



# Corporate Overview

May 2019

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Seeking to **transform the treatment** of calcified cardiovascular disease

Seeking to establish a **new standard of care** through **intravascular lithotripsy (IVL)**

**Differentiated and proprietary** local delivery of sonic pressure waves for the treatment of calcified plaque



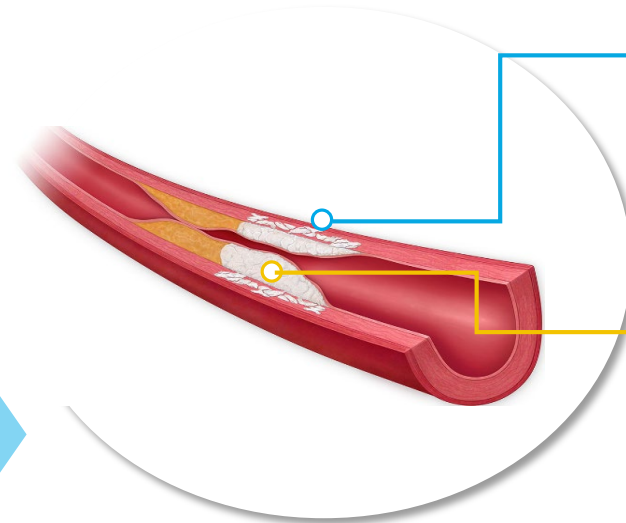
1. \$6B total equals \$1.7B PAD TAM, \$2B CAD TAM, \$3B AS TAM. Refer to slide 10 for TAM details.

# Goal of Vascular Intervention: Restore Vessel Size and Blood Flow

## Atherosclerosis

Disease of aging in which arteries become narrowed ("stenotic") by the progressive growth of plaque.

Calcium in atherosclerotic plaque can prevent therapies from opening the stenotic artery.

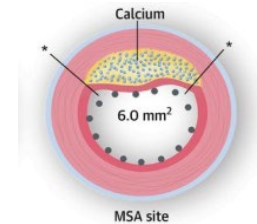
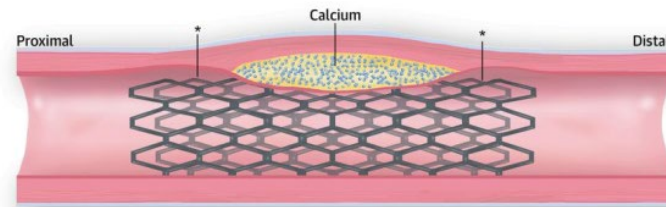


### Medial ("Deep") Calcium

Calcification in middle layer (associated with stiffening)

### Intimal ("Superficial") Calcium

Calcification close to the inner surface of the artery (associated with obstruction and embolization)



\* Stent struts

Calcified Arteries Resist Expansion Resulting in More Complications and Vessel Damage

# Common Risks with Traditional Methods to Treat Calcified Atherosclerosis

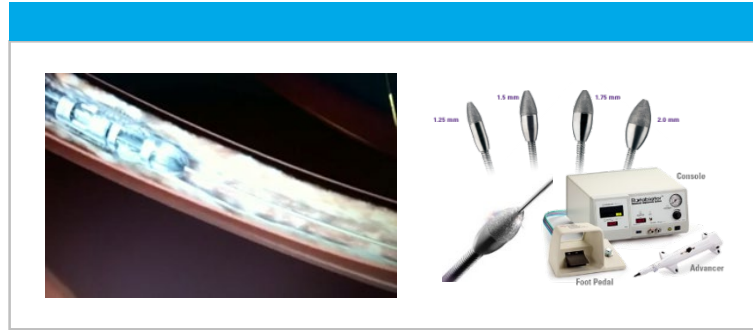
## Standard Balloons ( $> 15 \text{ atm}$ )



### Risks

- Dissection
- Perforation
- Restenosis (from tissue damage)

