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): January 7, 2013

ATRICURE, INC.

(Exact name of registrant as specified in charter)

Delaware	**000-51470**	**34-1940305**
(State or other jurisdiction of incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

6217 Centre Park Drive West Chester, OH	**45069**
(Address of principal executive offices)	**(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 January 7, 2013, AtriCure, Inc. ("AtriCure" or the "Company") issued a press release regarding its preliminary financial results for the fourth quarter and full year ended December 31, 2012. A copy of the press release is furnished as Exhibit 99.1 to this Form 8-K and is incorporated herein by reference.

Item 7.01. Regulation FD Disclosure.

On January 7, 2013, the Company is giving a presentation to investors discussing, among other topics, an overview of the Company's business and growth strategy. A copy of the investor presentation, which is available at www.atricure.com, is being furnished as Exhibit 99.2 to this Form 8-K and is incorporated herein by reference.

The Company in the investor presentation discloses certain financial results both in accordance with generally accepted accounting principles (GAAP) and on a non-GAAP basis with adjustments for certain items. The Company's management believes that presentation of these non-GAAP financial measures and their related reconciliations are useful to investors because the non-GAAP financial measures provide investors with a basis for comparing the results to financial results from prior periods.

Information in the investor presentation contains forward-looking statements regarding future events and performance of the Company. All such forward-looking statements are based largely on the Company's experience and perception of current conditions, trends, expected future developments and other factors and on management's expectations and are subject to risks and uncertainties that could cause actual results to differ materially, including, but not limited to, those factors described in the investor presentation and in the Company's filings with the Securities and Exchange Commission.

The information in each of Item 2.02 and Item 7.01 of this Form 8-K and in the press release attached as Exhibit 99.1 and the investor presentation attached as Exhibit 99.2 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 each of Item 2.02 and Item 7.01 of this Form 8-K and each of Exhibit 99.1 and Exhibit 99.2 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 January 7, 2013
99.2	Investor Presentation

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.

Dated: January 7, 2013

By: /s/ M. Andrew Wade
M. Andrew Wade
Vice President, Finance

EXHIBIT 99.1

Contact:
AtriCure, Inc.
Andy Wade
Vice President, Finance
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AtriCure Announces Preliminary Results for Fourth Quarter and Full Year 2012

WEST CHESTER, Ohio – January 7, 2013 – AtriCure, Inc. (Nasdaq: ATRC), a medical device company and a leader in cardiac surgical ablation systems for the treatment of atrial fibrillation, or AF, and systems for the exclusion of the left atrial appendage, in anticipation of investor meetings in San Francisco during the week of January 7, is announcing preliminary financial results for fourth quarter and full year 2012.

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 $70.2 million, reflecting year over year growth of 9.1% over full year 2011.

“We are pleased to report preliminary fourth quarter and full year 2012 results which provide a strong growth platform from which we can continue to build. In my first two months at AtriCure, I have spent considerable time evaluating the strategic and operational aspects of the company through in depth conversations with employees, clinical partners, customers, and shareholders. I have found many strengths – we have truly differentiated technology, solid customer relationships, an unparalleled training program, and a talented and committed group of employees. In 2013, in order to drive sustainable revenue growth, we will have additional focus on our commercial platform, strategic marketing effort, and our financial and operational discipline,” said Mike Carrel, President and Chief Executive Officer of AtriCure.

Mr. Carrel continued, “I am confident in our ability to further develop and expand the field of atrial fibrillation and position AtriCure to achieve its full potential, creating value for customers and shareholders. I look forward to providing additional detail on our growth strategy when we release our final 2012 results in late February.”

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 for the treatment of atrial fibrillation, or AF, and systems for the exclusion of the left atrial appendage. The Company believes cardiothoracic surgeons are adopting its ablation products for the treatment of AF during concomitant open-heart surgical procedures and 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 not cleared or approved certain AtriCure products for the treatment of AF or a reduction in the risk of stroke.

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 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.

