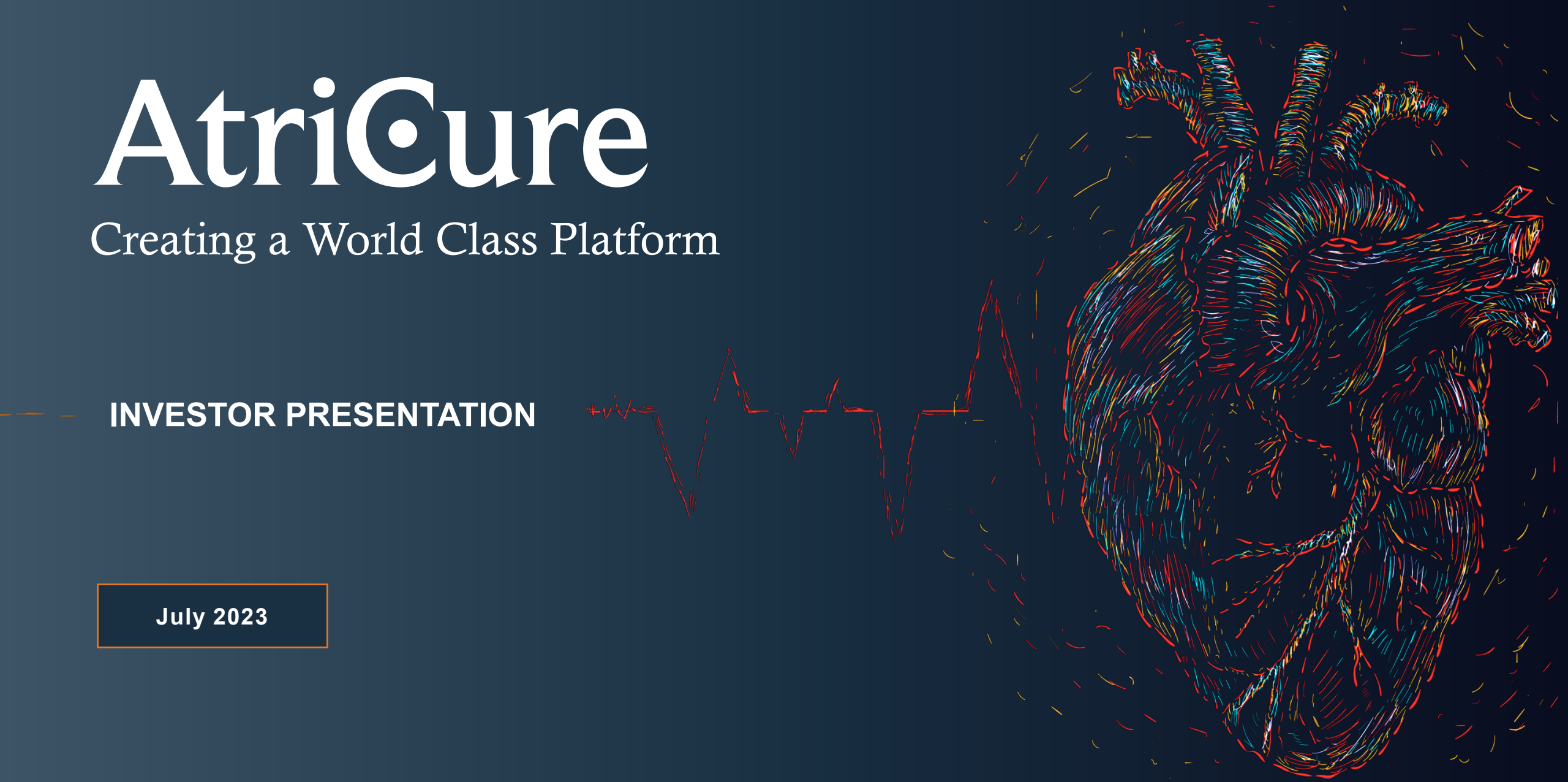
AtriCure

Creating a World Class Platform



INVESTOR PRESENTATION

July 2023

Forward Looking Statements

This presentation and oral statements made in connection with this presentation contain “forward-looking statements,” which are statements related to future events that by their nature address matters that are uncertain. Forward-looking statements address, among other things, AtriCure’s expected market opportunity, future business, financial performance, financial condition, and results of operations, and often contain words such as “intends,” “estimates,” “anticipates,” “hopes,” “projects,” “plans,” “expects,” “drives,” “seek,” “believes,” "see," “focus,” “should,” “will,” “would,” “can,” “opportunity,” “target,” “outlook,” and similar expressions and the negative versions thereof. Such statements are based only upon current expectations of AtriCure. All forward-looking information is inherently uncertain and actual results may differ materially from assumptions, estimates, projections or expectations reflected or contained in the forward-looking statements as a result of various risk factors.

Reliance should not be placed on forward-looking statements because they involve known and unknown risks, uncertainties and other factors which may cause actual results, performance or achievements to differ materially from those expressed or implied. These risks, uncertainties and other factors include, but are not limited to, those identified at http://www.atricure.com/forward-looking-statements and/or described in AtriCure’s Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q, particularly the “Risk Factors” sections thereof, as filed with the U.S. Securities and Exchange Commission and available at http://www.sec.gov.

With respect to all forward-looking statements, AtriCure claims the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995. Forward-looking statements speak only as of the date they are made. AtriCure undertakes no obligation, and does not expect, to publicly update or revise any forward-looking statements to reflect new information or future events or otherwise unless required by law.

Non-GAAP Financial Measures

To supplement AtriCure's condensed consolidated financial statements prepared in accordance with accounting principles generally accepted in the United States of America, or GAAP, AtriCure provides certain non-GAAP financial measures as supplemental financial metrics in this presentation.

Adjusted EBITDA is calculated as net income (loss) before other income/expense (including interest), income tax expense, depreciation and amortization expense, share-based compensation expense, acquisition costs, legal settlements, impairment of intangible assets and change in fair value of contingent consideration liabilities. Management believes 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 results of operations and management believes that the excluded items are typically not reflective of our ongoing core business operations and financial condition. Further, management uses adjusted EBITDA for both strategic and annual operating planning. Adjusted income (loss) per share is a non-GAAP measure which calculates the net income (loss) per share before non-cash adjustments in fair value of contingent consideration liabilities, impairment of intangible assets and legal settlements.

The non-GAAP financial measures used by AtriCure may not be the same or calculated in the same manner as those used and calculated by other companies. 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. We urge investors to review the reconciliation of these non-GAAP financial measures to the comparable GAAP financials measures, and not to rely on any single financial measure to evaluate our business.

