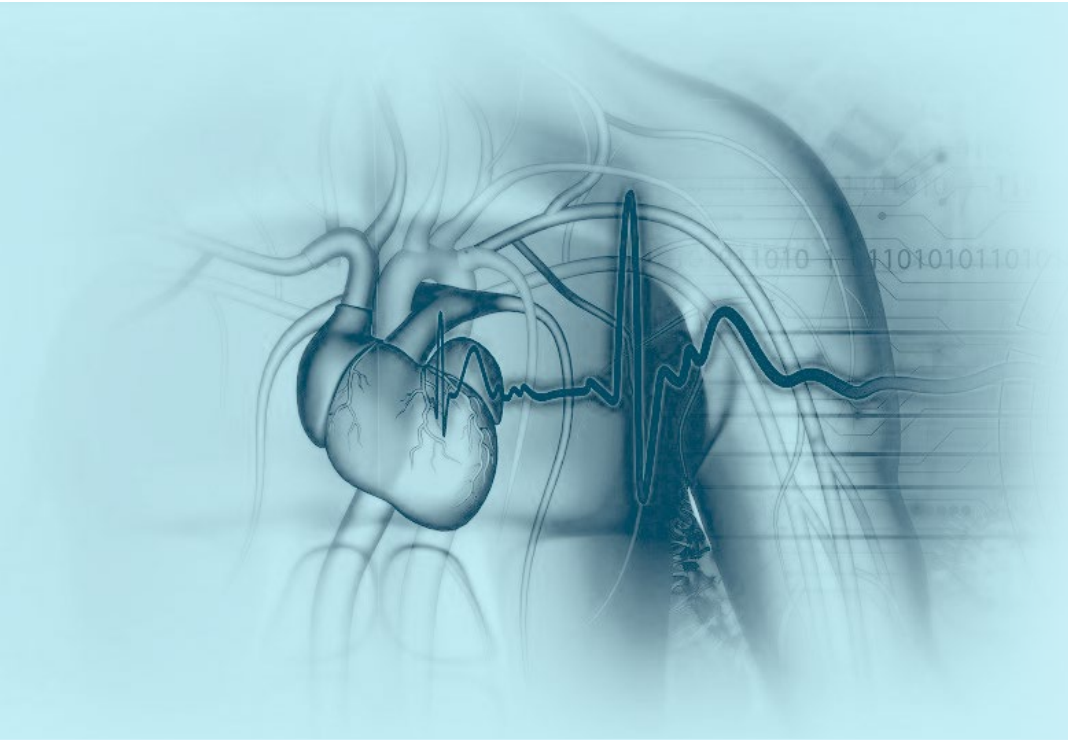
Pulse Biosciences®

Investor Presentation

October 2023

Forward Looking Statements

All statements in this presentation that are not historical are forward-looking statements, including, among other things, statements relating to the effectiveness of the Company's nsPFA technology and CellFX System to non-thermally clear cells while sparing adjacent non-cellular tissue, statements concerning the Company's expected product development efforts, such as advancement of its cardiac clamp through the appropriate FDA regulatory path and possible initiation of a first-in-human safety feasibility study of its nsPFA endocardial ablation catheter system, statements concerning the Company's future regulatory strategies and possible government clearances and approvals, statements concerning customer adoption and future use of the CellFX System to address a range of conditions such as atrial fibrillation, statements about the Company's future financing opportunities and operating expenses, and Pulse Biosciences' expectations, whether stated or implied, regarding whether the Company's nsPFA technology will become a disruptive treatment option for treating cardiac arrhythmias and whether future clinical studies will show the CellFX System is safe and effective to treat atrial fibrillation or any other medical condition, and other future events. These statements are not historical facts but rather are based on Pulse Biosciences' current expectations, estimates, and projections regarding Pulse Biosciences' business, operations and other similar or related factors. Words such as "may," "will," "could," "would," "should," "anticipate," "predict," "potential," "continue," "expects," "intends," "plans," "projects," "believes," "estimates," and other similar or related expressions are used to identify these forward-looking statements, although not all forward-looking statements contain these words. You should not place undue reliance on forward-looking statements because they involve known and unknown risks, uncertainties, and assumptions that are difficult or impossible to predict and, in some cases, beyond Pulse Biosciences' control. Actual results may differ materially from those in the forward-looking statements as a result of a number of factors, including those described in Pulse Biosciences' filings with the U.S. Securities and Exchange Commission. Pulse Biosciences undertakes no obligation to revise or update information in this presentation to reflect events or circumstances in the future, even if new information becomes available.



Powering the next generation in bioelectric medicine with **Nanosecond Pulsed Field Ablation** technology.

