AtriCure, Inc.
Form 424B5
January 15, 2013
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The information in this prospectus supplement and the accompanying prospectus is not complete and may be changed. This prospectus supplement and the accompanying prospectus are not an offer to sell these securities, nor are they soliciting offers to buy these securities, in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, dated January 15, 2013

PROSPECTUS SUPPLEMENT

(To Prospectus dated July 20, 2011)

Shares

Common Stock

$ per share

AtriCure, Inc. is offering shares of common stock.

The last reported sale price of our common stock on January 14, 2013 was $**7.46** per share.

Trading symbol: Nasdaq Global Market ATRC.

This investment involves risks. See Risk Factors beginning on page 4 of our Annual Report on Form 10 K for the year ending December 31, 2011, page S 4 of this prospectus supplement and on page 5 of the accompanying prospectus.

	Per Share	Total
Public Offering Price	$	$
Underwriting discount	$	$
Proceeds, before expenses, to AtriCure, Inc	$	$

The underwriter has a 30 day option to purchase up to additional shares of common stock to cover over allotments, if any. If the underwriter exercises this option in full, the total underwriting discount will be $, and our total proceeds, before expenses, will be $.

The underwriter expects to deliver the shares against payment on or about January , 2013.

Neither the Securities and Exchange Commission nor any state securities commission has approved of anyone s investment in these securities or determined if this prospectus supplement and the accompanying prospectus are truthful or complete. Any representation to the contrary is a criminal offense.

Piper Jaffray

Sole Manager

The date of this prospectus supplement is January , 2013.

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We provide information to you about this offering of shares of our common stock in two separate documents that are bound together: (1) this prospectus supplement, which describes the specific details regarding this offering; and (2) the accompanying prospectus, which provides general information, some of which may not apply to this offering. Generally, when we refer to this prospectus, we are referring to both documents combined. If information in this prospectus supplement is inconsistent with the accompanying prospectus, you should rely on this prospectus supplement.

You should rely only on information contained in or incorporated by reference into this prospectus supplement and the accompanying prospectus. We have not, and the underwriter has not, authorized anyone to provide you with information that is different. We are offering to sell and seeking offers to buy shares of our common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein are accurate only as of their respective dates, regardless of the time of delivery of this prospectus supplement or of any sale of our common stock.

Unless otherwise stated in this prospectus supplement, we have assumed throughout this prospectus supplement that the over allotment option granted to the underwriter will not be exercised.

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PROSPECTUS SUPPLEMENT SUMMARY

The items in the following summary are described in more detail later in this prospectus supplement, in the accompanying prospectus and in the documents incorporated by reference herein and therein. This summary provides an overview of selected information and does not contain all the information you should consider before investing in our common stock. Therefore, you should carefully read this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference, which are described under Where You Can Find More Information and Incorporation of Documents by Reference in this prospectus supplement. You should also carefully consider the matters discussed in the sections in this prospectus entitled Risk Factors and in the accompanying prospectus and in other periodic reports incorporated herein by reference.

Our Business

We are a medical device company and a leader in developing, manufacturing and selling innovative cardiac surgical ablation systems designed to create precise lesions, or scars, in cardiac, or heart, tissue for the treatment of atrial fibrillation, or AF, and systems for the exclusion of the left atrial appendage. We are the only company with a system cleared by the United States Food and Drug Administration, or FDA, for the treatment of patients with persistent and long-standing persistent AF. We have two primary product lines for the ablation of cardiac tissue. Our primary product line for the ablation of cardiac tissue, which accounts for a majority of our revenue, is the AtriCure Synergy Ablation System, a bipolar ablation clamp system and related radiofrequency ablation devices. We also offer a cryoablation product line, which features reusable and disposable cryoablation devices. Additionally, we offer the AtriClip Gillinov-Cosgrove Left Atrial Appendage System, or AtriClip system, which is designed to safely and effectively exclude the left atrial appendage.