Exhibit 99.2

Investor Presentation
January 2013

Forward Looking Statements
Non-GAAP Measures

This presentation 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 in the United States, 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 and the impact of failure to obtain such clearances and approvals on its ability to promote its products and train doctors in the use of its products, the timing of and ability to obtain reimbursement of procedures utilizing AtriCure's products and the potential impact of current healthcare reform initiatives thereon, 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 (including by the FDA), government regulation, negative publicity, current worldwide economic conditions and stock price volatility. AtriCure does not guarantee any forward-looking statements, and actual results may differ materially from those projected. Unless required by law, AtriCure undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise. A list and description of risks, uncertainties and other matters can be found in AtriCure's Annual Report on Form 10-K for 2010 and in AtriCure's reports on Forms 10-Q and 8-K.

This presentation includes the use of non-GAAP measures, which are noted with a *. Reference AtriCure's 8-K's filings which include the furnishing of our earnings releases for a reconciliation to the related GAAP measure.

AtriCure

AtriCure Highlights

New leadership November 2012

- Focus on accelerating growth, commercial execution, R&D innovation

Large underpenetrated market with few sustainable treatment options

Undisputed market leader in all types of surgical ablation

- Broad and deep product portfolio
- Strong IP in the field of AF
- Strongest brand – recognized for high-quality and innovative products
- Leading KOL support and enthusiasm

Accelerating revenue growth → see path to 15%+ growth

- Open → only AF label for surgical ablation
- Minimally Invasive Solutions (MIS) → Largest long-term market
- Left Atrial Appendage (LAA) Management Solution → Danger Zone….Opportunities
- International Expansion → Improve share and enter new markets

Opportunity for expanding gross margins → see path to 75%+

AtriCure

AtriCure at a Glance – Strong Track Record

Surgical ablation leader for the treatment of atrial fibrillation (AF)

- Over 100,000 Open procedures in >700 medical centers
- Over 10,000 MIS procedures in ~130 medical centers

Leader in implants designed to exclude left atrial appendage (LAA)

- Over 14,000 safely and effectively implanted

100+ peer-reviewed publications highlighting product results

Significant key opinion leader (KOL) support

Global innovator with comprehensive product line

- AtriCure Synergy Ablation System – bipolar ablation clamp system
- Cryoablation – reusable and disposable cryoablation devices
- AtriClip – designed to safely and effectively exclude the LAA

Experienced Sales Force

- Over 40 US territories led by eight managers

Preliminary 2012 Revenue - $70.2 million

- Expected Growth of ~9% y/y

AtriCure

AF Population: Large, Growing & Undertreated

AF affects over 5 million in the U.S. (1)

- U.S. prevalence projected to grow to 12-15 million by 2050
- International prevalence is comparable to the U.S.
- Most common sustained cardiac arrhythmia (2)
- Lifetime risk of AF: ~1 in 4 for adults ≥40 years of age (3)

AF increases 5-fold the risk of stroke (4,5)

- AF is leading cause of stroke – over 15% in US linked to AF (5)
- AF results in early mortality and cause of stroke in elderly (4)
- AF-related strokes are more severe (5)

Issues with non-surgical treatment of AF

- Warfarin drug therapy has complications
- Anti-arrhythmic drugs often not well-tolerated and ineffective
- < 3% of AF patients are treated with catheter or surgical ablation

Significant costs to healthcare system

- Direct medical costs are ~73% higher in AF patients (6)
- Net incremental cost of $8,705 per patient per annum (6)
- U.S. annual incremental cost of AF is ~$26.0 billion (6)

(1)Miyasaka Y, et al. Circulation. 2006;114(2):119-125.

(2)Lloyd-Jones D, et al. [published online ahead of print December 17, 2009]. Circulation. doi:10.1161/CIRCULATIONAHA.109.192667.

(3)Lloyd-Jones DM, et al. Circulation. 2004;110(9):1042-1046.

