

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

**FORM S-8
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

ATRICURE, INC.

(Exact name of Registrant as Specified in its Charter)

Delaware

*(State Or Other Jurisdiction Of
Incorporation Or Organization)*

34-1940305

*(IRS Employer
Identification Number)*

**7555 Innovation Way
Mason, Ohio 45040
(513) 755-4100**

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

**ATRICURE, INC. SECOND AMENDED AND RESTATED
2014 STOCK INCENTIVE PLAN**

(Full title of the Plan)

**Michael H. Carrel
President and Chief Executive Officer**

**AtriCure, Inc.
7555 Innovation Way
Mason, Ohio 45040
(513) 755-4100**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copy to:

**F. Mark Reuter, Esq.
Keating Muething & Klekamp PLL
One East Fourth Street, Suite 1400
Cincinnati, Ohio 45202
(513) 579-6469**

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

Large accelerated filer

Accelerated filer

Non-accelerated filer
*(Do not check if a smaller reporting
company)*

Smaller reporting company

CALCULATION OF REGISTRATION FEE

Title of Class of Securities To Be Registered	Amount To Be Registered ⁽¹⁾	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, \$0.001 par value	450,000 shares ⁽²⁾	\$17.87 ⁽³⁾	\$8,041,500 ⁽³⁾	\$932.01

- (1) Pursuant to the Securities Act of 1933, as amended (the “Securities Act”), this Registration Statement shall be deemed to cover shares of common stock (“Common Stock”) of AtriCure, Inc. (the “Registrant”) to be offered or issued in connection with any stock splits, stock dividends or similar transactions, whether pursuant to the terms of the AtriCure, Inc. Second Amended and Restated 2014 Stock Incentive Plan (the “Plan”) or otherwise.
 - (2) Represents the total number of shares of Common Stock being registered hereby.
 - (3) Estimated solely for purposes of calculating the amount of the registration fee pursuant to Rule 457(h), based upon the average of the high and low prices of the Common Stock on The Nasdaq Global Market as of March 8, 2017.
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USE OF COMBINED PROSPECTUS

Pursuant to Rule 429(a) of the Securities Act, the prospectus that will be used in connection with the offer and sale of the securities covered by this Registration Statement and issued pursuant to the Plan (the "Combined Prospectus") will also be used in connection with the sale of securities covered by the Prior Registration Statement.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

The document(s) containing the information specified in Part I of Form S-8 will be sent or given to participants as specified by Rule 428(b)(1) of the Securities Act.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference

The following documents filed by the Registrant with the Commission are incorporated herein by reference and made a part hereof:

1. Annual Report on Form 10-K for the fiscal year ended December 31, 2016.
2. The description of the Common Stock contained in the Registration Statement on Form 8-A filed on or about August 1, 2005 registering the Registrant's Common Stock under Section 12 of the Securities Exchange Act of 1934.

All reports and other documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, prior to the filing of a post-effective amendment which indicates that all Common Stock offered has been sold or which deregisters all Common Stock then remaining unsold, shall be deemed to be incorporated by reference in this Registration Statement and to be a part hereof from the date of filing such documents.

Item 4. Description of Securities

Not Applicable.

Item 5. Interests of Named Experts and Counsel

The legality of the Common Stock offered hereby will be passed upon for the Registrant by Keating Muething & Klekamp PLL, One East Fourth Street, Suite 1400, Cincinnati, Ohio 45202. Attorneys of Keating Muething & Klekamp PLL participating in matters relating to this Form S-8 own no shares of the Registrant's Common Stock.