We are passionately focused on healing the lives of those affected by Afib and pain after surgery

Large Markets

Addressing an underserved and growing patient population

Strong Portfolio

Existing products and solutions driving consistent growth

Bright Future

Novel therapies supported by growing body of clinical evidence

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Afib: A Serious Problem

Atrial Fibrillation (Afib) is an irregular heartbeat (or arrhythmia) that affects more than 37 million people worldwide.[1]

8 Million
People estimated to have Afib in the US[2]

3.5 Million
People estimated to have long-standing persistent Afib in the US[3]

1 in 4 Adults
Over the age of 40 will develop Afib in their lifetime[4]

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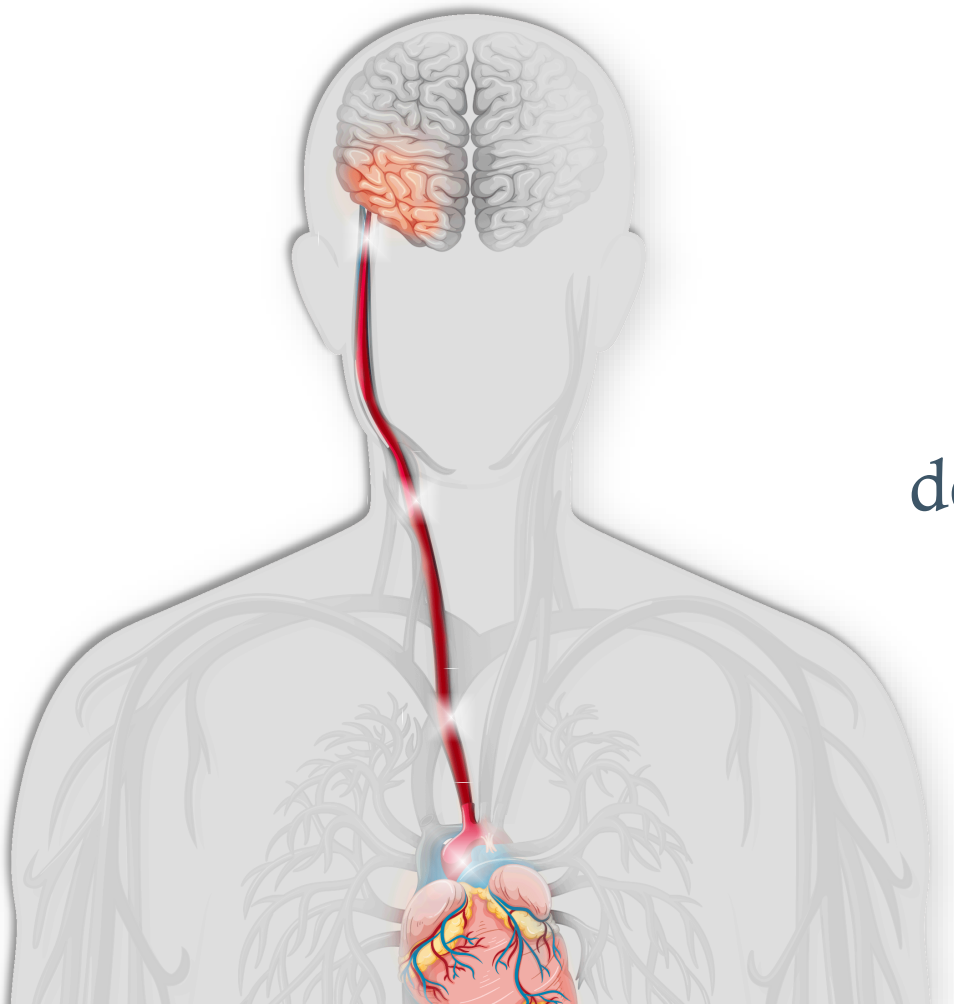
Afib: A Serious Problem



Afib is tied to higher risk of stroke, heart failure, dementia, and other health problems

5x

Higher Risk of Stroke[5]

46%

Greater Risk of Mortality[6]

>5x

Higher Risk of Heart Failure[7]

AtriCure: Foundation for Success

Innovation

Continuous improvement, increasing pipeline

Clinical Science

Differentiated clinical trials with superior patient outcomes

Expansion

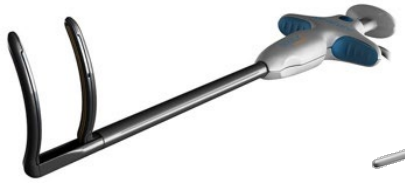
Developing addressable markets and expanding patient impact globally

Durable Growth

Strong history of revenue growth and acceleration from multiple catalysts

Innovative and Expanding Product Portfolio

Ablation



ISOLATOR® SYNERGY™ CLAMP

cryoICE® CRYOABLATION PROBE

EPI-SENSE® DEVICE

cryoSPHERE® CRYOABLATION PROBE

ISOLATOR SYNERGY ENCOMPASS® CLAMP

Continuous innovation to less invasive, simpler to use, more efficient products

LAA Management

ATRICLIP® FLEX DEVICE

ATRICLIP PRO® DEVICE

ATRICLIP PRO•V® DEVICE

ATRICLIP FLEX•V® DEVICE

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Differentiated and Growing Clinical Evidence

2011

Isolator® Synergy Ablation System approved by FDA for treatment of persistent or long-standing persistent Afib concomitant to open heart procedures

2020

FROST Study: Pain Management in Post Thoracic Procedures via intercostal Cryoanalgesia

2021

CONVERGE IDE Trial: EPi-Sense® Guided Coagulation System approved by FDA for treatment of long-standing persistent Afib

2022

CAPLA Study[8]: Catheter ablation for persistent Afib – a multicenter randomized study of PVI alone vs. PVI with PWI

2023

CEASE-AF: RCT showing the benefits of hybrid ablation with LAA management

Future evidence expanding markets, changing standards of care

HEAL-IST IDE Trial procedure for treatment of IST

Registries and Studies Cryoanalgesia Hybrid Therapy LAAM IST

LeAAPS IDE Trial prophylactic LAA exclusion for prevention of ischemic stroke in cardiac surgery patients without pre-operative AF diagnosis

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Significant Global Market Opportunity

$5B+ Global Opportunity

LOW PENETRATION IN EXISTING MARKETS

EXPANSION OPPORTUNITIES IN FOCUS

- Innovative product development
- Data supporting label expansions
- Enhanced reimbursement

- Penetration of large markets first
- Expand product availability
- Dedicated sales and training expertise

Market opportunity and penetration estimates based on internal estimates and research, as well as from publicly available information.