(4) Fuster V, et al. J Am Coll Cardiol. 2001;38(4):1231-12665

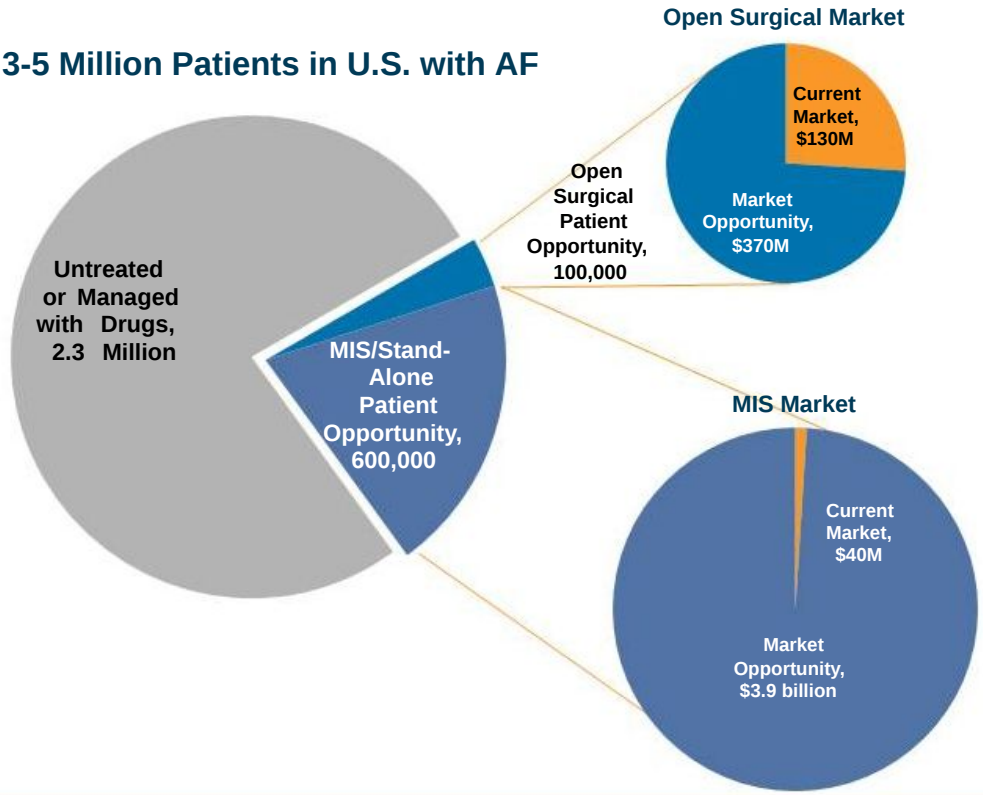
(5) Benjamin EJ, et al. Circulation. 1998;98(10):946-952.

(6) Kim M, et al. Circ Cardiovasc Qual Outcomes. 2011; 4:313-320

AtriCure

Atrial Fibrillation U.S. Market Opportunity

3-5 Million Patients in U.S. with AF



- Labeling advantage in US
- Best products
- High gross margins
- Education key
- Competition is large device

