SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 8-K

CURRENT REPORT

PURSUANT TO SECTION 13 OR 15(d) of the SECURITIES EXCHANGE ACT OF 1934

Date of Report (Date of earliest event reported): May 10, 2010

AtriCure, Inc.

(Exact name of registrant as specified in charter)

Delaware (State or other jurisdiction of incorporation)

000-51470 (Commission File Number) 34-1940305 (IRS Employer Identification No.)

6217 Centre Park Drive West Chester, OH (Address of principal executive offices)

45069 (Zip Code)

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

Not Applicable (Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 2.02. Results of Operations and Financial Condition.

On May 10, 2010, the Company issued a press release and is holding a conference call regarding its financial results for the first quarter ended March 31, 2010. A copy of the press release is furnished as Exhibit 99.1 to this Form 8-K and is incorporated herein by reference.

The information in this Item 2.02 to Form 8-K and in the press release attached as Exhibit 99.1 is being furnished and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that Section. The information in Item 2.02 of this Form 8-K and Exhibit 99.1 shall not be incorporated by reference in any filing or other document under the Securities Act of 1933, as amended, or the Exchange Act, except as expressly set forth by specific reference in any such filing or document.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

No. Description

99.1 Press Release dated May 10, 2010

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

ATRICURE, INC.

By: /s/ Julie A. Piton

Julie A. Piton

Vice President, Finance and Administration and Chief Financial Officer

Dated: May 10, 2010



Contact:

AtriCure, Inc.
Julie A. Piton
Vice President and Chief Financial Officer
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AtriCure Reports First Quarter 2010 Financial Results

Highlights

- Revenues of \$14 million; strongest performance of the past six quarters
- International revenues up 27% to \$2.9 million
- DEEP AF feasibility trial approved by the FDA

WEST CHESTER, Ohio – May 10, 2010 – AtriCure, Inc. (Nasdaq: ATRC), a medical device company and a leader in cardiac surgical ablation systems, today announced revenues of \$14.0 million for its first quarter of 2010.

"We are encouraged with our progress toward advancing our strategic priorities during the quarter and we are excited to have gained conditional FDA approval for our DEEP AF feasibility trial. We believe our DEEP AF, or hybrid ablation, approach strengthens the partnership between electrophysiologists and cardiac surgeons, facilitates a coordinated referral development process in the interest of patient care, and represents a key growth platform. In addition, we remain confident that our AtriClip system is an important clinical advancement which represents a significant new growth catalyst," said David J. Drachman, President and Chief Executive Officer. "In order to capitalize on the increasing strength of our product portfolio, we have made strategic investments to expand our sales and marketing infrastructure, which we believe positions us for an acceleration of revenue growth and market share gains."

Financial Results

Revenues for the first quarter of 2010 were \$14.0 million, a \$0.3 million increase when compared to first quarter 2009 revenues of \$13.7 million. Revenues from domestic open heart products for the first quarter of 2010 increased to \$7.2 million from \$7.1 million. Revenues from domestic minimally invasive products declined from \$4.3 million for the first quarter of 2009 to \$3.9 million for the first quarter 2010. International revenues grew \$0.6 million for the first quarter of 2010 to \$2.9 million, representing growth of 26.9 percent on a GAAP basis or 23.3 percent on a currency neutral basis. The increase in international revenues was driven primarily by market share gains and contributions from new products.

Gross profit of \$10.7 million for the first quarter of 2010 was consistent with gross profit for the first quarter of 2009. Gross margin for the first quarter of 2010 was 76.5 percent, compared to gross margin of 78.5 percent for the first quarter of 2009. The reduction in gross margin was primarily due to an increased mix of revenues from international sales and the introduction of new products, which initially carry a higher product cost.