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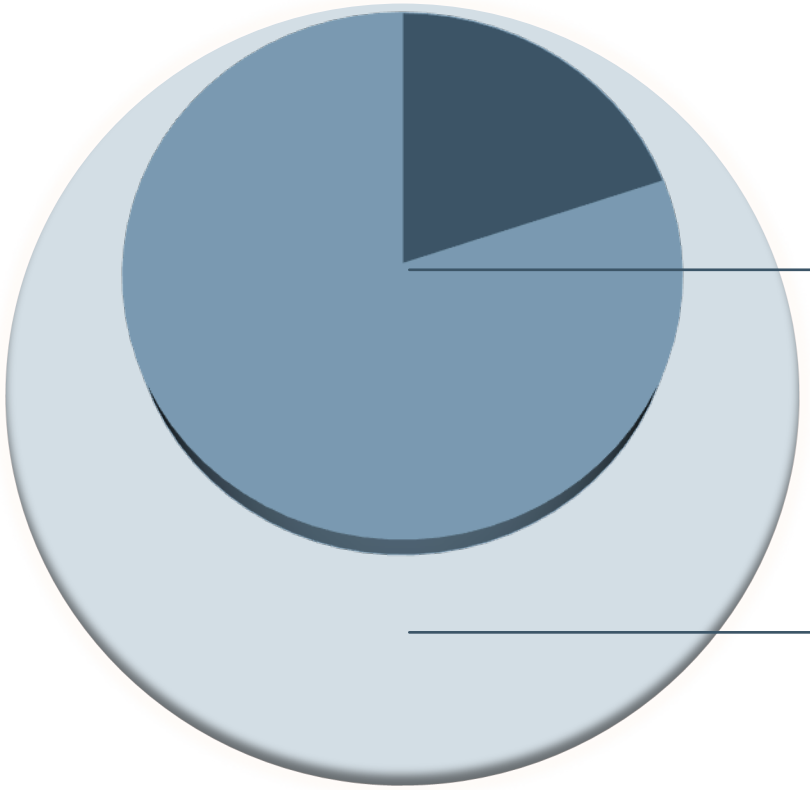
Cardiac Surgery Opportunity (US)

~$900M

Concomitant Open Procedures (Open Ablation/LAAM)



~$500M annually

Cardiac Surgery with pre-op Afib

Estimated penetration <30%

~$375M annually

Cardiac Surgery without pre-op Afib

Expansion with LeAAPS IDE Clinical Trial

AtriCure Difference

Innovation

- Isolator Synergy **EnCompass® Clamp**
- **AtriClip®** platform and **expansion of labeling** (electrical isolation of LAA)

Science

- Isolator® Synergy Ablation System **first medical device with FDA approval** for treatment of persistent Afib

Education

- **Advanced Ablation Courses endorsed** by the Society of Thoracic Surgeons

Guidelines[9]

- Surgical Ablation is **recommended**
- LAA management is **reasonable**

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See Supplemental Information; market opportunity and penetration estimates based on internal estimates and research, as well as from publicly available information.

LeAAPS Overview

IDE Trial to evaluate the effectiveness of prophylactic LAA exclusion for the prevention of ischemic stroke or systemic arterial embolism in cardiac surgery patients without pre-operative AF diagnosis

Using AtriClip LAA Exclusion System

Study Design

Summary
Multi-center, prospective, randomized control (1:1) trial

Number of Subjects and Sites
Up to 6,500 subjects at up to 250 sites worldwide

Study Duration
Safety: 30-day follow-up
Efficacy: Event-driven trial, with a minimum 5 years post procedure follow-up

Primary Endpoints

Effectiveness
First occurrence of ischemic stroke or systemic arterial embolism.

Safety
Incidence of safety events through 30-days to demonstrate no increase in risk with LAA exclusion during cardiac surgery.

Left Atrial Appendage Exclusion for Prophylactic Stroke Reduction

CLINICAL TRIAL

Highlights

- **Seminal clinical trial** – one of the largest IDE trials in cardiac surgery
- Study will have a global reach with sites in the United States, Canada, Europe and Asia
- Multiple secondary and other key endpoints will be evaluated
- FDA approval of LeAAPS clinical trial protocol (Q2 2022)
- First patient treated (Q1 2023)

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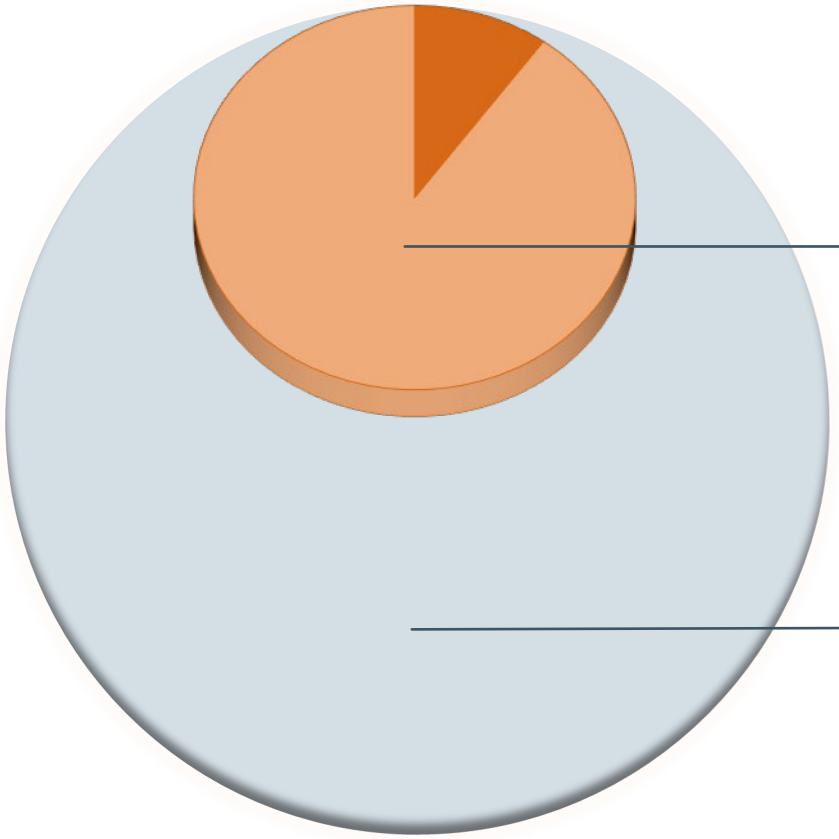
Hybrid Opportunity (US)

$2B+ and Growing

Standalone Hybrid Procedures (MIS Ablation/LAAM)



~$500M annually

Long-Standing Persistent Afib catheter ablations

Hybrid Therapy complementary to existing catheter ablations; Estimated penetration <15%

>$2B and growing

Long-standing Persistent Afib patients (untreated)

Market size estimated at 5% penetration

AtriCure Difference

Innovation

- **Multiple approaches** to treatment: Hybrid AF Therapy + AtriClip®, DEEP
- **EPi-Sense ST**

Science

- **EPi-Sense® System approved by FDA** for treatment of long-standing persistent Afib
- **CEASE-AF** clinical trial