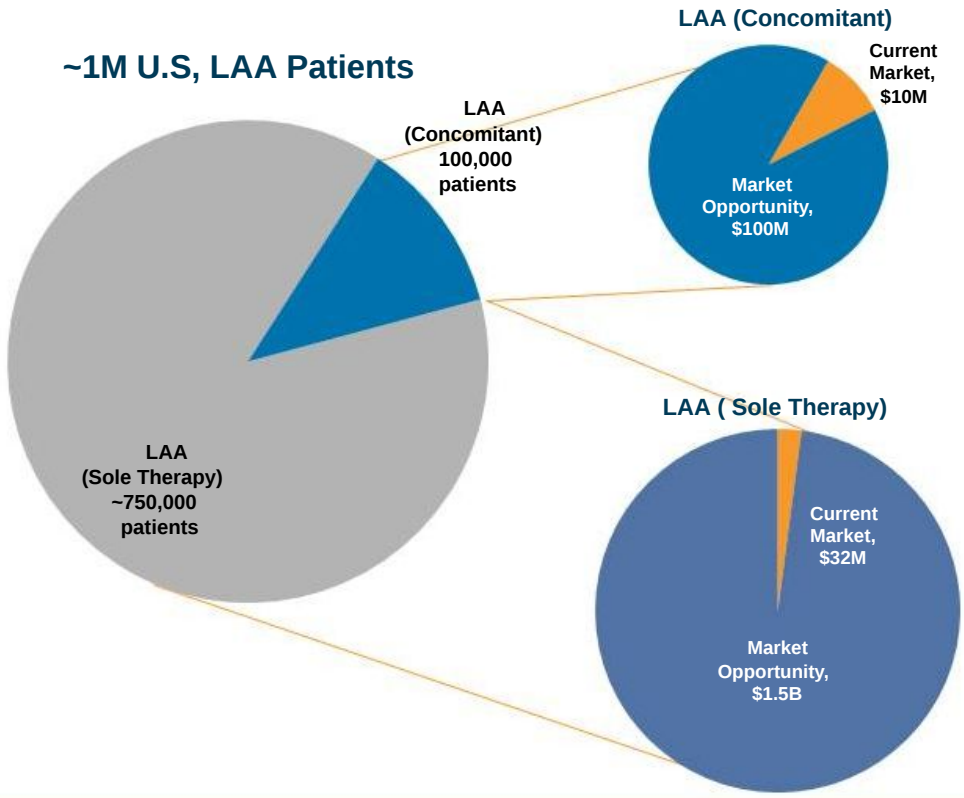
AtriCure is the only on-label product

- High reimbursement
- High gross margins
- Growing internationally
- Development needed
- Competition is start-ups

Developing Market

AtriCure

Left Atrial Appendage U.S. Market Opportunity



- Mechanical, Electrical, Atraumatic; Solution
- Competition includes Tiger Paw, staple, suture, ligature (endloop) – NO Complete Solution

AtriCure has more implants than competition (14K+)

- Attractive sole therapy reimbursement
- Competition includes implants and EP closure (w/o FDA approval)

AtriCure

AtriCure Business Overview

Focus Areas	2012 Growth	Market Size ($M)	Keys to Success	Current Trials
Open AF (Concomitant)	+13%	$500M	Education; referral dev.; Reimbursement; awareness; conversions; add-on sales	PAS
MIS AF Sole Therapy	-11%	$4,000M	Referral development; new products; hybrid; surgeon proctoring; development of less invasive approach (products and procedures)	Staged DEEP
Open Clip (Concomitant)	+26%	$100M	Market awareness; open growth; overcoming cost argument; stroke RCT	Papers
Clip Sole Therapy	New ’13	$1,500M	Market awareness; international; eliminating complications; supporting early adopters; referral development; prominent KOLs; stroke RCT	Papers
International	+14%	Same as US	Market development; reimbursement; coverage; marketing; customer service	Involvement Above
Overall	+9%	$12,000M	Investments in marketing, international, R&D pipeline	

AtriCure

Growth Strategy: Overview

Expand Open-Heart Sales

- Leverage recent AF indication
- Increased training and education
- Capitalize on sales force realignment and AF Strategic Marketing Team
- Capitalize on cross-sale opportunities resulting from AF labeling

Penetrate LAA Opportunity

- Penetrate open-heart ablation centers
- Featured in our training and education for open-heart
- FDA approved for use in DEEP AF trial
- Longer-term: commercialization of sole-therapy platform

Build MIS Platform

- Support existing MIS surgeons
- Support staged DEEP AF trial

International Expansion

- Capitalize on increased investments in direct sales team
- Geographic expansion and new products
- Increase support for distributors

AtriCure is the only company with FDA approval to treat the AF disease state and is a leader in the emerging market of LAA exclusion

AtriCure

Growth Strategy: Expand Open-Heart Sales

FDA Approval

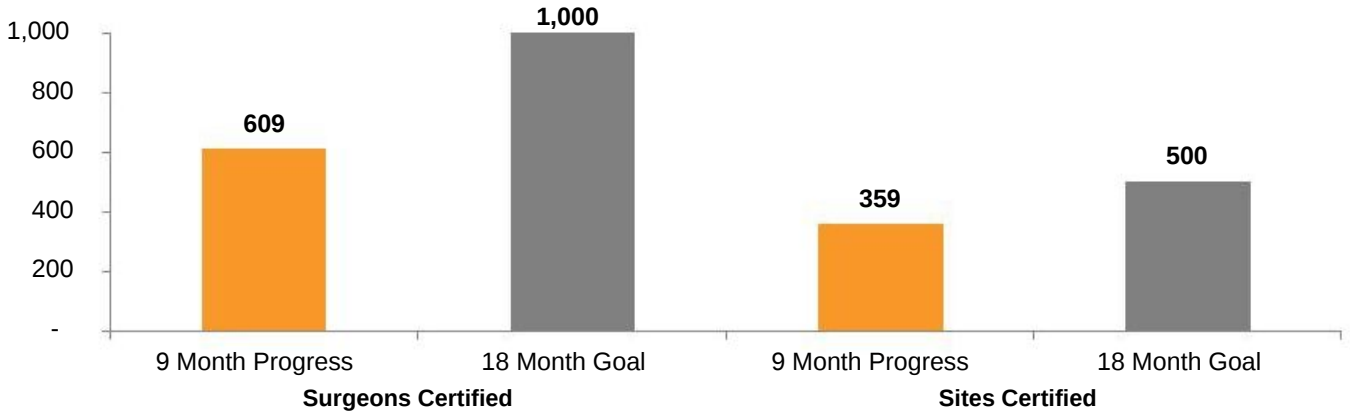
- FDA approved the AtriCure Synergy Ablation System for treatment of non-paroxysmal Atrial Fibrillation in patients undergoing other structural heart procedures (December 2011)
- **Only surgical ablation system that has received FDA indication**