Operating expenses on a GAAP basis for the first quarter of 2010 were \$12.4 million as compared to \$18.7 million for the first quarter of 2009. First quarter 2009 non-GAAP operating expenses, neutralizing the impact of a \$6.8 million first quarter 2009 goodwill impairment, were \$11.8 million. The 4.4 percent increase in non-GAAP operating expenses was driven primarily by an increased investment in sales and marketing personnel, both domestically and internationally, which are designed to accelerate revenue growth.

Loss from operations was \$1.7 million for the first quarter of 2010 as compared with \$7.9 million for the first quarter of 2009. Non-GAAP loss from operations for 2009 was \$1.1 million. The net loss per share was \$0.13 as compared with \$0.56 on a GAAP basis (or \$0.08 on a non-GAAP basis) for the first quarter of 2009. The increase in our non-GAAP operating loss and net loss was due primarily to our investment in incremental sales and marketing personnel.

Adjusted EBITDA decreased \$0.7 million to a loss of \$0.2 million for the first quarter of 2010 as compared with adjusted EBITDA earnings of \$0.5 million for the first quarter of 2009, driven by our investment in sales and marketing infrastructure.

Cash, cash equivalents and investments were \$11.8 million at March 31, 2010.

DEEP AF Clinical Trial Conditionally Approved

During May 2010, AtriCure's clinical trial, known as DEEP AF, was conditionally approved by the FDA. DEEP AF is a feasibility trial designed to evaluate the safety and effectiveness of AtriCure's minimally invasive products combined with catheter mapping and ablation technologies for the treatment of patients with persistent and long-standing persistent AF. The 30-patient trial will be conducted at five U.S. medical centers and enrollment is expected to begin during the third quarter of 2010.

Earnings Call Information

Management will host a conference call at 5:00 p.m. Eastern Time on Monday, May 10, 2010 to discuss its first quarter 2010 financial results. A live web cast of the conference call will be available online from the investor relations page of AtriCure's corporate web site at www.atricure.com.

Pre-registration is available and recommended for this call at the following URL:

https://www.theconferencingservice.com/prereg/key.process?key=PRVQDLEF8

You may also access this call through an operator by calling (888) 680-0892 for domestic callers and (617) 213-4858 for international callers at least 15 minutes prior to the call start time using reservation code 52913345.

The webcast will be available on AtriCure's web site and a telephonic replay of the call will also be available through June 10, 2010. The replay dial-in numbers are (888) 286-8010 for domestic callers and (617) 801-6888 for international callers. The reservation code is 95524485.

About AtriCure, Inc.

AtriCure, Inc. is 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. Medical journals have described the adoption by leading cardiothoracic surgeons of the AtriCure Isolator® bipolar ablation system as a treatment alternative during open-heart surgical procedures to create lesions in cardiac tissue to block the abnormal electrical impulses that cause atrial fibrillation, or AF, a rapid, irregular quivering of the upper chambers of the heart. Additionally, medical journals and leading cardiothoracic surgeons have described the AtriCure Isolator system as a promising treatment alternative for patients who may be candidates for sole-therapy minimally invasive procedures. AF affects more than 5.5 million people worldwide and predisposes them to a five-fold increased risk of stroke. The FDA has cleared the AtriCure Isolator system and AtriCure's multifunctional pen and Coolrail™ linear ablation device, for the ablation, or destruction, of cardiac tissue during surgical procedures. Additionally, the FDA has cleared AtriCure's multifunctional pen for temporary pacing, sensing, stimulating and recording during the evaluation of cardiac arrhythmias and AtriCure's Cryo1™ system for the cryosurgical treatment of cardiac arrhythmias. To date, the FDA has not cleared or approved AtriCure's products for the treatment of AF.

Forward-Looking Statements

This press release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include statements that address activities, events or developments that AtriCure expects, believes or anticipates will or may occur in the future, such as earnings estimates, other predictions of financial performance, launches by AtriCure of new products and market acceptance of AtriCure's products. Forward-looking statements are based on AtriCure's experience and perception of current conditions, trends, expected future developments and other factors it believes are appropriate under the circumstances and are subject to numerous risks and uncertainties, many of which are beyond AtriCure's control. 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, 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 (including the purported class action lawsuits) or other proceedings, government regulation and stock price volatility. AtriCure does not guarantee any forward-looking statement, and actual results may differ materially from those projected. AtriCure undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise.