Cardiothoracic surgeons have adopted our AtriCure Synergy Ablation System, or Synergy System, and cryoablation systems to treat AF in an estimated 120,000 patients since January 2003, and we believe that we are currently the market leader in the surgical treatment of AF. Our products are utilized by cardiothoracic surgeons during concomitant open-heart surgical procedures and also during sole-therapy minimally invasive cardiac ablation procedures. During a concomitant open procedure, the surgeon ablates cardiac tissue and/or excludes the left atrial appendage, secondary, or concomitant, to a primary cardiac procedure such as a valve or coronary bypass. Additionally, cardiothoracic surgeons have adopted our products as a treatment alternative for AF patients who may be candidates for sole-therapy minimally invasive surgical procedures. Our Synergy System, which includes our Isolator® Synergy clamps, a radiofrequency generator and related switchbox, is cleared by the FDA, for the treatment of patients with persistent and long-standing persistent AF during open-heart concomitant coronary artery bypass grafting and/or valve replacement or repair procedures. During 2011, product sales of the Synergy System in the United States, or U.S, represented approximately 40% of our U.S. revenue. To date, none of our other products have been approved or cleared by the FDA for the treatment of other forms of AF or for other uses for the treatment of AF. Additionally, the FDA has not cleared or approved our products for a reduction in the risk of stroke. We anticipate that substantially all of our revenue for the foreseeable future will relate to products we currently sell, or are in the process of developing, which surgeons generally use to ablate cardiac tissue for the treatment of AF or for the exclusion of the left atrial appendage.

AF 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. AF is a condition wherein abnormal electrical impulses cause the atria, or upper chambers of the heart, to fibrillate, or quiver, at rapid rates of 400 to 600 beats per minute. As a result of this quivering, blood in the atria may become static, creating an

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increased risk that a blood clot will form and cause a stroke or other serious complications. If AF persists, patients often progress from experiencing AF intermittently to having AF continuously, a condition that is more difficult to treat. Symptoms of AF may include heart palpitations, dizziness, fatigue and shortness of breath, and these symptoms may be debilitating and life threatening in some cases. Although there is often no specific cause of AF, the condition is often associated with high blood pressure and other forms of heart disease. In most cases, AF is associated with cardiovascular disease, in particular hypertension, congestive heart failure, left ventricular dysfunction, coronary artery disease and valvular disease.

In the United States we primarily sell our products to medical centers through our direct sales force. AtriCure Europe, B.V., our wholly-owned subsidiary incorporated and based in the Netherlands, markets and sells our products throughout Europe, the Middle East and Africa, or EMEA, primarily through distributors, while in certain markets, such as Germany and the Benelux region, we sell directly to medical centers. Additionally, we sell our products to other international distributors, primarily in Asia, South America and Canada. Our business is primarily transacted in U.S. dollars with the exception of transactions with our European subsidiary which are substantially transacted in Euros. Our sales outside of the United States represented 24% and 19% of our revenue during 2011 and 2010, respectively.

Recent Developments

Financial Information

On January 7, 2013, AtriCure announced that preliminary revenue for the fourth quarter of 2012 is expected to be approximately $18.4 million, reflecting growth of approximately 9.5% over the fourth quarter of 2011. Based on these preliminary estimates, revenue from U.S. customers is expected to be $13.7 million, reflecting growth of 10.2%, and revenue from international customers is expected to be $4.7 million, reflecting growth of 7.7%, or 10.0% on a constant currency basis.

Preliminary revenue for full year 2012 is expected to be $70.0 million, reflecting year over year growth of 9.1% over full year 2011.

The preliminary financial results for the fourth quarter and full year ended December 31, 2012 are pending completion of our annual report on Form 10-K for the fiscal year ended December 31, 2012 and accordingly are subject to change.

Corporate Information

We were incorporated in the State of Delaware as AtriCure, Inc. on October 31, 2000 in connection with a spin-off transaction from Enable Medical Corporation, in which shares of our common stock were distributed to the Enable shareholders. The spin-off was intended to allow us to focus on the development of products designed to treat AF and to raise capital for that purpose, while Enable continued its broader research and manufacturing activities. On August 5, 2005, we completed an initial public offering of our common stock. On August 10, 2005, we acquired Enable Medical Corporation, the manufacturer of our Isolator clamps, which are an essential part of our Synergy System. Additionally, in December 2005, we formed AtriCure Europe, B.V. Our principal executive offices are located at 6217 Centre Park Drive, West Chester, Ohio 45069, and our main telephone number is (513) 755-4100. Our

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internet website address is http://www.atricure.com. We do not incorporate by reference into this prospectus supplement or the accompanying prospectus the information on, or accessible through, our website, and you should not consider it as part of this prospectus supplement or the accompanying prospectus.

