	20,823	—	—

* denotes less than one percent

1. Includes shares of our common stock over which the selling securityholder has sole voting and dispositive power as well as shares of our common stock held in escrow over which WRYP Stockholders Services, LLC in its capacity as representative of the selling securityholder has sole voting power as follows: Intersouth Partners VI, L.P. – 109,157 shares; Massey Burch Venture Fund II, L.P. – 35,901 shares; Village Ventures Partners Fund, L.P. – 1,417 shares; Village Ventures Partners Fund A, L.P. – 107 shares; Tall Oaks Capital Investments, LLC – 4,342 shares; Finistere-Chicago Partners Fund I L.P. – 21,491 shares; Finistere-Oceania Partners Fund I L.P. – 5,917 shares; Hippo Ventures, L.L.C. – 18,363 shares; Hippo Ventures II, L.L.C. – 14,462; Harbert Venture Partners, LLC – 16,917 shares; Harbert Venture Partners II, L.P. – 23,842 shares; SVB Financial Group - 12 shares; ZMV Associates, LLC – 11,769 shares; NCON Co-Investor, LLC – 16,867 shares; Harbert Venture Partners (Annex Fund), LLC – 2,121 shares; Excelleration MedTech, LLC – 20,097 shares; Lakestone Capital, LLC – 953 shares; Hercules Technology III, L.P. - 620 shares; John P. Funkhouser - 279 shares; James G. Whayne - 114 shares; Sidney D. Fleischman - 128 shares. Also includes up to an aggregate of 1,902,956 shares of our common stock that may be issued as Earn-Out as follows: Intersouth Partners VI, L.P. – 671,939 shares; Massey Burch Venture Fund II, L.P. – 220,935 shares; Village Ventures Partners Fund, L.P. – 8,753 shares; Village Ventures Partners Fund A, L.P. – 570 shares; Tall Oaks Capital Investments, LLC – 26,641 shares; Finistere-Chicago Partners Fund I L.P. – 132,256 shares; Finistere-Oceania Partners Fund I L.P. – 36,346 shares; Hippo Ventures, L.L.C. – 113,036 shares; Hippo Ventures II, L.L.C. – 89,059 shares; Harbert Venture Partners, LLC – 104,092 shares; Harbert Venture Partners II, L.P. – 146,719 shares; ZMV Associates, LLC – 72,503 shares; NCON Co-Investor, LLC – 103,902 shares; John P. Funkhouser – 17,126 shares; James G. Whayne – 3,805 shares; Sidney D. Fleischman – 7,040 shares; Harbert Venture Partners (Annex Fund), LLC –
13,130 shares; Excelleration MedTech, LLC – 123,693 shares; Lakestone Capital, LLC – 5,899 shares; Hercules Technology III, L.P. – 3,805 shares; Michael S. Estes PhD – 1,707 shares.