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Proven Leadership Team

Kevin Danahy
Chief Executive Officer
Medtronic · INTUITIVE · Johnson & Johnson · ZIMMER BIOMET

Darrin Uecker
Chief Technology Officer & Director
gynesonics · computermotion

Mitch Levinson
Chief Strategy Officer
NELLCOR · coolsculpting by ZELTIQ · thermage

Dr. Gan Dunnington
Chief Medical Officer
AdventistHealth

Established Board of Outside Directors

Robert (Bob) W. Duggan
Executive Chairman of the Board of Directors

Richard van den Broek
Director

Manmeet S. Soni
Director

Mahkam "Maky" Zanganeh, DDS
Director

Shelley D. Spray
Director

Positioned to Unlock the $8 Billion Cardiac Atrial Fibrillation (AF) Market

Powering the next generation in bioelectric medicine with **Nanosecond Pulsed Field Ablation (nsPFA)** Technology

Proprietary Technology
Only company bringing novel Nanosecond Pulsed Field Ablation (nsPFA) technology to the health care of patients

Novel AF nsPFA Devices
nsPFA enabled applicators deliver highly differentiated value in the treatment of AF

Robust Patent Portfolio
Surrounding the technology, devices, and use of nsPFA

135
issued patents globally owned & licensed

+99
Patent Pending Applications

Broad Medical Device Expertise
Development expertise across many disciplines

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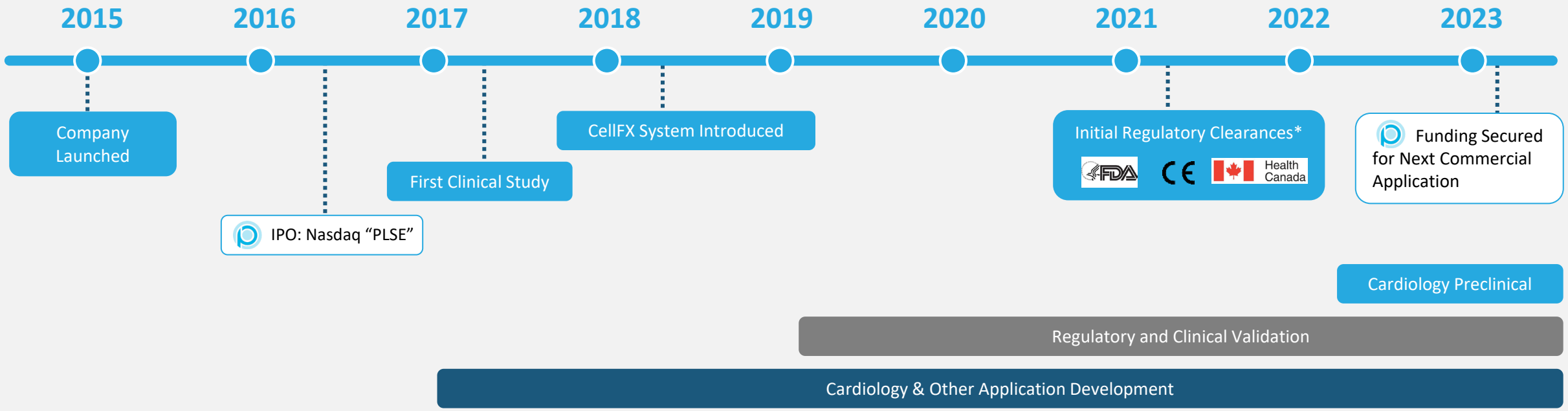
nsPFA Development – Engineering Around the MOA



*Initial Indications for the Treatment of Benign Cellular Lesions of the Skin

Addressing the Entirety of the Growing AF Market

Global Atrial Fibrillation (AF) Disease State:

>$8B

Electrophysiology Market

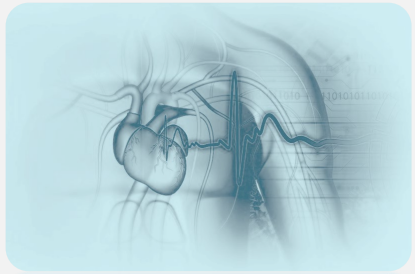
Market Growing at 10-15% CAGR[2]

AF Patients 2019:
~43M Global[1]

Expected 2050:
~72M Global[1]

Surgical Ablation

Growing Surgical and Hybrid Ablation Market



Catheter Ablation

>1M Catheter Ablations Performed Per Year

The same nsPFA energy can be utilized through a programmatic approach to have significant impact across both surgical and catheter-based market segments.