THE OFFERING

Common stock offered	shares
Common stock to be outstanding after this offering	shares
Use of proceeds	We intend to use the net proceeds from this offering for general corporate purposes and working capital.
Risk factors	You should read the Risk Factors beginning on page 20 of our Annual Report on Form 10 K for the year ended December 31, 2011, on page S 4 of this prospectus supplement, on page 5 of the accompanying prospectus and in the documents incorporated by reference in this prospectus supplement and the accompanying prospectus for a discussion of factors to consider before deciding to purchase shares of our common stock.
Nasdaq Global Market symbol	ATRC

The number of shares of common stock to be outstanding after this offering as reflected in the table above is based on the actual number of shares outstanding as of January 14, 2013 which was 16,895,940, and does not include, as of that date:

- 3,171,012 shares of common stock issuable upon the exercise of outstanding options, with a weighted average exercise price of $8.81 per share;
- 432,052 shares of common stock reserved for future issuance under our 2005 Equity Incentive Plan, as amended.

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RISK FACTORS

Before you make a decision to invest in our common stock, you should consider carefully the risks described below, together with other information in this prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein. If any of the following events actually occur, our business, operating results, prospects or financial condition could be materially and adversely affected. This could cause the trading price of our common stock to decline and you may lose all or part of your investment. The risks described below are not the only ones that we face. Additional risks not presently known to us or that we currently deem immaterial may also significantly impair our business operations and could result in a complete loss of your investment.

See Risk Factors beginning on page 20 of our Annual Report on Form 10 K for the year ended December 31, 2011 and on page 5 of the accompanying prospectus, which are incorporated herein by reference.

Risks Related to This Offering

Management will have broad discretion as to the use of the proceeds from this offering, and we may not use the proceeds effectively.

We have not designated any portion of the net proceeds from this offering to be used for any particular purpose. Accordingly, our management will have broad discretion as to the application of the net proceeds from this offering, and could spend the proceeds in ways that do not necessarily improve our operating results or enhance the value of our common stock.

You will experience immediate dilution in the book value per share of the common stock you purchase.

Because the price per share of our common stock being offered is substantially higher than the book value per share of our common stock, you will suffer substantial dilution in the net tangible book value of the common stock you purchase in this offering. After giving effect to the sale by us of shares of common stock in this offering, and based on a public offering price of $ per share in this offering and a pro forma net tangible book value of our common stock of $13.5 million, or $0.81 per share, as of September 30, 2012, if you purchase shares of common stock in this offering, you will suffer immediate and substantial dilution of $ per share in the net tangible book value of the common stock. If the underwriter exercises its over allotment option, you will experience additional dilution. See Dilution on page S 8 for a more detailed discussion of the dilution you will incur in connection with this offering.

Risks Relating to our Business

If we do not achieve our projected development goals in the quantities or time frames we estimate, the commercialization of our products may be delayed and our business prospects may suffer. The assumptions underlying our product placement and development goals also may prove to be materially inaccurate.

From time to time, we estimate the timing of the accomplishment of various scientific, clinical, regulatory and other product development goals. These goals may include the commencement or completion of scientific studies and clinical trials, the timing and number of product placements and the submission of regulatory filings. We also may disclose projected expenditures or other forecasts for future periods in information that we furnish to the SEC from time to time. These and other projections are based on management s current expectations and may not contain sufficient margin of error or cushion for any specific uncertainties, or for the uncertainties inherent in all forecasting. The actual timing of our product placement and development goals and actual expenditures or other financial results can vary dramatically compared to our estimates, in some cases for reasons beyond our control. If we do not meet

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projections as announced from time to time, the development, placement and commercialization of our products may be delayed and our business prospects may suffer. The assumptions management has used to produce these projections may significantly change or prove to be inaccurate. Accordingly, you should not unduly rely on any of these forward looking statements.