Leveraging FDA Approval

- AtriCure can partner with surgical AF leaders to provide comprehensive training and support
- Support “on-label” surgeon training and education
  - Improves safety and efficacy
  - Increases surgeon confidence
  - Reduces operative time
- Actively increase market awareness
- Competitive account conversions

Growth Strategy: Expand Open-Heart Sales

- Significant progress in both surgeon and site certification – all achieved in a 9 month period (18 month program)



- Expectation that revenue for all accounts trained will be consistent with these results
- Significant competitor conversions during 2012

AtriCure

Growth Strategy: Build MIS Platform

Strategic Initiatives

- Leverage HRS consensus statement
- AF Centers of Excellence
- AtriCure Maze IV surgeon post training marketing programs
- AF Awareness Campaign focused on surgical options
- Sole therapy clinical trials spur interest in surgical AF
- Product launches
  - Coolrail re-launch – October 2012
  - AtriClip Pro launch – October 2012

Build Clinical Evidence

- DEEP AF / Staged DEEP AF IDE Feasibility Trial
- Randomized CA vs. MIS PCORI Study Submission (Ellenbogen)
- Support academic papers

Growth Strategy: Penetrate LAA Opportunity

Safety & Efficacy of Open and MIS AtriClip products is Well-Established

Safety

- 14,000+ AtriClips implanted:
  - No reported erosions
  - No clip migration
  - No leakage

Efficacy

- Mechanical closure reduces nidus for AF-related emboli
- Electrically isolates the appendage, reduces source for ectopic firing
- AtriCure has first 510(k) device clearance for LAA specific exclusion device

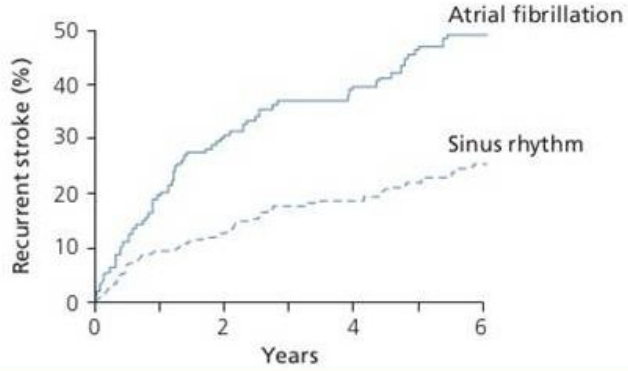
EXCLUDE 510(k) trial demonstrated 98% of patients with complete closure at three month endpoint and zero device-related serious adverse effects

Growth Strategy: Penetrate LAA Opportunity

Significant Risks Associated with LAA

- Most prevalent and life-threatening complication of AF is stroke
- LAA is the site of more than 90% of detected thrombi in AF patients (1)
- Atritech Watchman PROTECT AF clinical trial results confirms LAA exclusion reduces AF related stroke

Cumulative Stroke Recurrence Rate (2)