Use of Non-GAAP Financial Measures

To supplement AtriCure's condensed consolidated financial statements prepared in accordance with U.S. generally accepted accounting principles, or GAAP, AtriCure uses certain non-GAAP financial measures in this release as supplemental financial metrics. Non-GAAP financial measures provide an indication of performance excluding certain items. Our management believes that in order to properly understand short-term and long-term financial trends, investors may wish to consider the impact of these excluded items in addition to GAAP measures. The excluded items vary in frequency and/or impact on our continuing operations and our management believes that the excluded items are typically not reflective of our ongoing core business operations. Further, management uses results of operations before these excluded items as a basis for its strategic planning. The non-GAAP financial measures used by AtriCure may not be the same or calculated the same as those used by other companies. Reconciliations of the non-GAAP financial measures used in this release to the most comparable GAAP measures for the respective periods can be found in tables later in this release. Non-GAAP financial measures have limitations as analytical tools and should not be considered in isolation or as a substitute for AtriCure's financial results prepared and reported in accordance with GAAP.

ATRICURE, INC. CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (Unaudited)

	Three Months E	Three Months Ended March 31,	
	2010	2009	
Revenues	\$13,951,800	\$13,673,903	
Cost of revenues	3,272,636	2,944,658	
Gross profit	10,679,164	10,729,245	
Operating expenses:			
Research and development expenses	2,657,928	2,916,833	
Selling, general and administrative expenses	9,711,522	8,932,143	
Goodwill impairment		6,812,389	
Total operating expenses	12,369,450	18,661,365	
Loss from operations	(1,690,286)	(7,932,120)	
Other expense	(320,855)	(64,042)	
Loss before income tax benefit	(2,011,141)	(7,996,162)	
Income tax benefit	1,790	31,240	
Net loss	\$ (2,009,351)	\$ (7,964,922)	
Basic and diluted net loss per share	\$ (0.13)	\$ (0.56)	
Weighted average shares outstanding:			
basic and diluted	14,997,009	14,296,612	

ATRICURE, INC. CONDENSED CONSOLIDATED BALANCE SHEETS (Unaudited)

	March 31, 2010	December 31, 2009
Assets		
Current assets:		
Cash, cash equivalents and short-term investments	\$ 11,844,709	\$ 15,722,098
Accounts receivable	8,696,571	7,248,087
Inventories	5,448,976	4,869,708
Other current assets	3,568,602	3,511,335
Total current assets	29,558,858	31,351,228
Property and equipment, net	2,883,078	3,008,699
Intangible assets	217,278	287,653
Other assets	329,857	334,756
Total assets	\$ 32,989,071	\$ 34,982,336
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable and accrued liabilities	\$ 9,461,329	\$ 9,579,119
Current maturities of debt and capital lease obligations	2,219,140	2,227,431
Total current liabilities	11,680,469	11,806,550
Long-term debt and capital lease obligations	2,175,181	2,669,666
Other liabilities	3,309,510	3,416,360
Total liabilities	17,165,160	17,892,576
Stockholders' equity:		
Common stock	15,461	15,353
Additional paid-in capital	111,734,370	110,900,087
Other comprehensive income	53,401	144,290
Accumulated deficit	(95,979,321)	(93,969,970)
Total stockholders' equity	15,823,911	17,089,760
Total liabilities and stockholders' equity	\$ 32,989,071	\$ 34,982,336

ATRICURE, INC. CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (Unaudited)