Our ability to use net operating losses to offset future taxable income may be subject to certain limitations.

We currently have significant net operating losses (NOLs) that may be used to offset future taxable income. In general, under Section 382 of the Internal Revenue Code of 1986, as amended (the Code), a corporation that undergoes an ownership change is subject to limitations on its ability to utilize its pre change NOLs to offset future taxable income. This offering or future changes in our stock ownership, some of which are outside of our control, could result in an ownership change under Section 382 of the Code, which would significantly limit our ability to utilize NOLs to offset future taxable income.

SPECIAL NOTE REGARDING FORWARD LOOKING STATEMENTS

This prospectus supplement and the accompanying prospectus, including the documents that we incorporate by reference herein and therein, and other information that we may furnish to the Securities and Exchange Commission from time to time contain forward looking statements about us 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 Securities and Exchange Commission 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, expect, intend, may, might, project, will, would, should, could, can, predict, potential, continue, objective, or the negative of these terms, and similar expr identify forward looking statements. However, not all forward looking statements contain these identifying words. These forward looking statements reflect our current views about future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward looking statements. Our actual results may differ materially from those anticipated in these 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 AF 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 AF 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 and ablation related products will continue to be a primary source of revenue and will not become obsolete;

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competition from new and existing products and procedures in the highly competitive medical device industry;

failure of 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, which could cause lost revenue, delayed or reduced market acceptance of our products, increased costs and damage to our reputation;

our ability to retain our current employees and/or require additional qualified personnel, upon whom the success of our business is highly dependent; and

those set forth under Risk Factors in our Annual Report on Form 10 K.

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 update any of these forward looking statements to reflect circumstances or events that occur after the statement is made or to conform these statements to actual results. The following discussion should be read in conjunction with the consolidated financial statements and notes thereto appearing in our Annual Report on Form 10 K. Our actual results may differ materially from those anticipated in these forward looking statements as a result of various factors, including those set forth under Risk Factors in this prospectus supplement and the accompanying prospectus.

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.

USE OF PROCEEDS

We estimate that the net proceeds from the sale of the shares of common stock we are offering will be approximately $ million, or approximately $ million if the underwriter exercises its over allotment option in full. Net proceeds is what we expect to receive after paying the underwriting discount and other expenses of this offering payable by us.

We will use the net proceeds from the sale of the common stock for general corporate purposes and working capital.

Until we use the net proceeds of this offering, we may invest the funds in short term, investment grade, interest bearing securities.

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DESCRIPTION OF CAPITAL STOCK

As of the date of this prospectus supplement, our authorized capital stock consists of 90,000,000 shares of common stock, par value $0.001 per share, and 10,000,000 shares of undesignated preferred stock, par value $0.001 per share. As of January 14, 2013, there were 16,895,940 shares of our common stock outstanding and there were no shares of our preferred stock outstanding.

In addition, as of January 14, 2013, there were: (i) 3,171,012 shares of common stock issuable upon the exercise of outstanding options, with a weighted average exercise price of $8.81 per share; and (ii) 432,052 shares of common stock reserved for future issuance under our 2005 Equity Incentive Plan, as amended.

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. Holders of 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. Shares of common stock carry no preemptive or conversion or subscription rights and are not subject to redemption or sinking fund provisions.

CAPITALIZATION

The following table sets forth our capitalization as of September 30, 2012 on an actual basis and on an as adjusted basis to reflect this offering.

The table should be read in conjunction with, and is qualified in its entirety by reference to, our unaudited historical financial statements and the accompanying notes included in our Quarterly Report on Form 10 Q for the quarter ended September 30, 2012, which are incorporated by reference herein.