2. The general partner of Intersouth Partners VI, L.P. is Intersouth Associates VI, LLC, the managers of which are Intersouth Advisors, Inc., Dennis Dougherty and Mitch Mumma, each of whom may be deemed to share voting and investment power with respect to the securities and disclaims beneficial ownership of the securities, except to the extent of his/her/its pecuniary interest therein.
3. The general partner of Massey Burch Venture Fund II, L.P. is MB Partners II, L.P., the managers of which are William F. Earthman III and Donald M. Johnston, each of whom may be deemed to share voting and investment power with respect to the securities and disclaims beneficial ownership of the securities, except to the extent of his/her pecuniary interest therein.
4. The general partner of Village Ventures Partners Fund, L.P. and Village Ventures Partners Fund A, L.P. is Village Ventures Capital Partners I, LLC, the managers of which are Village Ventures, Inc., Matthew C. Harris and William Bo S. Peabody, each of whom may be deemed to share voting and investment power with respect to the securities and disclaims beneficial ownership of the securities, except to the extent of his/her/its pecuniary interest therein.
5. The manager of Tall Oaks Capital Investments, LLC is Colin M. Rolph, who may be deemed to share voting and investment power with respect to the securities and disclaims beneficial ownership of the securities, except to the extent of his pecuniary interest therein.
6. The general partner of Finistere-Chicago Partners Fund I L.P. and Finistere-Oceania Partners Fund I L.P. is Finistere Ventures, LLC, the managers of which are Bruce J. Brumfield, Jr., Jerry Caulder and Aramia Kukutai, each of whom may be deemed to share voting and investment power with respect to the securities and disclaims beneficial ownership of the securities, except to the extent of his/her/its pecuniary interest therein.
7. The manager of Hippo Ventures, L.L.C. and Hippo Ventures II, L.L.C. is Robert Young, who may be deemed to share voting and investment power with respect to the securities and disclaims beneficial ownership of the securities, except to the extent of his pecuniary interest therein.
8. The manager of Harbert Venture Partners, LLC and Harbert Venture Partners (Annex Fund), LLC is Harbert Venture Partners MM, LLC, the managers of which is HMC-Virginia, Inc. and William W. Brooke, each of whom may be deemed to share voting and investment power with respect to the securities and disclaims beneficial ownership of the securities, except to the extent of his/her/its pecuniary interest therein.
9. The general partner of Harbert Venture Partners II, L.P., and the manager of NCON Co-Investor, LLC, is Harbert Venture Partners II GP, LLC, the managers of which are HMC-Virginia, Inc. and William W. Brooke, each of whom may be deemed to share voting and investment power with respect to the securities and disclaims beneficial ownership of the securities, except to the extent of his/her/its pecuniary interest therein.
10. The manager of ZMV Associates, LLC is Robert C. Mayer, Jr., who may be deemed to share voting and investment power with respect to the securities and disclaims beneficial ownership of the securities, except to the extent of his pecuniary interest therein.
11. The manager of Excelleration MedTech, LLC is Robert L. Kay, who may be deemed to share voting and investment power with respect to the securities and disclaims beneficial ownership of the securities, except to the extent of his pecuniary interest therein.
12. The manager of Lakestone Capital, LLC is Todd A. Robinson, who may be deemed to share voting and investment power with respect to the securities and disclaims beneficial ownership of the securities, except to the extent of his pecuniary interest therein.
13. The general partner of Hercules Technology III, L.P. is Hercules Technology SBIC Management, LLC, the managers of which are Hercules Technology Growth Capital, Inc., Manuel Henriquez, Mark Harris, Scott Bluestein and Walter Lee, each of whom may be deemed to share voting and investment power with respect to the securities and disclaims beneficial ownership of the securities, except to the extent of his/her/its pecuniary interest therein.

PLAN OF DISTRIBUTION

We and the selling securityholders may offer and sell the securities covered by this prospectus in any of the following ways (or in any combination) from time to time:

- to or through underwriters, brokers or dealers;
- directly to purchasers or to a single purchaser, including through privately negotiated transactions;
- through agents;
- in "at the market offerings," within the meaning of Rule 415(a)(4) of the Securities Act, to or through a market maker or into an existing trading market, on an exchange or otherwise; or
- sales on any national securities exchange or quotation service on which our common stock may be listed or quoted at the time of sale.

In addition, we and any selling securityholder may enter into derivative or other hedging transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If any applicable prospectus supplement indicates, in connection with such a transaction, such third parties may, pursuant to this prospectus and any applicable prospectus supplement, sell securities covered by this prospectus and any applicable prospectus supplement. If so, the third party may use securities borrowed from others to settle such sales and may use securities received from us to close out any related short positions. We and the selling securityholders may also loan or pledge securities covered by this prospectus and any applicable prospectus supplement to third parties, who may sell the loaned securities or, in an event of default in the case of a pledge, sell the pledged securities pursuant to this prospectus and any applicable prospectus supplement. We may also offer and sell, or agree to deliver, our securities pursuant to, or in connection with, any option agreement or other contractual arrangement.

Any applicable prospectus supplement will set forth the terms of the offering of the securities covered by this prospectus, including:

- the name or names of any underwriters, dealers or agents and the amounts of securities underwritten or purchased by each of them, if any;
- any material relationship with the underwriter and the nature of such relationship, if any;
- the over-allotment options under which underwriters may purchase additional securities, if any;
- the public offering price or purchase price of the securities and the proceeds to us and any discounts, commissions, or concessions or other items constituting compensation allowed, re-allowed or paid to underwriters, dealers or agents, if any;
- any securities exchanges on which the securities may be listed, if any; and
- the manner for refunding any excess amount paid (including whether interest will be paid).