Education

- **Hybrid Training Course** co-sponsored by the Hearth Rhythm Society

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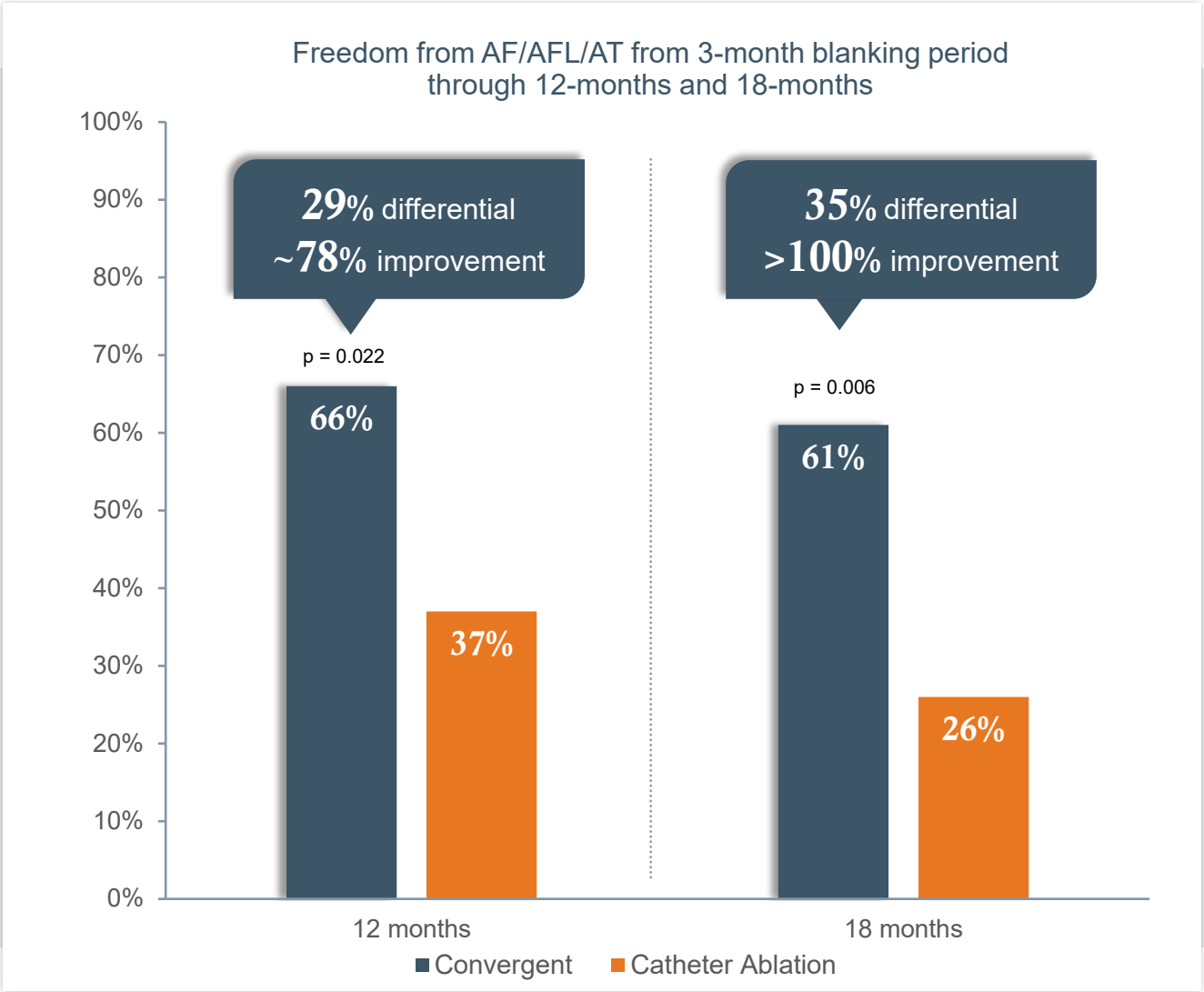
See Supplemental Information; market opportunity and penetration estimates based on internal estimates and research, as well as from publicly available information.

CONVERGE: Long-standing Persistent Afib Patient Analysis



- **Superior outcomes with hybrid Convergent procedure** when compared to endocardial catheter ablation alone in patients with drug refractory long-standing persistent Afib, with majority of patients experiencing:
  - + **Over 100% improvement** at 18 months
  - + **Over 90% burden reduction** at 12 months
  - + **Freedom from Afib** through 12 months
- **Improved EP lab efficiency** demonstrated by reduction in endocardial ablation time
- **Emphasizes value of team approach for advanced AF treatment,** targeting trigger areas (epicardial and endocardial) where AF begins

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HEAL-IST Overview

IDE Trial to support safety and efficacy of hybrid sinus node sparing ablation procedure for the treatment of IST

Using AtriCure ISOLATOR Synergy Ablation System

Study Design

Summary
Multi-center, prospective, single arm, Bayesian Adaptive Design

Number of Subjects and Sites
Up to 142 patients at up to 40 sites (US, UK, and EU)

Study Duration
Safety: 30-day follow-up
Efficacy: 12-month follow-up
All subjects followed for a total of 24 months post procedure

Primary Endpoints

Effectiveness
Freedom from IST at 12-months. Freedom from IST is defined as mean heart rate of ≤ 90bpm or at least a 15% reduction in mean heart rate as compared to baseline, in the absence of new or higher dosage of previously failed medications.

Safety
Incidence of device or procedure-related major adverse events (MAEs) for subjects undergoing the hybrid sinus node sparing ablation procedure from the index procedure through 30-days post procedure.

CLINICAL TRIAL

Highlights

- **Inappropriate Sinus Tachycardia (IST)** is a chronic condition characterized by elevated resting heart rate and exaggerated response to exercise or stress
  - ✓ Currently, no approved therapies
  - ✓ First clinical trial for this large unmet need
  - ✓ Building off current Synergy product technology
  - ✓ Hybrid therapy leverages expertise and partnership between EP and Cardiac Surgery
- FDA approval of HEAL-IST clinical trial protocol (Q1 2022)
- First patient treated (Q2 2022)

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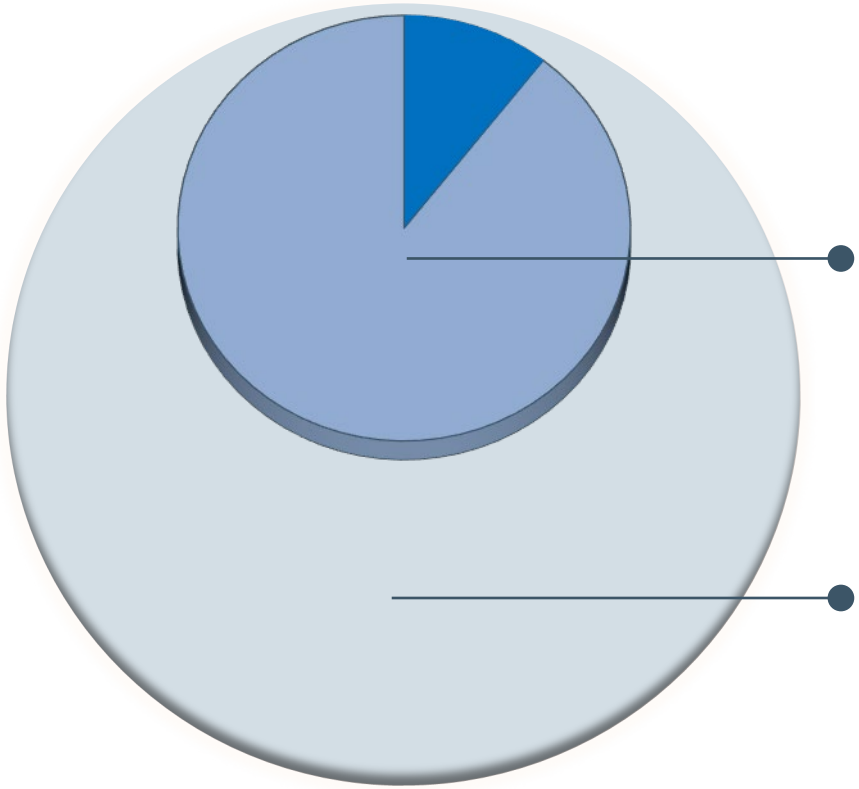
Pain Management Opportunity (US)