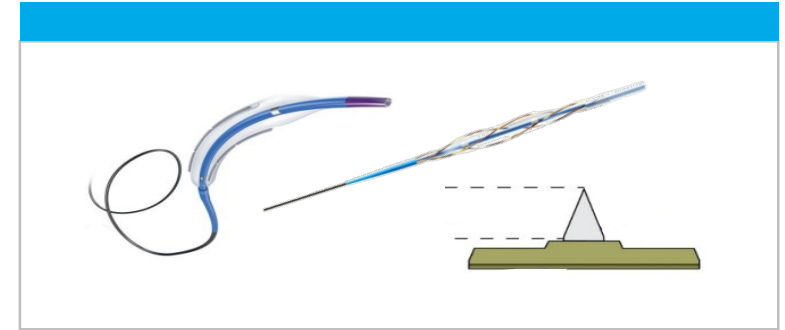
## Atherectomy



### Risks

- Embolism
- Dissection
- Perforation
- Restenosis (from tissue damage)

## Specialty Balloons (cutting & scoring)



### Risks

- Dissection
- Perforation
- Restenosis (from tissue damage)

There is a Need for Devices to Safely and Easily Prepare Calcified Arteries

# Lithotripsy Has a History of Safely Cracking Calcium

## Lithotripsy

Method has 30 years of success for safe elimination of kidney stones

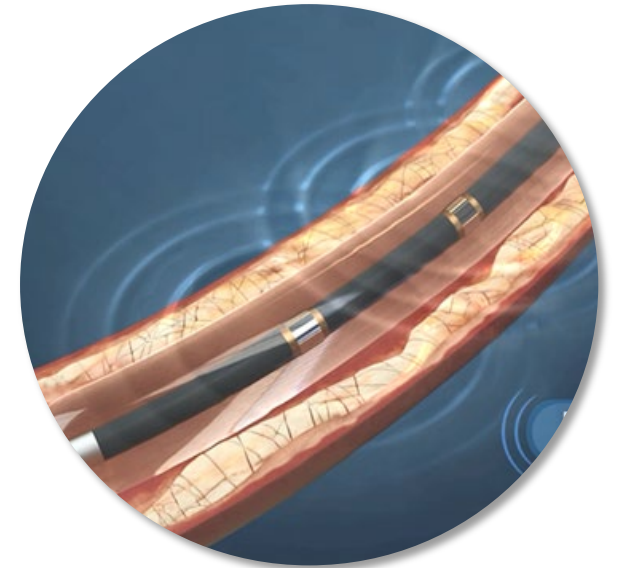
Sonic pressure waves preferentially crack calcium without harming soft tissue

## Shockwave's Cardiovascular Lithotripsy

Miniaturized, localized treatment

Sound waves pass through soft tissue to crack calcium

Vessel expands under low pressure



# Our Solution: Intravascular Lithotripsy

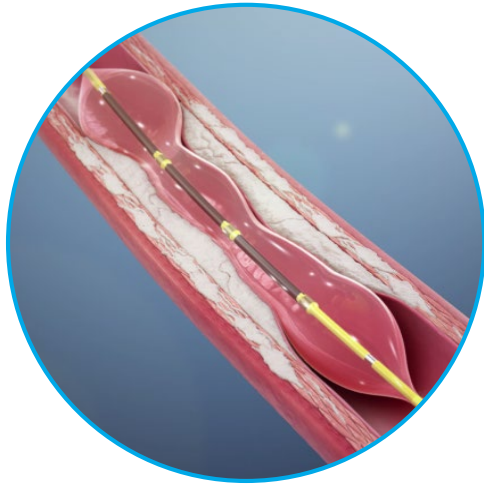


- Miniaturized local treatment
- Expands vessel under low pressure
- Treats both superficial and deep calcium
- Improves safety; no harm to soft tissue
- Improves stent expansion
- Easily integrates into interventional practice
- Expands access to interventional techniques
- Meaningful cost-saving potential