	September 30, 2012	
	Actual (unaudited)	As Adjusted (unaudited)
	(dollars in thousands)	
Stockholders equity:		
Common Stock, $0.001 par value; 90,000,000 shares authorized; shares issued and outstanding; 16,672,694 shares issued and outstanding as adjusted	$ 17	$
Preferred stock, $0.001 par value; 10,000,000 shares authorized; no shares issued		
Additional paid-in capital	122,268	
Accumulated deficit	108,731	
Total stockholders equity	$ 13,561	$

The information above is based on 16,672,694 shares of our common stock outstanding as of September 30, 2012 and does not include:

- 2,522,670 shares of common stock issuable upon the exercise of options outstanding as of September 30, 2012, at a weighted average exercise price of $9.50 per share (including 22,329 shares of common stock that were issued upon the exercise of options from September 30, 2012 through January 14, 2013 and options to purchase 56,429 shares of common stock that were forfeited or expired subsequent to September 30, 2012);
- 727,100 options granted under our 2005 Equity Incentive Plan, as amended, from September 30, 2012 through January 14, 2013; and
- 19,498 restricted shares of common stock that were forfeited to us and returned to the pool of authorized shares available for issuance under our 2005 Equity Incentive Plan, as amended, from September 30, 2012 through January 14, 2013.

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DILUTION

Our net tangible book value on September 30, 2012 was approximately $13.5 million, or $0.81 per share of common stock. Net tangible book value is total assets minus the sum of liabilities and intangible assets. Net tangible book value per share is net tangible book value divided by the total number of shares of common stock outstanding. After giving effect to the sale of shares of common stock offered by us in this offering at a price of $ per share, less the underwriting discounts and other expenses of this offering payable by us, our pro forma as adjusted net tangible book value on September 30, 2012 would have been approximately $ million, or $ per share of common stock. The following table illustrates the pro forma as adjusted increase in net tangible book value of $ per share and the dilution (the difference between the offering price per share and pro forma net tangible book value per share) of $ per share to new investors in this offering:

Public offering price per share		$
Pro forma net tangible book value per share on September 30, 2012	$ 0.81	
Increase in pro forma net tangible book value per share attributable to offering	$	
Pro forma as adjusted net tangible book value per share on September 30, 2012 after giving effect to the offering	$	
Dilution per share to new investors in the offering		$

The above discussion and table are based on 16,672,694 common shares outstanding at September 30, 2012, and do not include, as of that date:

- 2,522,670 shares of common stock issuable upon the exercise of options outstanding as of September 30, 2012, at a weighted average exercise price of $9.50 per share (including 22,329 shares of common stock that were issued upon the exercise of options from September 30, 2012 through January 14, 2013 and options to purchase 56,429 shares of common stock that were forfeited or expired subsequent to September 30, 2012);
- 727,100 options granted under our 2005 Equity Incentive Plan, as amended, from September 30, 2012 through January 14, 2013; and
- 19,498 restricted shares of common stock that were forfeited to us and returned to the pool of authorized shares available for issuance under our 2005 Equity Incentive Plan, as amended, from September 30, 2012 through January 14, 2013.

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UNDERWRITING

We are offering the shares of common stock described in this prospectus supplement through Piper Jaffray & Co. as the sole book running manager. We have entered into a firm commitment underwriting agreement with Piper Jaffray, as underwriter. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to the underwriter, and the underwriter has agreed to purchase from us, shares of common stock.

Underwriter	Number of Shares
Piper Jaffray & Co.	
Total	

The underwriter is committed to purchase all the shares of common stock offered by us if it purchases any shares, other than those shares covered by the over allotment option described below.

The underwriter proposes to offer the common stock directly to the public at the initial public offering price set forth on the cover page of this prospectus supplement and to certain dealers at that price less a concession not in excess of $ per share. After the offering, these figures may be changed by the underwriter.

We have granted the underwriter an option to buy up to additional shares of common stock from us to cover over allotments. The underwriter may exercise this option at any time and from time to time during the 30 day period from the date of this prospectus supplement. If any additional shares of common stock are purchased, the underwriter will offer the additional shares on the same terms as those on which the shares are being offered.

The underwriting fee is equal to the public offering price per share of common stock less the amount paid by the underwriter to us per share of common stock. The following table shows the per share and total underwriting discount to be paid to the underwriter in this offering assuming both no exercise and full exercise of the underwriter s option to purchase additional shares.

	With no Over-Allotment	With Over-Allotment
Per share	$	$
Total	$	$

We estimate that the total fees and expenses payable by us, excluding underwriting discount, will be approximately $, which includes $ that we have agreed to reimburse the underwriter for the fees incurred by it in connection with the offering.