LAA Exclusion Market Drivers

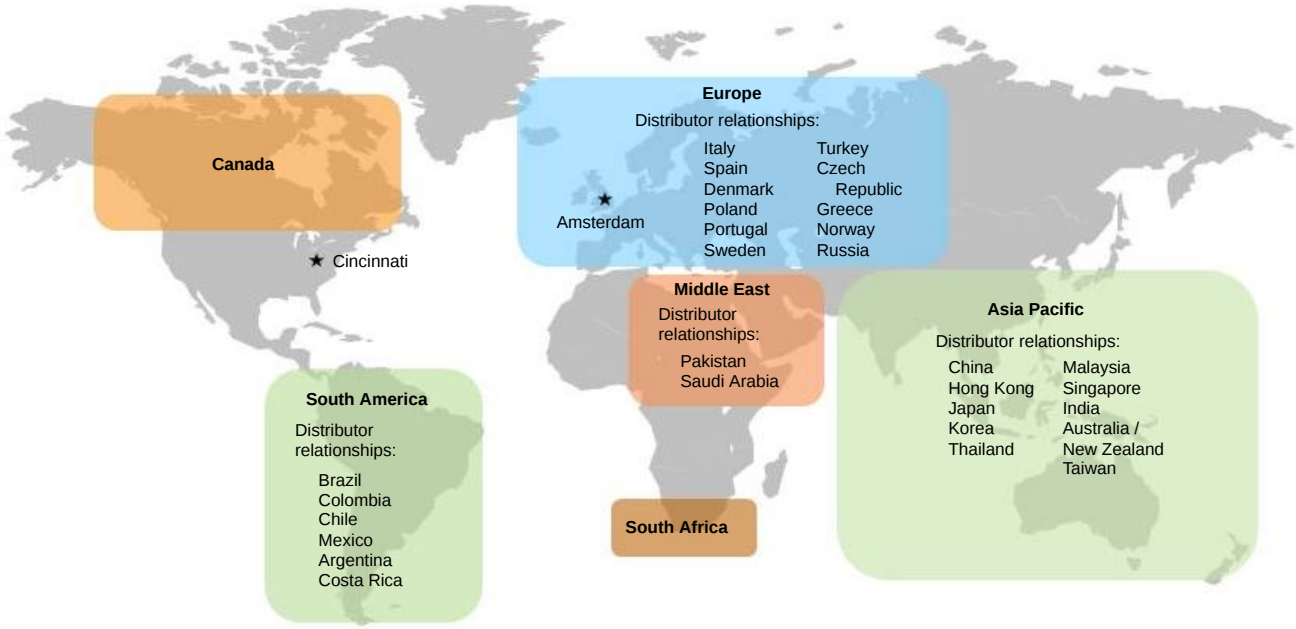
- The 2006 AHA/ACC/ESC guidelines:
  - "The LAA should be removed from circulation when possible during cardiac surgery in patients at risk of developing postoperative AF"
- Conventional surgical techniques for exclusion are suboptimal (3)
  - 60% of closures were unsuccessful
  - 41% with unsuccessful LAA exclusion had thrombus in LAA
  - 15% with unsuccessful closure had evidence of stroke or TIA
- Growing patient awareness created by Big Pharma
- Reimbursement code established for sole therapy LAA exclusion

(1) *Blackshear*
(2) *Am J Med, vol. 114, Penado et al. 2003*
(3) *(1) Kanderian, MD, Anne S., A. Marc Gillinov, MD, Gosta B. Pettersson, MD, PHD, Eugene Blackstone, MD, and Allan L. Klein, MD, FACC. "Success of Surgical Left Atrial Appendage Closure." JACC. 52.11 (2008): 924-9. Print.*

AtriCure

Growth Strategy: International Expansion

- EMEA office based in Amsterdam with infrastructure to support commercial activities
- Direct sales in Germany, Switzerland [(1)], Austria, Benelux and the UK in 2013
- Exclusive country distributors in other regions