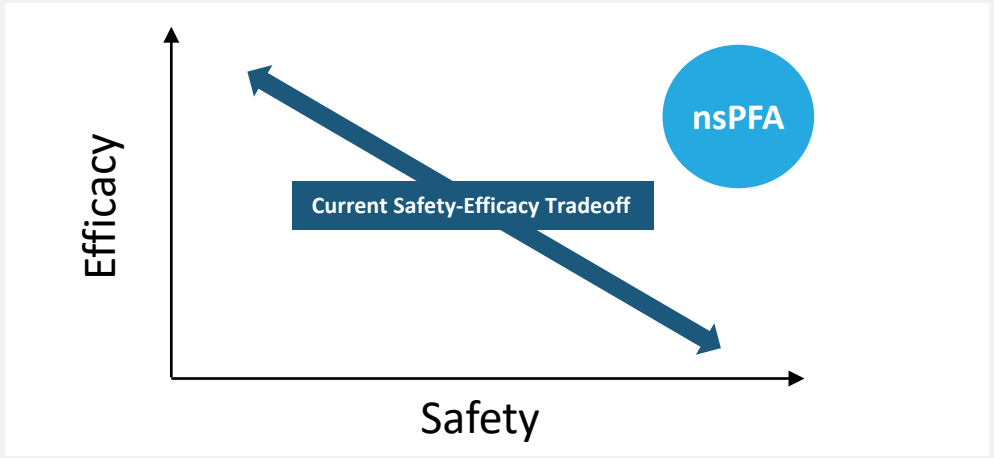
1. Prevalence Data: Institute for Health Metrics and Evaluation (IHME). Global Health Data Exchange. Seattle, WA: IHME, University of Washington. Available at http://ghdx.healthdata.org/gbd-results-tool. Location: Countries, Year: 2019, Context: cause, Age: all ages, Metric: number, Measure: prevalence, Sex: both, Cause: B.2.8. Atrial fibrillation and flutter. (Accessed August 24, 2021)
2. Wong CX, Brown A, Tse HF, et al. Epidemiology of Atrial Fibrillation: The Australian and Asia-Pacific Perspective. Heart Lung Circ. 2017;26(9):807-879
3. Wolfe AF Symposium Report 2023
4. Oppenheimer Report 2020

Current Ablation Technologies Require a Tradeoff – Safe or Effective

Because of existing safety profiles, physicians must use suboptimal parameters in order to protect surrounding tissues

More patients can be treated, and with better results, when physicians do not need to trade safety for efficacy

Standard PFA devices coming to market use RF-Style designs and off-the-shelf generators that are not designed specifically for cardiac PFA applications



	nsPFA	Standard PFA	RFA	CRYOTHERAPY
Cellular Specific	✓	✓	✗	✗
No Paralytics or Cardiac Sync Required	✓	✗	✓	✓
Nonthermal and Safe to Surrounding Tissue	✓	✓	✗	✗
Faster and More Precise Treatments	✓	✗	✗	✗

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Proprietary nsPFA Energy Provides Unique Mechanism of Action

Stimulates elegant, precise Regulated Cell Death (RCD) in any cell without collateral damage

Nonthermal modality that delivers nanosecond duration pulses of electrical energy

High speed nanosecond energy pulses penetrate the cell membrane and disrupt internal cellular function, leading to **regulated cell death (RCD)**

Unlike thermal (heat/cold) modalities, nsPFA directly impacts cellular structures while sparing noncellular tissue (primarily collagen)

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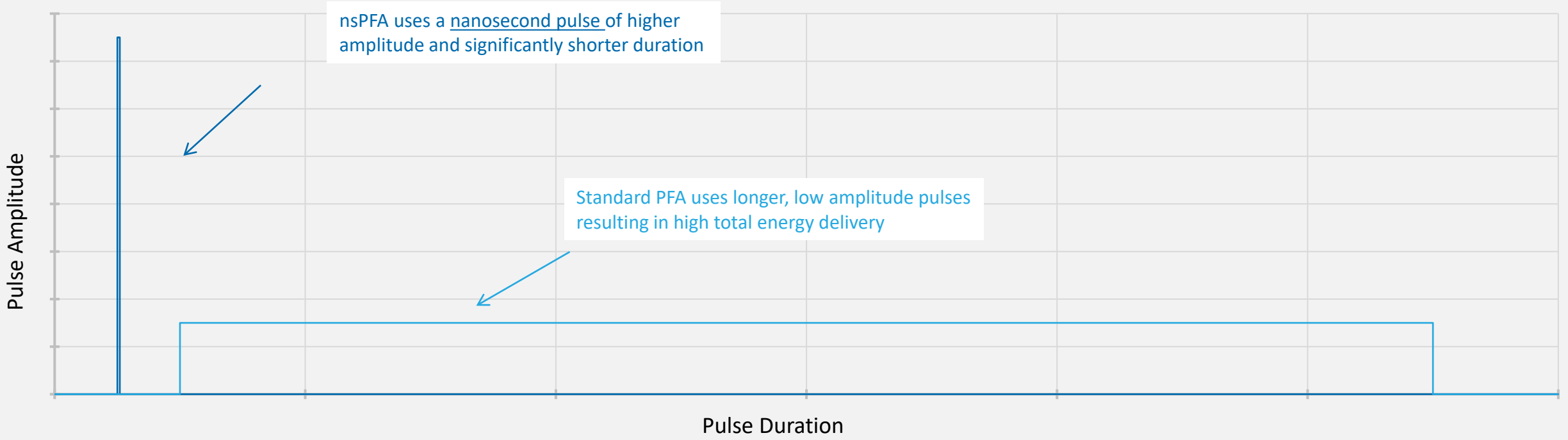
Differentiated Properties of nsPFA Energy Pulses