We have agreed to indemnify the underwriter against certain liabilities, including liabilities under the Securities Act, or to contribute to payments that the underwriter may be required to make in respect of those liabilities.

We and each of our directors and executive officers are subject to lock up agreements that prohibit us and them from offering for sale, pledging, assigning, encumbering, announcing the intention to sell, selling, contracting to sell, granting any option, right or warrant to purchase, or otherwise transferring or disposing of, any shares of our common stock or any securities convertible into or exercisable or exchangeable for shares of our common stock for a period of at least 90 days following the date of this prospectus supplement without the prior written consent of Piper Jaffray. The lock up agreement does not prohibit our directors and executive officers from transferring shares of our common stock for bona fide estate or tax planning purposes, subject to certain requirements, including that the transferee be subject to the same lock up terms.

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The lock up agreements do not prohibit us from issuing shares upon the exercise or conversion of securities outstanding on the date of this prospectus supplement. The lock up provisions do not prevent us from selling shares to the underwriter pursuant to the underwriting agreement, or from granting options to acquire securities under our existing stock option plans or issuing shares upon the exercise or conversion of securities outstanding on the date of this prospectus supplement.

The 90 day lock up period in all of the lock up agreements is subject to extension if (i) during the last 17 days of the lock up period we issue an earnings release or material news or a material event relating to us occurs or (ii) prior to the expiration of the lock up period, we announce that we will release earnings results during the 16 day period beginning on the last day of the lock up period, in which case the restrictions imposed in these lock up agreements shall continue to apply until the expiration of the 18 day period beginning on the issuance of the earnings release or the occurrence of the material news or material event, unless Piper Jaffray waives the extension in writing.

Our shares are quoted on the Nasdaq Global Market under the symbol ATRC.

To facilitate the offering, the underwriter may engage in transactions that stabilize, maintain or otherwise affect the price of our common stock during and after the offering. Specifically, the underwriter may over allot or otherwise create a short position in the common stock for its own account by selling more shares of common stock than we have sold to it. Short sales involve the sale by the underwriter of a greater number of shares than the underwriter is required to purchase in the offering. The underwriter may close out any short position by either exercising its option to purchase additional shares or purchasing shares in the open market.

In addition, the underwriter may stabilize or maintain the price of the common stock by bidding for or purchasing shares of common stock in the open market and may impose penalty bids. If penalty bids are imposed, selling concessions allowed to syndicate members or other broker dealers participating in the offering are reclaimed if shares of common stock previously distributed in the offering are repurchased, whether in connection with stabilization transactions or otherwise. The effect of these transactions may be to stabilize or maintain the market price of the common stock at a level above that which might otherwise prevail in the open market. The imposition of a penalty bid may also affect the price of the common stock to the extent that it discourages resales of the common stock. The magnitude or effect of any stabilization or other transactions is uncertain. These transactions may be effected on the Nasdaq Global Market or otherwise and, if commenced, may be discontinued at any time. The underwriter may also engage in passive market making transactions in our common stock. Passive market making consists of displaying bids on the Nasdaq Global Market is limited by the prices of independent market makers and effecting purchases limited by those prices in response to order flow. Rule 103 of Regulation M promulgated by the Commission limits the amount of net purchases that each passive market maker may make and the displayed size of each bid. Passive market making may stabilize the market price of the common stock at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

This prospectus supplement and the accompanying prospectus in electronic format may be made available on the web sites maintained by the underwriter and the underwriter may distribute prospectuses and prospectus supplements electronically.

From time to time in the ordinary course of its businesses, the underwriter and certain of its affiliates have engaged, and may in the future engage, in commercial banking or investment banking transactions with us and our affiliates.

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LEGAL MATTERS

Certain legal matters with respect to the validity of common stock offered by this prospectus supplement will be passed upon for us by Keating Muething & Klekamp PLL, Cincinnati, Ohio. Certain legal matters in connection with the common stock offered in this prospectus supplement will be passed upon for the underwriter by Goodwin Procter LLP, New York, New York.