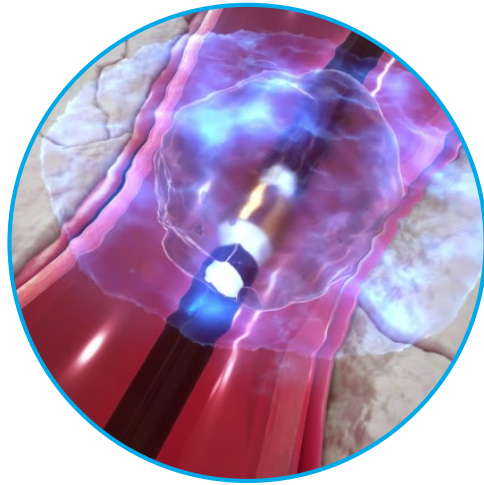


# IVL is Uniquely Able to Address Superficial and Deep Calcium

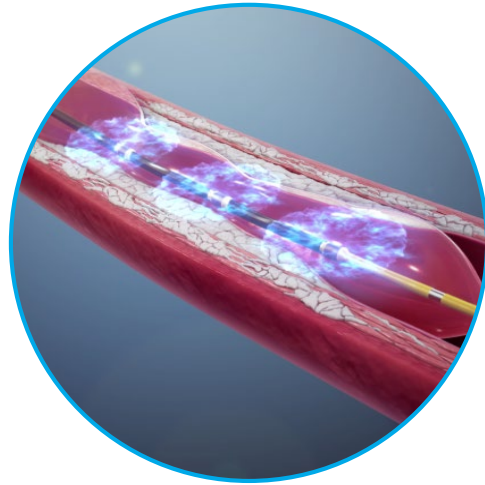
Low pressure inflation reduces dissection risk



**Couple to the Vessel**



**Create Sound Waves**



**Crack Calcium**



**Expand the Vessel**

Standard Interventional Techniques Encourage Adoption



# Why Shockwave

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## Safe

Treating most complex calcified anatomies with virtually no complications

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## Simple

Every interventional operator can use IVL (OR: No learning curve)

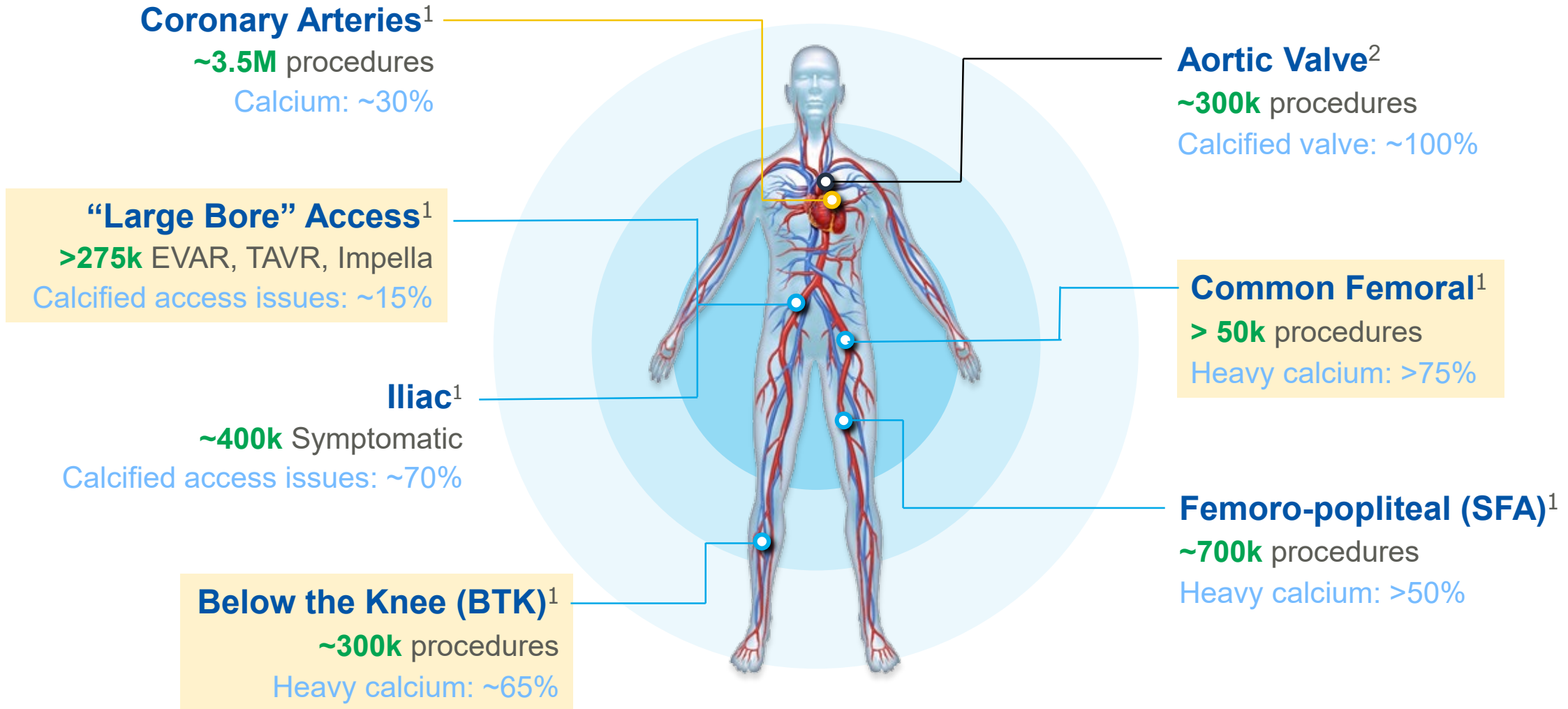
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## Effective