~$1B

Pain Management Procedures (Ablation)



~$350M annually

Thoracic Procedures

Estimated penetration <15%

~$600M annually

Sternotomy Procedures

Therapy under evaluation; expansion with existing cryoSPHERE probe

AtriCure Difference

Innovation

- **cryoSPHERE® cryoablation probe**
- **Expanded labeling** for Cryo Nerve Block Therapy in adolescents (patients as young as 12 years of age)

Science

- **FROST** Study
- **Can be an important tool in combatting the opioid epidemic** – 1 in 7 thoracic surgery patients become reliant upon opioids after their procedure[10]

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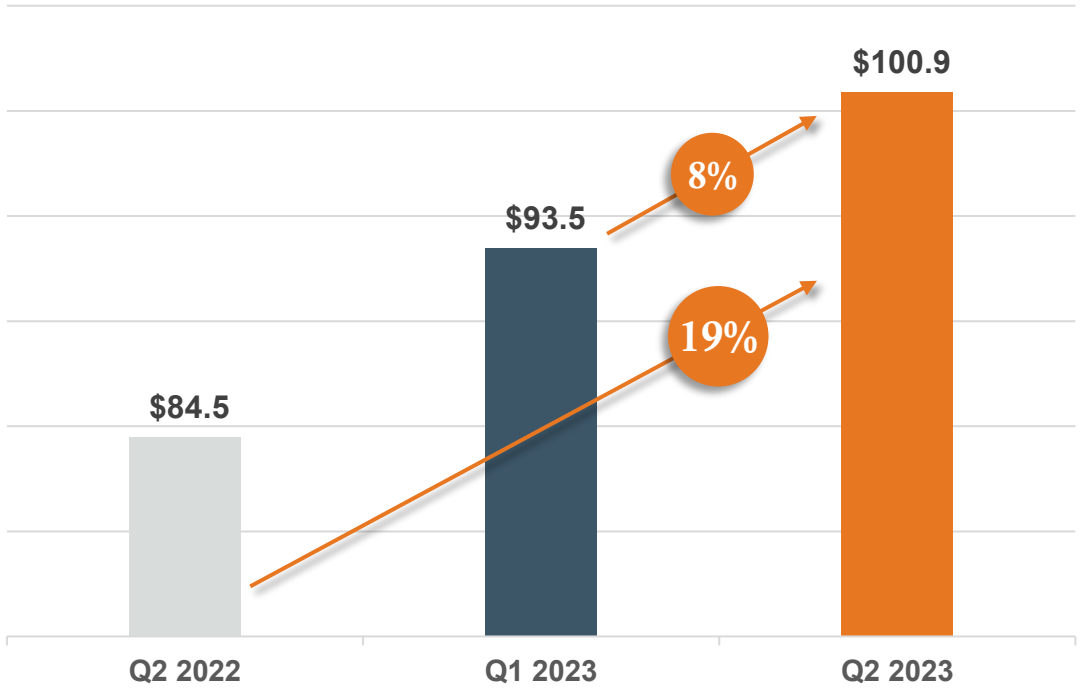
Market opportunity and penetration estimates based on internal estimates and research, as well as from publicly available information.

Second Quarter 2023 Financial Highlights

Worldwide Revenue* ($M)



Robust activity and growing demand across key product lines demonstrate our many growth catalysts

Year over Year Revenue Growth:

- U.S. revenue of $84.9 million, an increase of 19.1%
- International revenue of $16.0 million, an increase of 20.7%

Key Metrics*

	Q2 2022	Q2 2023
GROSS MARGIN	75.1%	76.4%
OPERATING EXPENSES	$77.2M	$81.2M
ADJUSTED EBITDA+	($3.2M)	$8.0M
ADJUSTED LOSS PER SHARE+	($0.32)	($0.12)
CASH & INVESTMENTS	$183M	$135M

** 2023 financial results are preliminary and unaudited.*

+ Reconciliation of Adjusted EBITDA and Adjusted Loss per share to relevant GAAP measures may be found in Q2 2023 earnings release.

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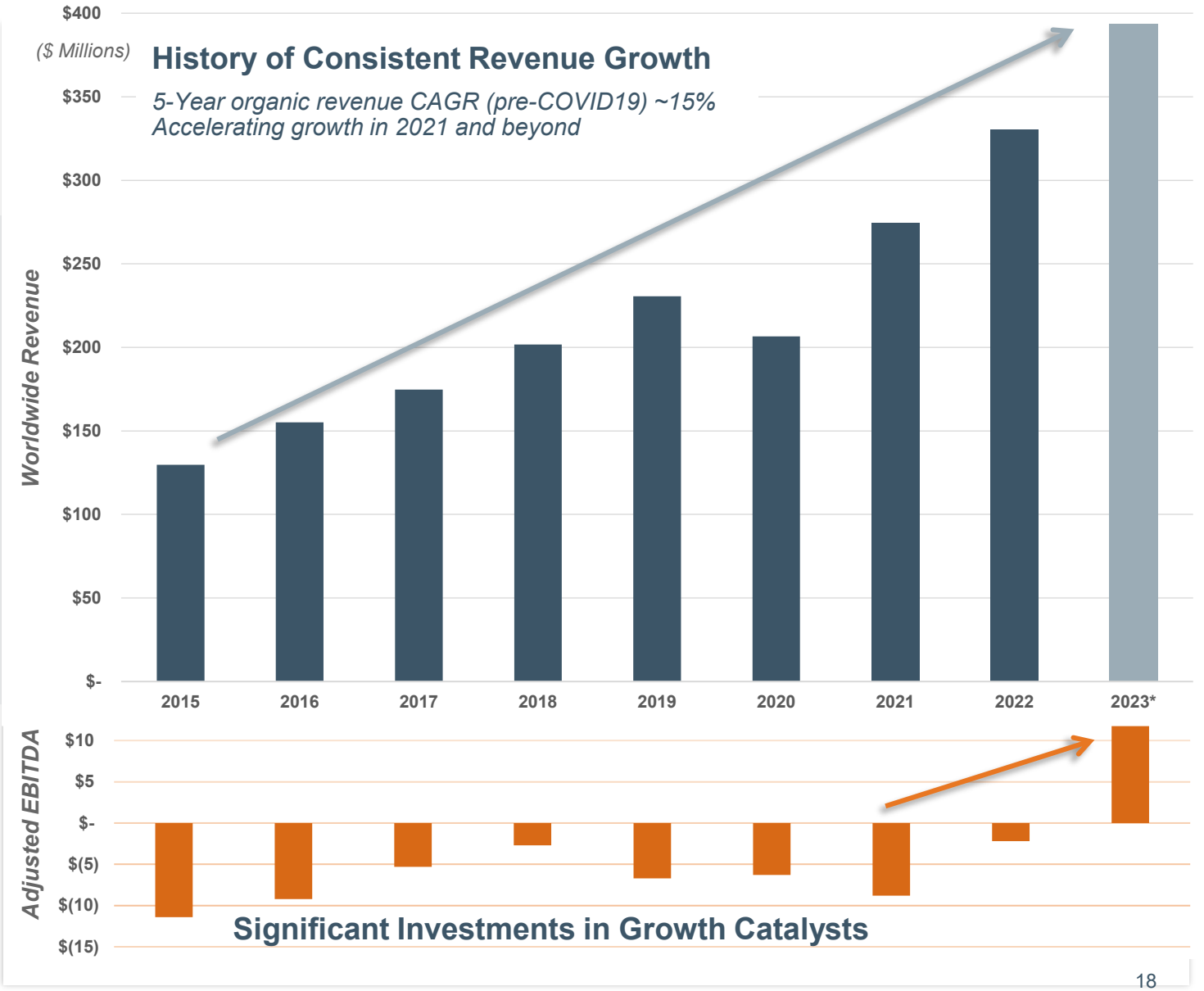
Financial Results and 2023 Outlook