Item 6. Indemnification of Directors and Officers

Pursuant to the authority conferred by Section 102 of the General Corporation Law of the State of Delaware, as amended (the "DGCL"), Article VII of the Registrant's Amended and Restated Certificate of Incorporation (the "Certificate of Incorporation") contains provisions which eliminate personal liability of members of its board of directors for violations of their fiduciary duty of care. Neither the DGCL nor the Certificate of Incorporation, however, limits the liability of a director for breaching his duty of loyalty, failing to act in good faith, engaging in intentional misconduct or knowingly violating a law, paying a dividend or approving a stock repurchase under circumstances where such payment or repurchase is not permitted under the DGCL, or obtaining an improper personal benefit. Article VII of the Certificate of Incorporation also provides that if the DGCL is amended to authorize corporate action further eliminating or limiting the personal liability of directors, the liability

of a director of the Registrant shall be eliminated or limited to the fullest extent permitted by the DGCL, as so amended.

Section 145 of the DGCL provides for the indemnification of certain persons, including directors, officers and employees of a corporation, under certain circumstances. Article IX of the Registrant's Third Amended and Restated Bylaws provides as follows:

ARTICLE IX - INDEMNIFICATION

9.1 INDEMNIFICATION OF DIRECTORS AND OFFICERS.

The corporation shall indemnify and hold harmless, to the fullest extent permitted by the DGCL as it presently exists or may hereafter be amended, any current or former director or officer of the corporation who was or is made or is threatened to be made a party or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (a "Proceeding") by reason of the fact that he or she, or a person for whom he or she is the legal representative, is or was a director, officer, employee or agent of the corporation or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, trust, enterprise or non-profit entity, including service with respect to employee benefit plans (an "indemnitee"), against all liability and loss suffered and expenses (including attorneys' fees, judgments, fines, ERISA excise taxes or penalties and amounts paid in settlement) reasonably incurred by such person in connection with any such Proceeding. Notwithstanding the previous sentence, the corporation shall be required to indemnify an indemnitee in connection with a Proceeding (or part thereof) initiated by such person only if the Proceeding (or part thereof) was authorized by the Board, except as provided in Section 9.4 of this Article IX with respect to proceedings to enforce rights to advancement or indemnification.

9.2 INDEMNIFICATION OF OTHERS.

The corporation shall have the power to indemnify and hold harmless, to the extent permitted by applicable law as it presently exists or may hereafter be amended, any employee or agent of the corporation who was or is made or is threatened to be made a party or is otherwise involved in any Proceeding by reason of the fact that he or she, or a person for whom he or she is the legal representative, is or was an employee or agent of the corporation or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, trust, enterprise or non-profit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys' fees, judgments, fines, ERISA excise taxes or penalties and amounts paid in settlement) reasonably incurred by such person in connection with any such Proceeding.

9.3 PREPAYMENT OF EXPENSES.

The corporation shall pay the expenses incurred by an indemnitee, and may pay the expenses incurred by any current or former employee or agent of the corporation, in defending any Proceeding in advance of its final disposition; provided, however, that the payment of expenses incurred by a person in advance of the final disposition of the Proceeding shall be made only upon receipt of an undertaking by the person to repay all amounts advanced if it should be ultimately determined by final judicial decision from which there is no further right of appeal that the person is not entitled to be indemnified under this Article IX or otherwise.

9.4 DETERMINATION; CLAIM.

If a claim for indemnification or payment of expenses under this Article IX is not paid to an indemnitee in full within sixty (60) days after a written claim therefor has been received by the corporation, the indemnitee may file suit to recover the unpaid amount of such claim. To the fullest extent permitted by law, if successful in whole or in part in any such suit, or in a suit brought by the corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the indemnitee shall also be entitled to be paid the expense of prosecuting or defending such suit. In any suit brought by the indemnitee to enforce a right to indemnification hereunder (but not in a suit brought by the indemnitee to enforce a right to an advancement of expenses) it shall be a defense that the indemnitee has not met any applicable standard for indemnification set forth in the DGCL. In any suit brought by the corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the corporation