- Nanosecond pulses can be **~500 times shorter** than microsecond pulses
- As a result, nsPFA can require **~20 times less energy** to ablate cardiac tissue

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Advantages of nsPFA Technology

Catheter and clamp devices designed to improve patient outcomes

Novel Energy Modality

+

Devices that Leverage the Energy

Differentiated Clinical Results

Eliminating the substantial tradeoff between safety and efficacy

Better procedural efficacy than point ablation techniques

- More robust to placement
- Improved transmurality

Better safety profile than current technologies

- Conscious sedation possible
- ECG-sync not required
- 20x lower thermal energy required

More patients can be treated due to faster procedure times

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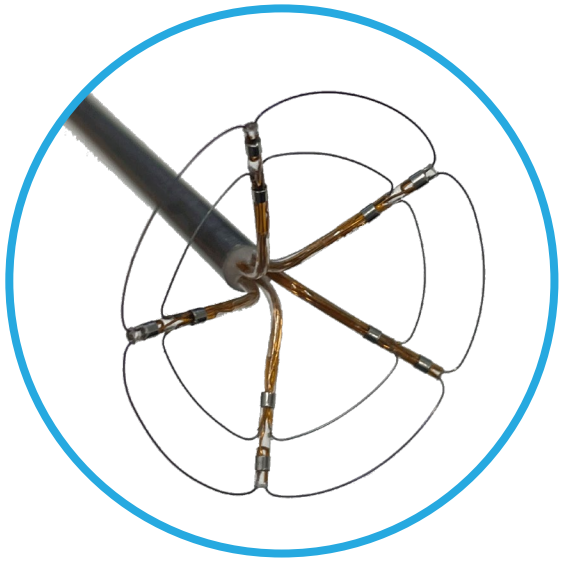
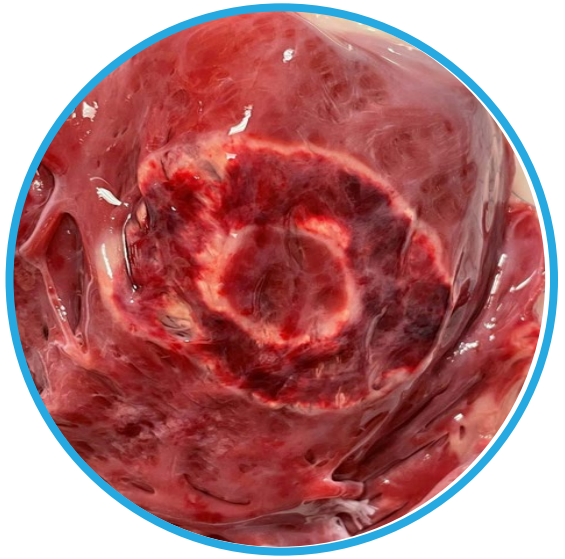
Catheter Delivery of nsPFA Energy – Cardiac Ablation

nsPFA Generator Platform



Proprietary nsPFA-Optimized Catheter Design

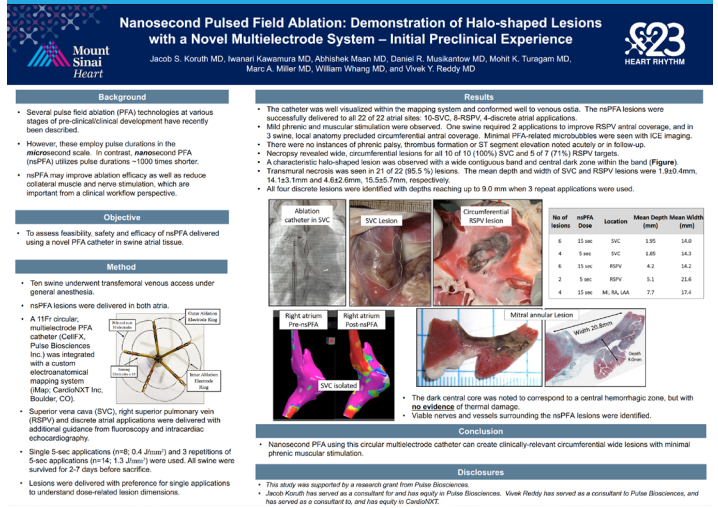


2-Day Endocardial Surface ~5cm Diameter

- Circumferential ablation catheter enabled by nsPFA energy for single-shot PVI ablation
- Reduced muscle spasm and nerve capture due to short duration nsPFA pulses
- No thermal injury due to lower energy of nsPFA pulses
- Preclinical data demonstrating safe, fast and effective ablations