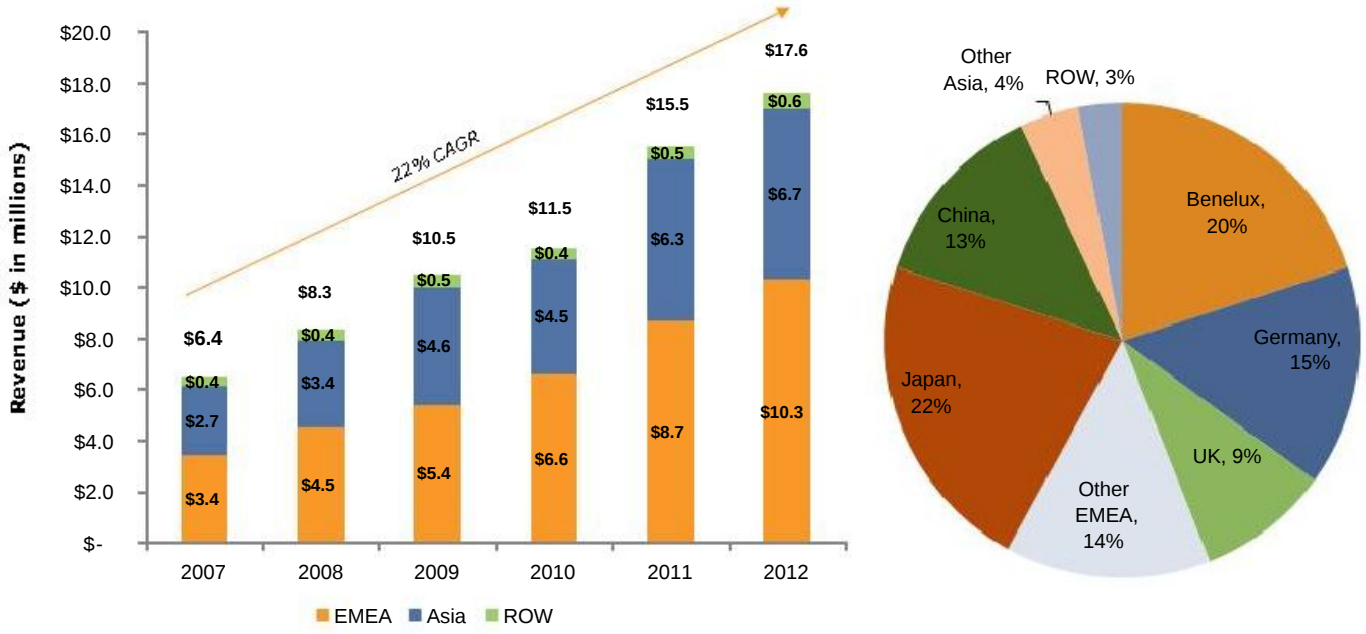
(1) Sales agent

AtriCure

Growth Strategy: International Expansion

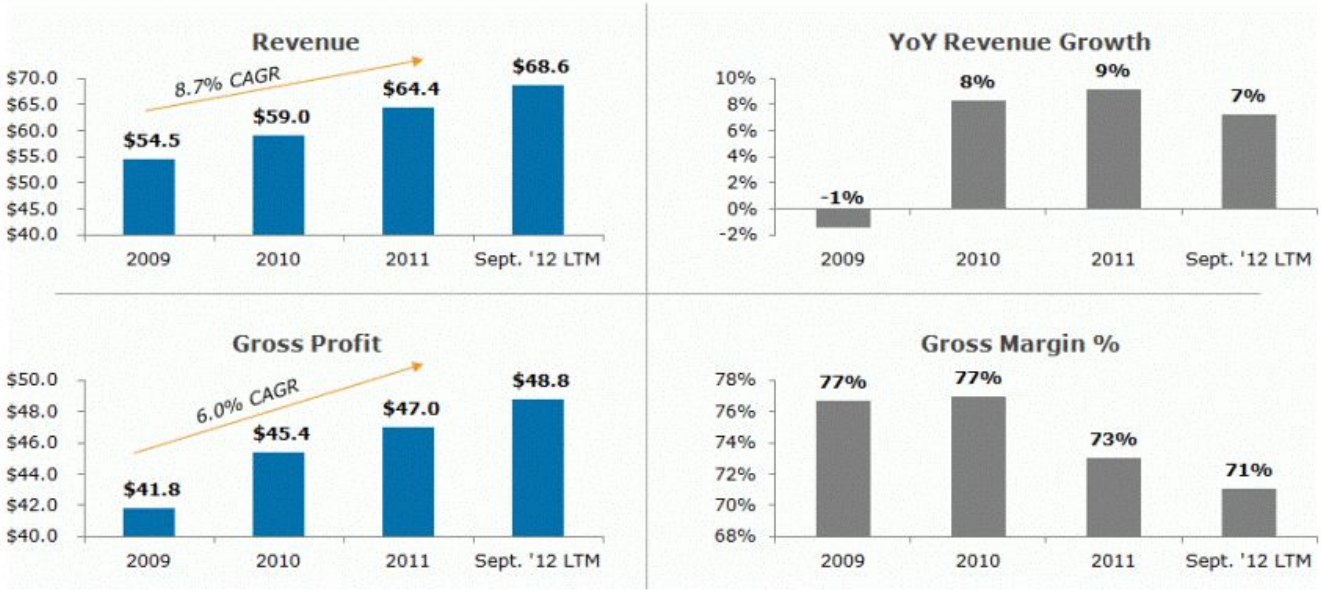
International sales growing rapidly – 25% of total revenue