EXPERTS

The financial statements incorporated in this prospectus supplement and the accompanying prospectus by reference from our Annual Report on Form 10 K for the year ended December 31, 2011 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 financial statements have been so incorporated in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S 3 under the Securities Act of 1933 with respect to the shares of common stock we are offering under this prospectus supplement. This prospectus supplement and the accompanying prospectus do not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities we are offering under this prospectus supplement, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. Statements contained in this prospectus supplement as to the contents of any contract or any other document referred to are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference.

We also file annual reports, quarterly reports, proxy statements, and other documents with the SEC under the Securities Exchange Act of 1934, as amended (the Exchange Act). The public may read and copy any materials we file with the SEC, including the registration statement of which this prospectus supplement and the accompany prospectus are a part, at the SEC s Public Reference Room at 100 F Street, NE, Room 2521, Washington, D.C. 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1 800 SEC 0330. Also, the SEC maintains an internet site at *www.sec.gov* that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC, including AtriCure. General information about AtriCure, including our annual report on Form 10 K, quarterly reports on Form 10 Q and current reports on Form 8 K, as well as any amendments and exhibits to those reports, are available free of charge through our website at *www.atricure.com* as soon as reasonably practicable after we file them with, or furnish them to, the SEC. Information on or available through our website is not incorporated into this prospectus supplement and the accompanying prospectus.

IMPORTANT INFORMATION INCORPORATED BY REFERENCE

The SEC allows incorporation by reference into this prospectus supplement and the accompanying prospectus of information that we file with the SEC. This permits us to disclose important information to you by referencing these filed documents. Any information referenced this way is considered part of this prospectus supplement and the accompanying prospectus, and any information filed by us with the SEC and incorporated herein by reference subsequent to the date of this prospectus supplement and the accompanying prospectus will automatically be deemed to update and supersede this information. We incorporate by reference the following documents which have been filed with the SEC:

Our Annual Report on Form 10 K for our fiscal year ended December 31, 2011 as filed with the SEC on March 12, 2012;

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Our Quarterly Reports on Form 10 Q for our fiscal quarters ended March 31, 2012, June 30, 2012 and September 30, 2012, as filed with the SEC on May 4, 2012, August 3, 2012 and November 2, 2012, respectively;

Our definitive proxy statement on Schedule 14A, relating to the annual meeting of stockholders held on May 15, 2012, as filed with the SEC on April 13, 2012; and

Our Current Reports on Form 8 K filed on January 17, 2012, February 2, 2012, May 2, 2012, May 17, 2012, June 4, 2012, August 2, 2012, September 28, 2012, November 1, 2012 and January 7, 2013.

All documents filed by us under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act from the date of this prospectus supplement and the accompanying prospectus until the sale of all securities registered hereunder or the termination of the registration statement shall be deemed to be incorporated in this prospectus supplement and the accompanying prospectus by reference. Any statement contained in this prospectus supplement and the accompanying prospectus or in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus supplement and the accompanying prospectus to the extent that a statement contained in any subsequently filed document which is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus supplement and the accompanying prospectus.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number:

AtriCure, Inc.

6217 Centre Park Drive

West Chester, Ohio 45069

Attention: Secretary

Phone: (513) 755-4100

Exhibits to the filings will not be sent, unless those exhibits have been specifically incorporated by reference in this prospectus supplement and the accompanying prospectus.

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Prospectus

$50,000,000

Debt Securities, Common Stock, Preferred Stock, Warrants, Depositary Shares and Units and

3,184,535 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, up to $50,000,000 in any combination of debt securities, common stock, preferred stock, warrants, depositary shares and units. Also, selling securityholders identified in this prospectus may, from time to time, offer and sell up to an additional 3,184,535 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.

On July 18, 2011, the closing price of our common stock as reported by the NASDAQ Global Market was $13.67 per share.

The aggregate market value of our outstanding voting common stock held by non-affiliates, based upon a closing sale price of our common stock on July 18, 2011, was $152.4 million.

During the prior 12 calendar month period that ends on, and includes, the date of this prospectus, we have not offered any securities through a primary offering.

Investing in our securities involves risks. See Risk Factors beginning on page 5.

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 July 20, 2011

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