nsPFA Preclinical Evidence Supporting Safety, Tolerability and Effectiveness

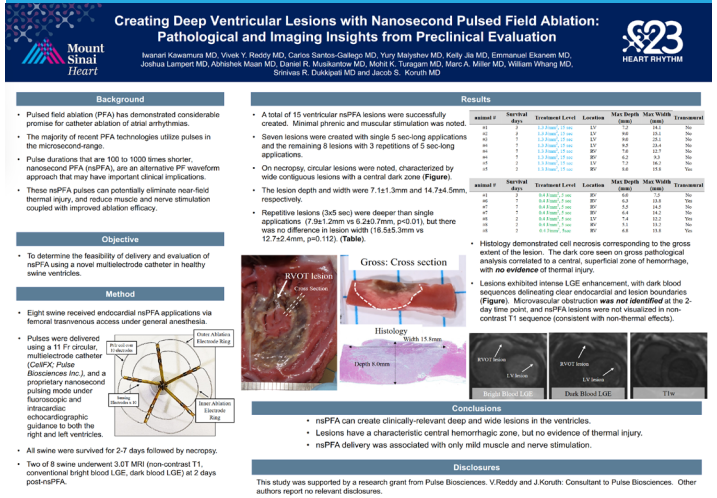
Tolerance/Effectiveness



nsPFA can create clinically relevant circumferential wide lesions with minimal phrenic muscular stimulation.

Nanosecond Pulsed Field Ablation: Demonstration of Halo-Shaped Lesions with a Novel Multielectrode System: Initial Preclinical Experience (Jacob S Koruth MD, et al.)

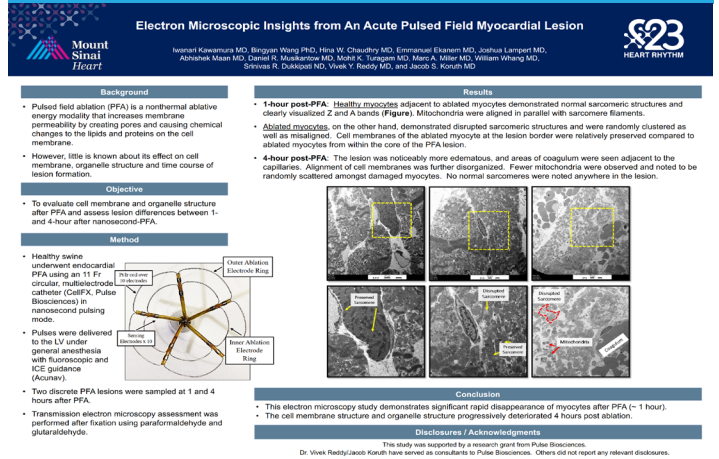
Tolerance/Safety



nsPFA can create clinically relevant deep and wide lesions, which did not demonstrate any evidence of thermal injury and delivery was associated with only mild muscle and nerve stimulation.

Creating Deep Ventricular Lesions with Nanosecond Pulsed Field Ablation: Pathological and Imaging Insights from Preclinical Evaluation (Iwanari Kawamura MD, et al)

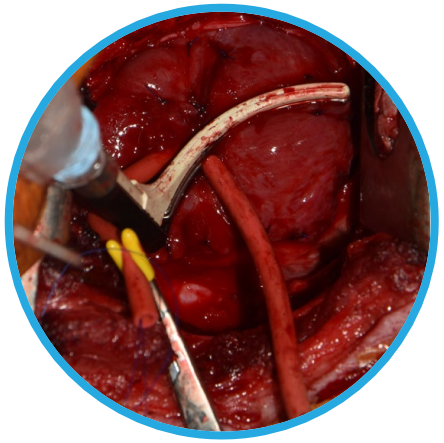
Tolerance/Effectiveness

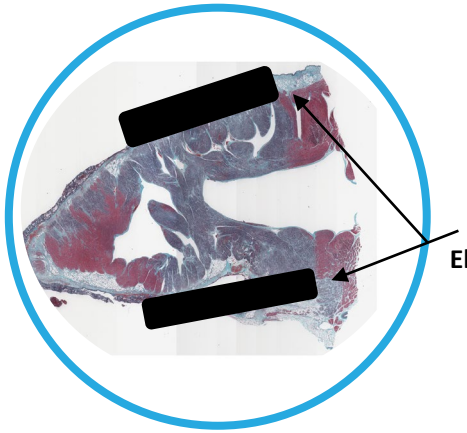


This electron microscopy study demonstrates significant rapid disappearance of myocytes after PFA (~ 1 hour). The cell membrane structure and organelle structure progressively deteriorate by 4 hours post ablation.