2023 Guidance

- **Worldwide revenue of $392 to $395 million** (approximately +19-20% annual growth)
- **Positive Adjusted EBITDA of approximately $12 million**

** 2023 Revenue based on midpoint of guidance range.*



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Commitment to Sustainability

Inaugural sustainability report published ESG

Top Workplace Honors
Cincinnati, Minneapolis, Amsterdam

Diversity & Inclusion award recognizing ATRC Board NACD

35th Anniversary of Cox-Maze Procedure

>1,000 Employees

Global headcount passes the millennium mark – with improvement to diversity metrics!

2,500+ live attendees

At our Women's Cardiac Health Awareness Initiatives to date

All Top 10 Heart Hospitals Use AtriCure Products

US NEWS & WORLD REPORT BEST HOSPITALS: CARDIOLOGY AND HEART SURGERY 2022-23

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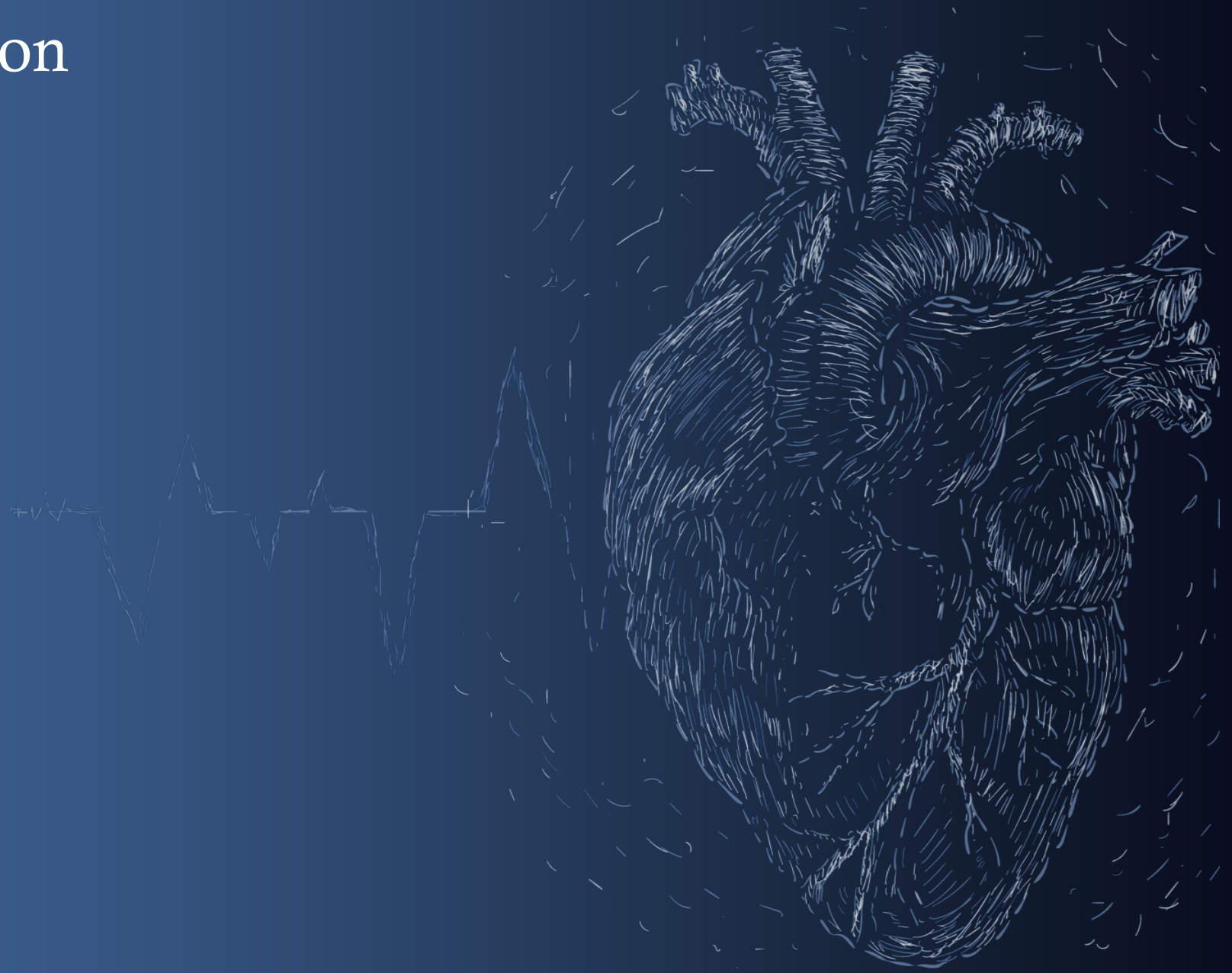
Supplemental Information

References for any comments, statistics, or figures in this presentation are available upon request.



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Key Investment Rationale

Large Markets

Addressing an underserved and growing patient population

- Approximately 37 million Atrial Fibrillation patients globally, with majority having advanced forms of the disease[1]
- Multibillion dollar annual market opportunity
- Current standard of care for intervention (catheter ablation) does not adequately address the most advanced forms of the disease

Strong Portfolio

Existing products and solutions driving consistent growth

- Strong history of double-digit revenue growth, driven by great products, clinical evidence, commitment to education, and societal guideline support
- Only PMA products for the surgical treatment of Afib
- AtriClip device is the most widely used Left Atrial Appendage device with over 450,000 sold to date
- Diverse and expanding product portfolio from internal development and acquisitions

Bright Future

Novel therapies supported by growing body of clinical evidence

- Only PMA product for treatment of LS persistent Afib with Hybrid AF Therapy
- Growing pain management business to address pain associated with surgery
- Early in market development process – evolution to minimally invasive therapies, accelerating in future

US Concomitant Market Opportunity

- US annual cardiac surgery volume steady over the past 5 years with shifts in procedure types[11]
- Pre-Op Afib occurs frequently in cardiac surgery patients[12]
- New onset Post-Op Afib is a well-documented complication of cardiac surgery, even if patients do not present with pre-op Afib[13]