	Three Months Ended March 31, 2010 2009	
Cash flows from operating activities:		
Net loss	\$(2,009,351)	\$ (7,964,922)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	630,713	581,593
Amortization of deferred financing costs and discount on long-term debt	78,775	21,961
Loss on disposal of equipment	_	3,083
Change in allowance for doubtful accounts	(17,490)	(4,731)
Goodwill impairment	_	6,812,389
Share-based compensation	812,035	1,110,735
Changes in assets and liabilities		
Accounts receivable	(1,486,934)	(1,116,247)
Inventories	(622,077)	646,547
Other current assets	(95,315)	(95,628)
Accounts payable and accrued liabilities	(134,031)	(2,404,621)
Other non-current assets and liabilities	(132,853)	(32,699)
Net cash used in operating activities	(2,976,528)	(2,442,540)
Cash flows from investing activities:		
Purchases of equipment	(397,075)	(373,071)
Purchases of available-for-sale securities	(3,373,381)	_
Maturities of available-for-sale securities	1,999,397	_
Change in restricted cash and cash equivalents		6,000,000
Net cash (used in) provided by investing activities	(1,771,059)	5,626,929
Cash flows from financing activities:		
Payments on debt and capital leases	(556,383)	(6,008,267)
Payment of debt fees	(5,348)	(51,037)
Proceeds from stock option exercises	22,355	_
Net cash used in financing activities	(539,376)	(6,059,304)
Effect of exchange rate changes on cash and cash equivalents	37,043	34,640
Net decrease in cash and cash equivalents	(5,249,920)	(2,840,275)
Cash and cash equivalents - beginning of period	8,905,425	11,448,451
Cash and cash equivalents - end of period	\$ 3,655,505	\$ 8,608,176

ATRICURE, INC. RECONCILIATION OF GAAP RESULTS TO NON-GAAP RESULTS (Unaudited)

Reconciliation of Net Loss and Net Loss per Share to Non-GAAP Net Loss and Net Loss per Share

	Three Months Ended March 31,			
	20	010		2009
Net loss, as reported	\$ (2,0	009,351)	\$ (7,	964,922)
Goodwill impairment, net of tax			6,	812,389
Non-GAAP adjusted net loss	\$ (2,0	\$ (2,009,351) \$ (1,3)		152,533)
Basic and diluted net loss per share, as reported	\$	(0.13)	\$	(0.56)
Goodwill impairment, net of tax				0.48
Non-GAAP adjusted basic and diluted net loss per share	\$	(0.13)	\$	(80.0)

Reconciliation of Operating Expenses and Loss from Operations to Non-GAAP Operating Expenses and Loss from Operations

	Three Months Ended March 31,		
	2010	2009	
Operating expenses, as reported	\$12,369,450	\$18,661,365	
Goodwill impairment	_	6,812,389	
Non-GAAP adjusted operating expenses	\$12,369,450	\$11,848,976	
Loss from operations, as reported	\$ (1,690,286)	\$ (7,932,120)	
Goodwill impairment		6,812,389	
Non-GAAP adjusted loss from operations	\$ (1,690,286)	\$ (1,119,731)	

Reconciliation of Non-GAAP Adjusted (Loss) Earnings (Adjusted EBITDA)

	Three Months E	Three Months Ended March 31,		
	2010	2009		
Net loss, as reported	\$ (2,009,351)	\$ (7,964,922)		
Income tax benefit	(1,790)	(31,240)		
Other expense (a)	320,855	64,042		
Depreciation and amortization expense	630,713	581,593		
Share-based compensation expense	812,035	1,110,735		
Goodwill impairment	_	6,812,389		
Non-GAAP adjusted (loss) earnings (adjusted EBITDA)	\$ (247,538)	\$ 572,597		

	Three Months E	Three Months Ended March 31,		
	2010	2009	_	
(a) Other includes:				
Interest expense	\$ (256,359)	\$ (40,485	5)	
Loss due to exchange rate fluctuation	(64,207)	(48,387	7)	
Non-employee stock option (expense) income	(289)	24,830)	
Other expense	\$ (320,855)	\$ (64,042	2)	