Electron Microscopic Insights from An Acute Pulsed Field Myocardial Lesion (Iwanari Kawamura MD, et al)

Open Surgical Delivery of nsPFA Energy – Cardiac Ablation





- A nonthermal cardiac ablation clamp capable of complete transmural ablations in **under 3 seconds**
- Initial preclinical studies have demonstrated **speed, precision and transmurality up to ~25mm between electrodes**
- Collaborating with top institutions and physicians in pursuit of **regulatory clearance**
- **Fundamental IP** for nsPFA energy in cardiac ablation

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1) 2-Day Histology: Gomori trichrome stain showing treated tissue through the left atrial appendage in a porcine model

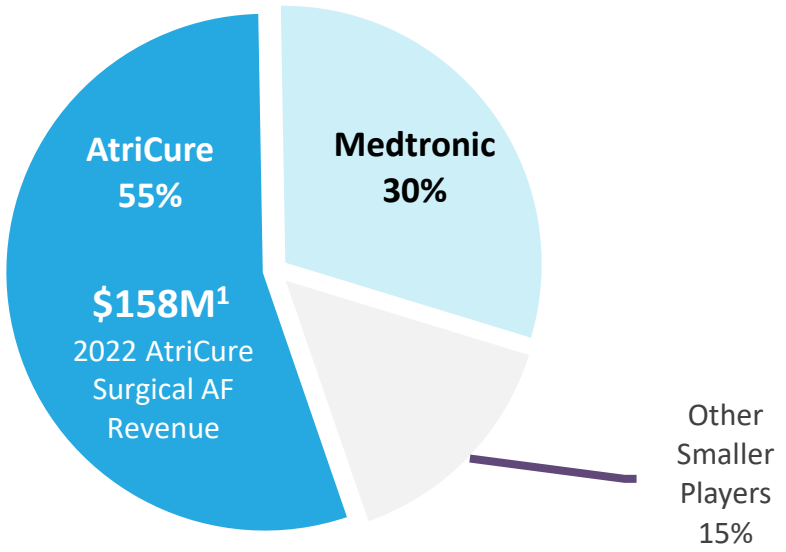
Cardiac Clamp Strategic Opportunity

High Strategic Value

1. Fast and Easy Market Entry
2. nsPFA Superior Product Offering
3. Ability to **Prove Effectiveness for AF** Prior to Catheter Launch
4. Provides Complete Solution
5. Sizable Revenue Opportunity Prior to Catheter Launch

Global Market Overview[2]

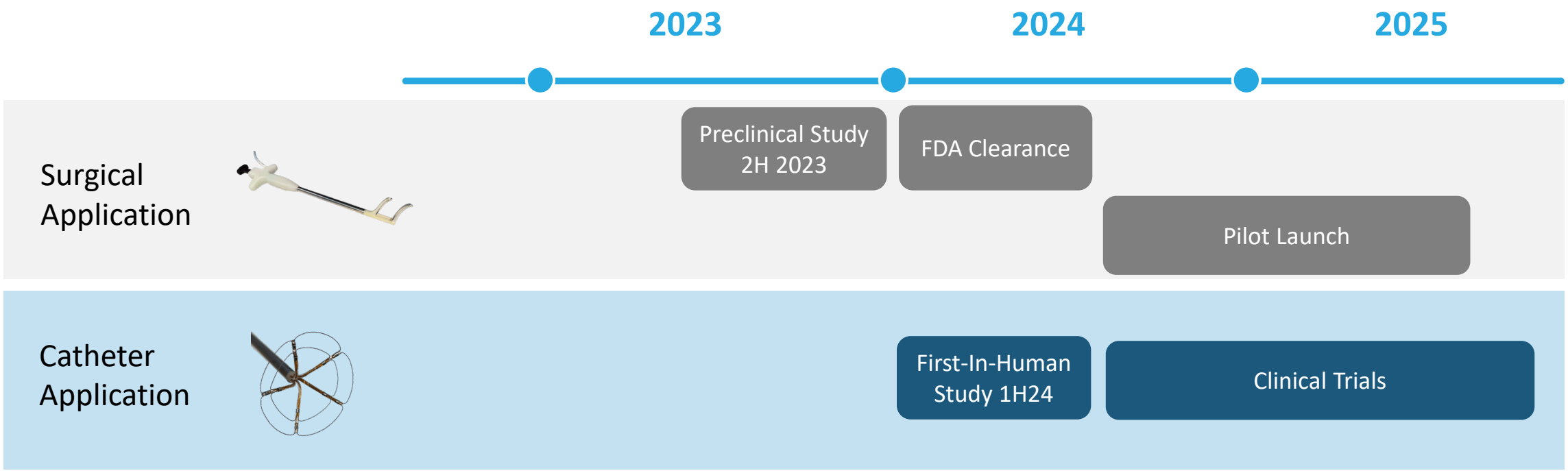
Total AF Surgical Market 2022 >$250M[1,2]