shall be entitled to recover such expenses upon a final adjudication that the indemnitee has not met any applicable standard for indemnification set forth in the DGCL. Neither the failure of the corporation (including its directors who are not parties to such action, a committee of such directors, independent legal counsel, or its stockholders) to have made a determination prior to the commencement of such suit that indemnification of the indemnitee is proper in the circumstances because the indemnitee has met the applicable standard of conduct set forth in the DGCL, nor an actual determination by the corporation (including its directors who are not parties to such action, a committee of such directors, independent legal counsel, or its stockholders) that the indemnitee has not met such applicable standard of conduct, shall create a presumption that the indemnitee has not met the applicable standard of conduct or, in the case of such a suit brought by the indemnitee, be a defense to such suit. In any suit brought by the indemnitee to enforce a right to indemnification or to an advancement of expenses hereunder, or brought by the corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the burden of proving that the indemnitee is not entitled to be indemnified, or to such advancement of expenses, under this Article IX or otherwise shall be on the corporation.

9.5 NON-EXCLUSIVITY OF RIGHTS.

The rights conferred on any person by this Article IX shall not be exclusive of any other rights which such person may have or hereafter acquire under any statute, provision of the certificate of incorporation, these bylaws, agreement, vote of stockholders or disinterested directors or otherwise.

9.6 INSURANCE.

The corporation may purchase and maintain insurance, at its expense, to protect itself and any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any expense, liability or loss, whether or not the corporation would have the power to indemnify him or her against such liability under the provisions of the DGCL.

9.7 OTHER INDEMNIFICATION.

The corporation's obligation, if any, to indemnify any person who is or was serving at its request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust, enterprise or non-profit entity shall be reduced by any amount such person may collect as indemnification from such other corporation, partnership, joint venture, trust, enterprise or non-profit enterprise.

9.8 AMENDMENT OR REPEAL.

The provisions of this Article IX shall constitute a contract between the corporation, on the one hand, and, on the other hand, each individual who serves or has served as a director or officer of the corporation (whether before or after the adoption of these bylaws), in consideration of such person's performance of such services, and pursuant to this Article IX the corporation intends to be legally bound to each such current or former director or officer of the corporation. With respect to current and former directors and officers of the corporation, the rights conferred under this Article IX are present contractual rights and such rights are fully vested, and shall be deemed to have vested fully, immediately upon adoption of these bylaws and such rights shall inure to the benefit of such person's heirs, executors and administrators. With respect to any directors or officers of the corporation who commence service following adoption of these bylaws, the rights conferred under this provision shall be present contractual rights and such rights shall fully vest, and be deemed to have vested fully, immediately upon such director or officer commencing service as a director or officer of the corporation. Any repeal or modification of the foregoing provisions of this Article IX shall not adversely affect any right or protection (i) hereunder of any person in respect of any act or omission occurring prior to the time of such repeal or modification, or (ii) under any agreement providing for indemnification or advancement of expenses to an officer or director of the corporation in effect prior to the time of such repeal or modification.

Item 7. Exemption from Registration Claimed

Not Applicable.

Item 8.**Exhibits**

Exhibit 4*	AtriCure, Inc. Second Amended and Restated 2014 Stock Incentive Plan (incorporated by reference to Proxy Statement on Schedule 14A filed on April 15, 2016)
Exhibit 5	Opinion of Keating Muething & Klekamp PLL
Exhibit 23.1	Consent of Deloitte & Touche LLP
Exhibit 23.2*	Consent of Keating Muething & Klekamp PLL (included in Exhibit 5)
Exhibit 24*	Power of Attorney (included in the signature page)

* All Exhibits filed herewith unless otherwise indicated

Item 9.**Undertakings**

(a) The undersigned Registrant hereby undertakes to file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

- (1) to include any prospectus required by Section 10(a)(3) of the Securities Act;
- (2) to reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the Registration Statement.

Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.

- (3) to include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement;

provided, however, that paragraphs (1) and (2) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the Registration Statement.

(b) The undersigned Registrant hereby undertakes that, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(c) The undersigned Registrant hereby undertakes to remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(d) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act that is incorporated by reference in this Registration Statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(e) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit, or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized in Mason, Ohio, as of the 15th day of March, 2017.

ATRICURE, INC.