International Revenue By Region (2007 – 2012)



AtriCure

Key Financial Highlights



Opportunity for…

Accelerating revenue growth to 15%+ (8% 5yr. CAGR today)

Expanding Gross Margins to over 75% (71% today)

AtriCure

AtriCure Highlights

New leadership since November 2012

- Focus on accelerating growth, commercial execution, R&D innovation

Large underpenetrated market with few sustainable treatment options

Undisputed market leader in all types of surgical ablation

- Broad and deep product portfolio
- Strong IP in the field of AF
- Strongest brand – recognized for high-quality and innovative products
- Leading KOL support and enthusiasm

Accelerating revenue growth → see path to 15%+ growth

- Open → only AF label for surgical ablation
- Minimally Invasive Solutions (MIS) → Largest long-term market
- Left Atrial Appendage (LAA) Management Solution → Danger Zone….Opportunities
- International Expansion → Improve share and enter new markets

Opportunity for Expanding Gross Margins → see path to 75%+

Appendix

Broadest Product Portfolio

Synergy

- Workhorse ablation system
- Completely automated
- Rapid: 10-30 second ablations
- Used in Open and MIS

Probes/Pens

- Deepest unidirectional lesion formation
- Totally thoracoscopic design
- Simple user interface

AtriClip

- Clip easily be repositioned – MIS and Open
- Fabric prevents slippage, promotes in-growth
- Appendage atrophies away
- Used for LAA

Cryoablation

- Faster and More consistent to achieve lethal probe temperature
- Only probe with Defrost feature
- Greatest work capacity in cryo probe market

AtriCure

Robust Product Pipeline

RF Ablation

Long Linear Ablation

- One-sided approach to perform Pulmonary Vein Isolation
- Improved safety and efficacy over competitive devices

AtriClip

Next Generation AtriClip - BOA2

- Tailored to most difficult and challenging access
- Launched 3Q 2012

Reusable Clip Deployment

- Reusable Platform
- Lower cost clip option

Next Generation AtriClip and AtriClip – ACH2

- Improved access via malleable shaft and in-line design
- Open-ended clip design

Cryoablation

Cryo Console Adapter Box-AAM

- Ability to use re-usable cryo platform with automated cryo module (ACM)

Next Generation Cryo- CRYO2A

- Increased Malleability

Next Generation RF & Cryo Generators

- Improved usability and branding
- Increased capabilities to support future platforms

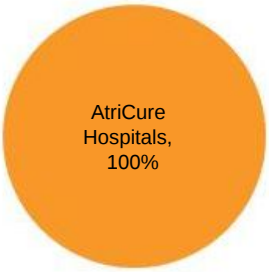
Current status:

94 active product versions and 153 active product codes

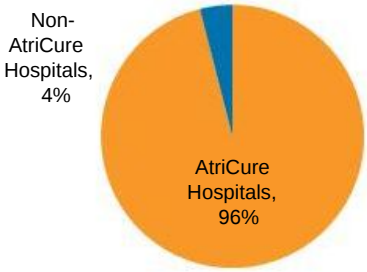
AtriCure

Blue Chip Customer Base

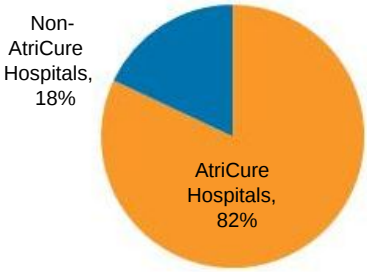
Top 10 "Heart Hospitals" U.S. News & World Report



Top 25 "Heart Hospitals" U.S. News & World Report



Top 50 "Heart Hospitals" U.S. News & World Report



Representative Blue Chip Customers

Cleveland Clinic

JOHNS HOPKINS MEDICINE

BWH BRIGHAM AND WOMEN'S HOSPITAL
A Teaching Affiliate of Harvard Medical School

MAYO CLINIC

NewYork-Presbyterian
The University Hospitals of Columbia and Cornell

MGH MASSACHUSETTS GENERAL HOSPITAL

TEXAS HEART INSTITUTE at St. Luke's Episcopal Hospital

Duke University Medical Center

UCLA Ronald Reagan Medical Center

AtriCure