1) AtriCure 2022 Annual Report 2) Oppenheimer Market Research 2020

Application Milestones for Treatment of AF

Next key milestone on program: Preclinical study outcomes



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Cardiac Clamp Entry Point for Cardiology Applications

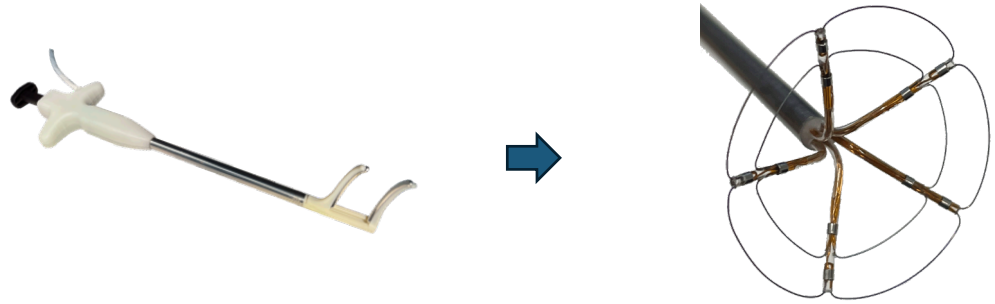
Activities

- **Pre-Launch**
  - Establish KOL network and advisory board (in process)
- **Pilot**
  - Place CellFX systems at regional KOL locations
  - Hire small team to support KOLs
  - Use pilot sites to learn best practices

Goal

- **Validate surgical commercial opportunity for strategic optionality across the portfolio**
- **Expand utilization of cardiac platform to leverage nsPFA from surgical applications into catheter application**

Developing Strategy for Launch: **Narrow-Deep Approach**



Established attractive DRG reimbursement supports premium pricing

Timeline

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Versatile Generator Platform Delivers nsPFA Across the Anatomy

Enables rapid development of new applications

Safety drives the applications

- Sparing of connective tissue, vessels and nerves
- Not impacted by heat sinks
- No cardiac synchronization concerns
- Limited inflammation due to regulated cell death

	Surgical (Open, Endoscopic, Percutaneous)	Catheter (Endovascular, Endoluminal)
Present priority	Cardiac	Cardiac
Future potential scope	GYN (Endometriosis)	GI (Barrett's)
	Uro (Prostate Cancer)	Lung (CB, NSCLC)
	Oncology (Solid Organ)	Uro (BPH)
	ENT (Thyroid, Papilloma)	Vascular (Restenosis)

Superficial Treatment

Tips (Skin)

Dermatology ✓

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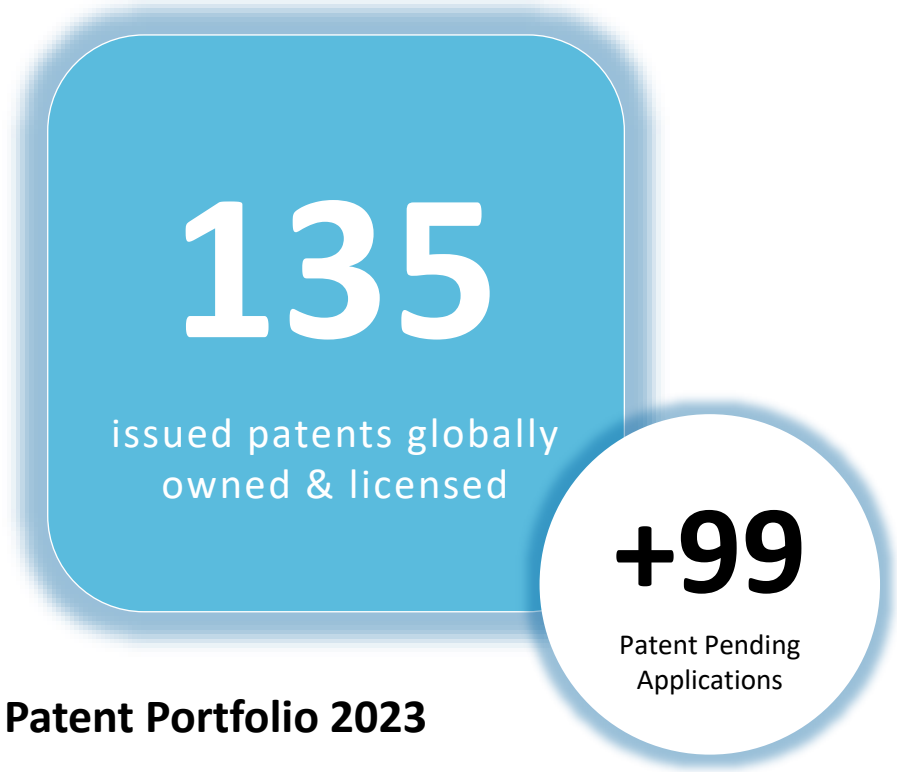
Robust IP Portfolio