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Estimated **Afib** Opportunity in Cardiac Surgery

Annual Cardiac Surgeries[14]	300,000
Pre-Operative Afib Rate[12]	~28%
Cardiac Opportunity – Pre-Op Afib	85,000
ASP Mix (Ablation and Appendage Management)[15]	$6,000
Open Cardiac Surgery Opportunity – Afib	**$500M**

Estimated **Non-Afib** Opportunity in Cardiac Surgery

Annual Cardiac Surgeries	300,000
Pre-Operative Non-Afib Rate	~72%
Cardiac Opportunity – Pre-Op Afib	215,000
ASP Mix (Appendage Management ONLY)[15]	$1,750
Open Cardiac Surgery Opportunity – Non-Afib	**$375M**

US Standalone Market Opportunity

Market opportunity in analysis at right considers:

- Addition of ablation and LAAM to existing catheter ablation procedures
  - Catheter ablation procedures have grown 10-15% annually[16]
- Incremental penetration of advanced Afib patient population
  - Today, long-standing persistent Afib population represents more than 3 million patients in the United States, expected to grow to more than 4.4 million by 2025[3]
- ASP Mix is both ablation and AtriClip

Estimated **Standalone** Afib Opportunity

	2022	Projected 2025
Long-standing Persistent Afib Catheter Ablation[17]	32,000	45,000
ASP Mix (Ablation + Appendage Management)[15]	$15,300	$15,300
Immediate Standalone Afib Opportunity	**$500M**	**$700M**
Additional penetration Long-standing Persistent Afib patients (estimated at 5% penetration)	150,000	175,000
ASP Mix (Ablation + Appendage Management)[15]	$15,300	$15,300
Incremental Standalone Afib Opportunity (estimated at 5% penetration)	**$2B+**	**$3B+**

CONVERGE Overview

SUPERIORITY TRIAL designed to support
FDA approval of the EPi-Sense device

Achieved statistical superiority for primary endpoints

Study Design

Summary
Multi-center, prospective, open label randomized 2:1 (Hybrid Convergent procedure vs endocardial catheter ablation) pivotal study

Number of Subjects and Sites
153 subjects
27 sites (25 US and 2 OUS)

Study Duration
12 month and 18 month monitoring, then 3 and 5 year follow-up of all subjects

Primary Endpoints

Effectiveness
Primary efficacy endpoint is success or failure to be AF/AT/AFL-free absent class I and III AADs except for a previously failed or intolerant class I or III AAD with no increase in dosage following the 3 month blanking period through the 12 months post procedure follow-up visit

Safety
Predetermined performance goal for the study is 12% freedom from MAE's as adjudicated by the CEC for the procedural to 30-day post procedure time period

CONVERGE Clinical Trial

Highlights

- Completed enrollment August 2018
- Data released at virtual Heart Rhythm Society (HRS) conference May 2020
- PMA submission seeking approval for treatment of long-standing persistent Afib November 2020
- Trial results published in *Circulation: Arrhythmia and Electrophysiology* November 2020
- Long-standing persistent Afib patient sub-group analysis presented at 26th Annual Atrial Fibrillation (AF) Symposium January 2021 and 14th Annual Western AF Symposium February 2021
- **FDA approval of EPi-Sense System for treatment of long-standing persistent Afib April 2021**

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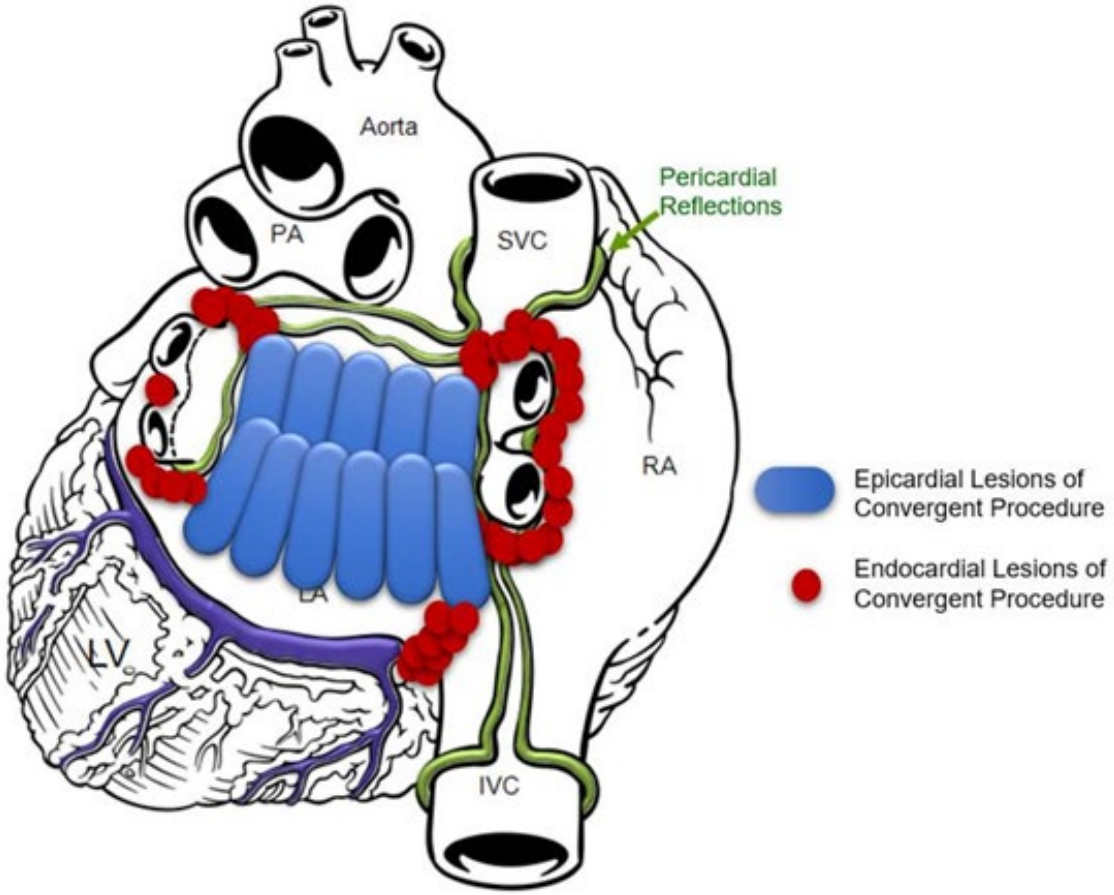
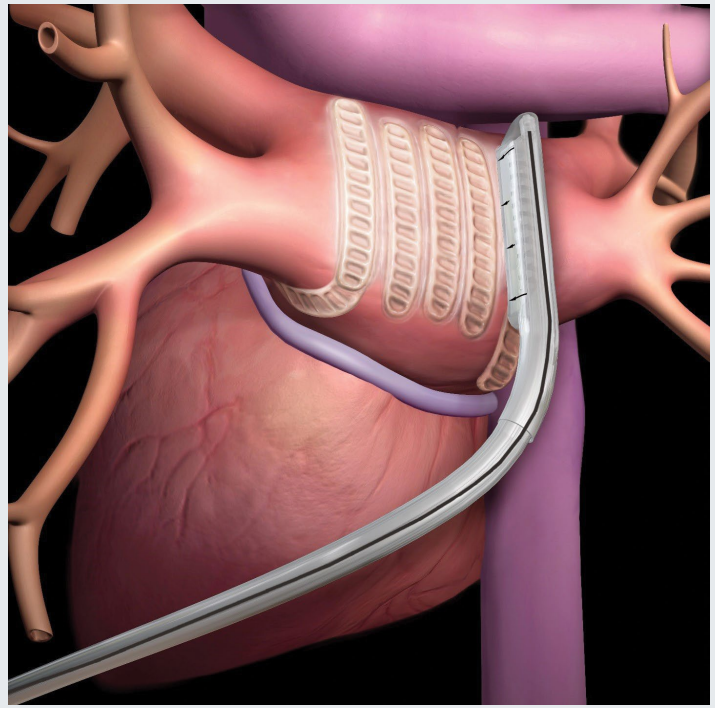
Hybrid AF Therapy: The Convergent Procedure