By: /s/ M. Andrew Wade
M. Andrew Wade
Vice President and Chief Financial Officer

KNOW ALL PERSONS BY THESE PRESENTS, that each individual whose signature appears below constitutes and appoints Michael H. Carrel and M. Andrew Wade, and each of them, his or her true and lawful attorneys-in-fact and agents, with full power of substitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and to file the same, with all exhibits thereto and all documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or his or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated:

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Michael H. Carrel</u> Michael H. Carrel	President, Chief Executive Officer and Director (Principal Executive Officer)	March 15, 2017
<u>/s/ M. Andrew Wade</u> M. Andrew Wade	Senior Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	March 15, 2017
<u>/s/ Richard M. Johnston</u> Richard M. Johnston	Chairman of the Board of Directors	March 15, 2017
<u>/s/ Mark A. Collar</u> Mark A. Collar	Director	March 15, 2017
<u>/s/ Scott W. Drake</u> Scott W. Drake	Director	March 15, 2017

<u>/s/ Michael D. Hooven</u> Michael D. Hooven	Director	March 15, 2017
<u>/s/ Elizabeth D. Krell</u> Elizabeth D. Krell	Director	March 15, 2017
<u>/s/ Mark R. Lanning</u> Mark R. Lanning	Director	March 15, 2017
<u>/s/ Karen P. Robards</u> Karen P. Robards	Director	March 15, 2017
<u>/s/ Sven A. Wehrwein</u> Sven A. Wehrwein	Director	March 15, 2017
<u>/s/ Robert S. White</u> Robert S. White	Director	March 15, 2017



F. Mark Reuter
Direct Dial: (513) 579-6469
Facsimile: (513) 579-6457

March 15, 2017

AtriCure, Inc.
7555 Innovation Way
Mason, Ohio 45040

Ladies and Gentlemen:

Reference is made to a registration statement on Form S-8 of AtriCure, Inc. (the "Company") which is being filed with the Securities and Exchange Commission (the "Registration Statement"). Capitalized terms not otherwise defined herein shall have the meanings ascribed to them in the Registration Statement.

The Registration Statement relates to an additional 450,000 shares of Common Stock, par value \$0.001, of the Company (the "Shares") which may be issued by the Company pursuant to the AtriCure, Inc. Second Amended and Restated 2014 Stock Incentive Plan (the "Plan").

In connection with our representation of the Company, as a basis for our opinions hereinafter set forth, we have examined the Registration Statement, including the exhibits thereto, the Company's Certificate of Incorporation, as amended, the Company's By-laws, as amended, the Plan and such other documents as we have deemed appropriate in rendering this opinion. As to matters of fact, we have relied on representations of officers of the Company. In our examination, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals and the authenticity of all documents submitted to us as copies of originals.

Based on the foregoing, we are of the opinion that the Shares, when issued in accordance with the terms of the Plan, will be validly issued, fully paid and non-assessable. This opinion is being furnished to you solely for submission to the Securities and Exchange Commission as an exhibit to the Registration Statement and, accordingly, may not be relied upon, quoted in any manner to, or delivered to any other person or entity, without in each instance our prior written consent.

The foregoing opinions are subject to the qualification that we express no opinion with respect to the laws of any jurisdiction other than the State Delaware. We assume no obligation to supplement this opinion if any applicable law changes after the date hereof or if we become aware of any fact that might change the opinion expressed herein after the date hereof.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement. In giving such consent, we do not thereby admit that we come within the category of persons whose consent is required under Section 7 of the Securities Act of 1933 or the rules or regulations of the Securities and Exchange Commission thereunder.

Sincerely yours,

KEATING MUETHING & KLEKAMP PLL

/s/ Keating Muething & Klekamp PLL

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-8 of our reports dated March 8, 2017, relating to the consolidated financial statements and financial statement schedule of AtriCure, Inc. and subsidiaries (the “Company”) and the effectiveness of the Company’s internal control over financial reporting, appearing in the Annual Report on Form 10-K of the Company for the year ended December 31, 2016.

/s/ Deloitte & Touche LLP

Cincinnati, Ohio

March 15, 2017