Wide and deep IP coverage of nsPFA energy & system



Patent Portfolio 2023

Multipronged Patent Strategy

- Pioneering IP for the use of nanosecond pulses in medicine
- Covering methods and tools for the application of nanosecond pulses in biology
- Continued development and patent filings covering systems, applications, and methods of combining nanosecond pulsing with other biological technologies and agents

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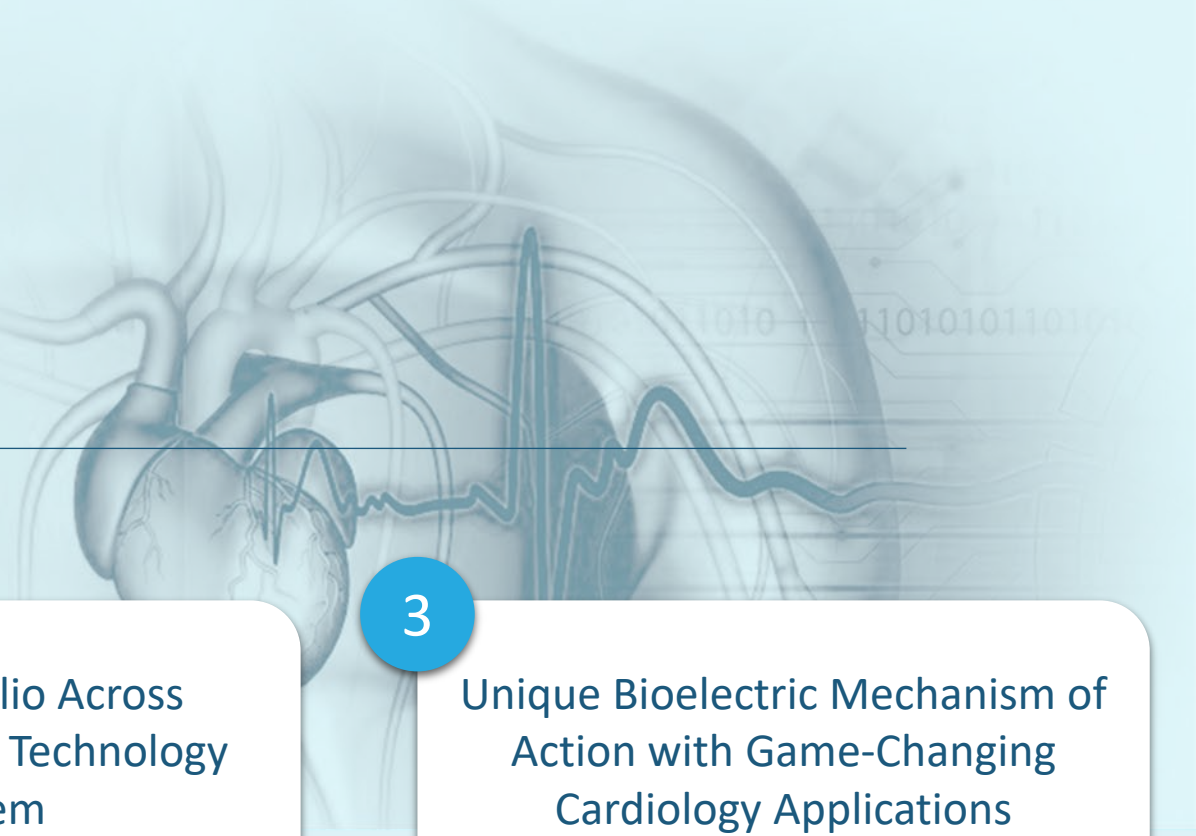

1. Inventors and Sole Manufacturers of Unique Nanosecond Pulsed Electric Field Technology
2. Robust IP Portfolio Across Nanosecond Pulse Technology and System
3. Unique Bioelectric Mechanism of Action with Game-Changing Cardiology Applications
4. Leverageable System Architecture Ready for Development of New End Effectors
5. Proven Results Over 6,000 Patients with No Unexpected Adverse Events
6. Extensive Medical Device Leadership and Investment Expertise