Any public offering price or purchase price and any discounts, commissions, concessions or other items constituting compensation allowed or re-allowed or paid to underwriters, dealers or agents may be changed from time to time.

The securities may be offered and sold from time to time in one or more transactions, including negotiated transactions, at a fixed price or prices or at varying prices determined at the time of sale. If underwriters are used in the sale of any securities, the securities will be acquired by the underwriters for their own account and may be resold from time to time in one or more transactions described above. The securities may be either offered to the public through underwriting syndicates represented by managing underwriters, or directly by underwriters. Generally, the underwriters' obligations to purchase the securities will be subject to certain conditions precedent. The underwriters will be obligated to purchase all of the securities if they purchase any of the securities.

We and the selling securityholders may sell the securities through agents from time to time. If required by applicable law, any applicable prospectus supplement will name any agent involved in the offer or sale of the securities and any commissions we pay to them. Generally, unless otherwise indicated in any applicable prospectus supplement, any agent will be acting on a best efforts basis for the period of its appointment. If a dealer is used in the sale of the securities in respect of which the prospectus is delivered, we or the selling stockholders will sell such securities to the dealer, as principal. The dealer may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale.

In order to comply with the securities laws of some states, if applicable, the securities may be sold in these jurisdictions only through registered or licensed brokers or dealers. Broker-dealers and agents, and their respective affiliates, may be engaged in transactions with, or perform commercial or investment banking or other services for, us or our subsidiaries or affiliates, in the ordinary course of business.

We and the selling securityholders may authorize underwriters, dealers or agents to solicit offers by certain purchasers to purchase the securities from us at the public offering price set forth in any applicable prospectus supplement or other prices pursuant to delayed delivery or other contracts providing for payment and delivery on a specified date in the future. Any delayed delivery contracts will be subject only to those conditions set forth in any applicable prospectus supplement, and any applicable prospectus supplement will set forth any commissions we pay for solicitation of these delayed delivery contracts.

Each underwriter, dealer and agent participating in the distribution of any offered securities that are issuable in bearer form will agree that it will not offer, sell, resell or deliver, directly or indirectly, offered securities in bearer form in the United States or to U.S. persons except as otherwise permitted by Treasury Regulations Section 1.163-5(c)(2)(i)(D).

Offered securities may also be offered and sold, if so indicated in any applicable prospectus supplement, in connection with a remarketing upon their purchase, in accordance with a redemption or repayment pursuant to their terms, or otherwise, by one or more remarketing firms, acting as principals for their own accounts or as agents for us or the selling securityholders. Any remarketing firm will be identified and the terms of its agreements, if any, with us, and its compensation will be described in any applicable prospectus supplement.

We and the selling securityholders may sell equity securities in an offering “at the market,” as defined in Rule 415 under the Securities Act. A post-effective amendment to this Registration Statement will be filed to identify the underwriter(s) at the time of the take-down for “at the market” offerings.

Agents, underwriters and other third parties described above may be entitled under relevant underwriting or other agreements to indemnification by us or the selling securityholders against certain civil liabilities under the Securities Act, or to contribution with respect to payments which the agents, underwriters or other third parties may be required to make in respect thereof. Agents, underwriters and such other third parties may be customers of, engage in transactions with, or perform services for us or the selling securityholders in the ordinary course of business.

LEGAL MATTERS

The validity of the securities offered by this prospectus will be passed upon for us by Keating Muething & Klekamp PLL, Cincinnati, Ohio.

EXPERTS

The consolidated financial statements and the related financial statement schedule, incorporated in this prospectus by reference from the Company’s Annual Report on Form 10-K for the year ended December 31,

2018 and the effectiveness of AtriCure's internal control over financial reporting have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in its reports, which are incorporated by reference herein. Such financial statements and financial statement schedule have been so incorporated in reliance upon the reports of such firm given upon its authority as experts in accounting and auditing.