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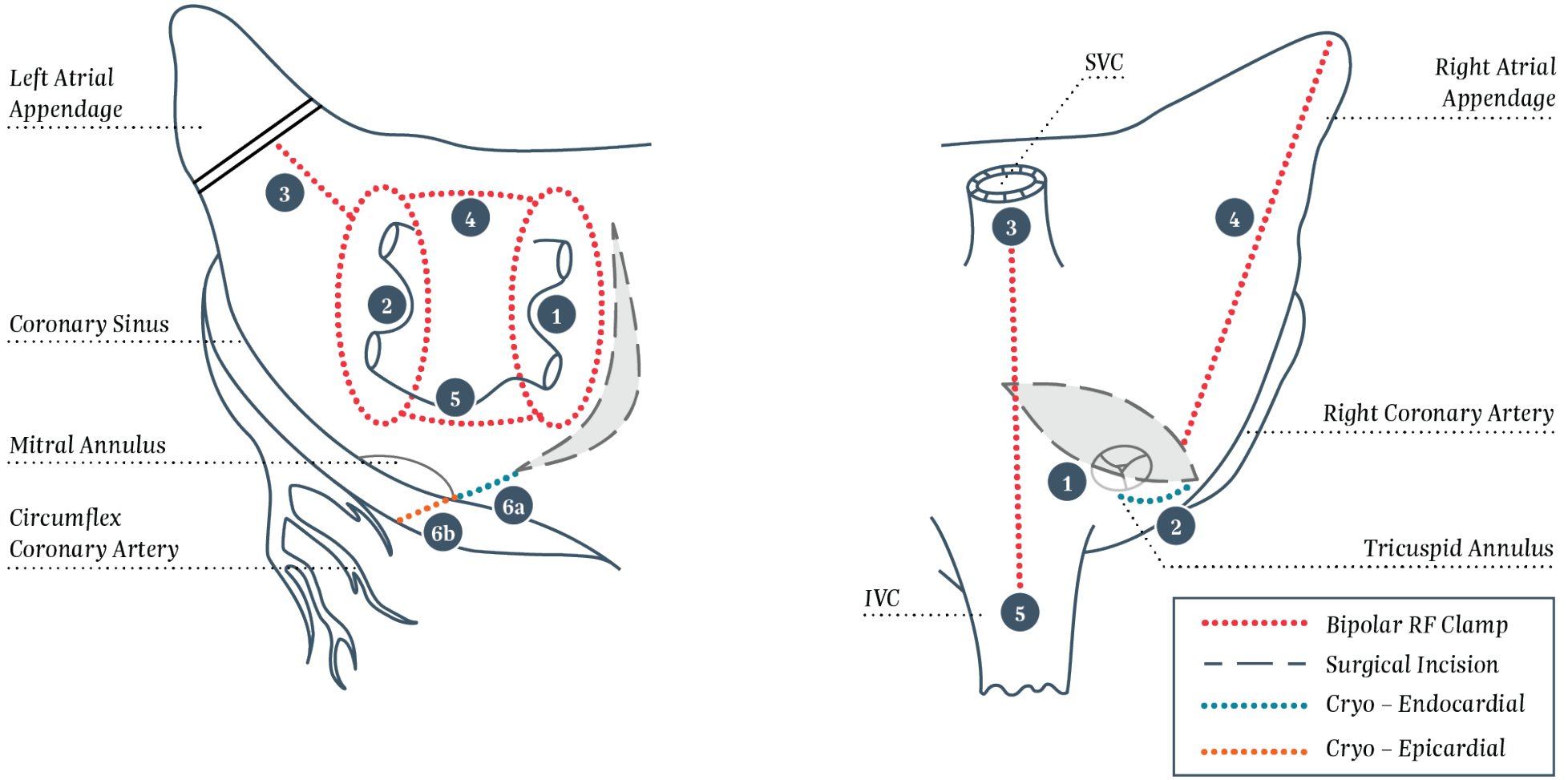
The Cox-Maze IV Procedure



References and Abbreviations

Note	Reference
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8	American Heart Journal. 2022 Jan; 243:210-220. doi: 10.1016/j.ahj.2021.09.015
9	The Society of Thoracic Surgeons 2017 Clinical Practice Guidelines for the Surgical Treatment of Atrial Fibrillation
10	The Society of Thoracic Surgeons, Current News Release (1/30/2018): 1 in 7 Lung Surgery Patients at Risk for Opioid Dependence
11	STS Adult Cardiac Surgery Database, 2018/2019 Harvest Executive Summary
12	McCarthy, P.M. et al. (2019). Prevalence of atrial fibrillation before cardiac surgery and factors associated with concomitant ablation. J Thorac Cardiovasc Surg, PII: S0022-5223(19)31361-3, DOI: 10.1016/J.JTCVS.2019.06.062
13	Lin et al, Stroke 2019 Jun; 50(6):1364-1371. doi: 10.1161/STROKEAHA.118.023921. Epub 2019 May 2.
14	Harvested from data previously available through the Society of Thoracic Surgeons
15	Average Selling Prices (ASPs) are management estimates based on a mix of products used for the various procedures
16	Estimated based on various catheter company presentations
17	Estimated based on Advisory Board data, along with various scientific presentations

Key Abbreviations

Afib or AF	Atrial Fibrillation
AA	Atrial Arrythmia
AAD	Anti-Arrhythmic Drugs
AFL	Atrial Flutter
AT	Atrial Tachycardia
CABG	Coronary Artery Bypass Graft
CEC	Clinical Events Committee
EP	Electrophysiologist
FDA	Food & Drug Administration
IDE	Investigational Device Exemption
IST	Inappropriate Sinus Tachycardia
LAA	Left Atrial Appendage
LAAM	LAA Management
LS	Long-standing
MAE	Material Adverse Event
PMA	Pre-Market Approval
RCT	Randomized Control Trial
RF	Radio Frequency