Unique mechanism of action that cracks both medial and intimal calcium

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# Targeted Segments Have a TAM of >\$6 Billion



1. Annual procedures in the United States and internationally (nine European countries, five Asian countries), according to DRG and Company estimates; Proportion of annual procedures associated with calcified disease, according to Yost, M. L., Prevalence and Significance of Calcium, Vulnerable Plaque and Plaque Morphology in Peripheral Artery Disease (PAD). Beaufort, SC: THE SAGE GROUP; 2016 (for femoropopliteal, BTK, TAVR and common femoral) and Company estimates based on multiple occlusive disease studies (for iliac and EVAR / TEVAR). 2 Annual procedures in 2025 according to the Journal of Thoracic Disease, 2017;9(6):1432-1436

# IVL Can Grow Markets and Take Share

## Peripheral Artery Disease (PAD)

### Market Growth

- ✓ Iliac
- ✓ Common Femoral
- ✓ "Large Bore" Access
- ✓ Below-the-Knee

### Potential Shockwave Share Gain

- ✓ Femoropopliteal (SFA)
- ✓ Below-the-Knee

## Coronary Artery Disease (CAD)

### Market Growth

- ✓ Left Main
- ✓ Ostial Lesions
- ✓ High-Risk PCI
- ✓ "Standard" Cardiologists

### Share Gain

- ✓ All cross-able lesions

## Aortic Stenosis (AS)

### Market Growth

- ✓ Very Old/Frail
- ✓ Contraindicated for TAVR
- ✓ Co-Morbidities
- ✓ Young Patients

### Share Gain

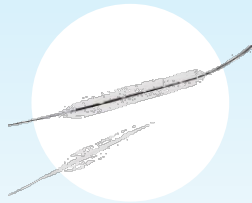
- ✓ TAVR Procedures

# IVL's Platform Technology

Multi-Year pipeline of vascular & structural heart products

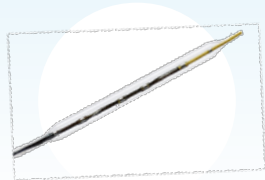


## Peripheral



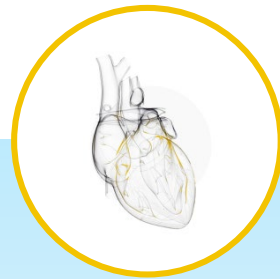
**M<sup>5</sup> (60mm)**

FDA 510(k) clearance  
CE Mark in 2018

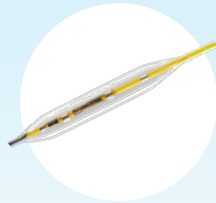


**S<sup>4</sup> (40mm)**

FDA 510(k) clearance  
CE Mark in 2018



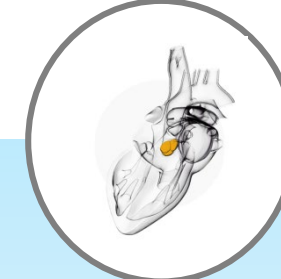
## Coronary



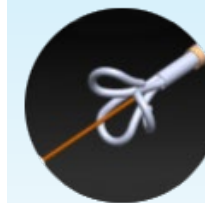
**C<sup>2</sup> (12mm)**

CE Mark in 2018

Ongoing global studies  
to support U.S. and  
Japan approval<sup>1</sup>



## Valve



**TAVL<sup>2</sup>**

Treat calcific leaflets,  
delay replacement

1. Enrollment began in early 2019 for CAD III and expected to be later 2019 for CAD IV  
2. Clinical development stage

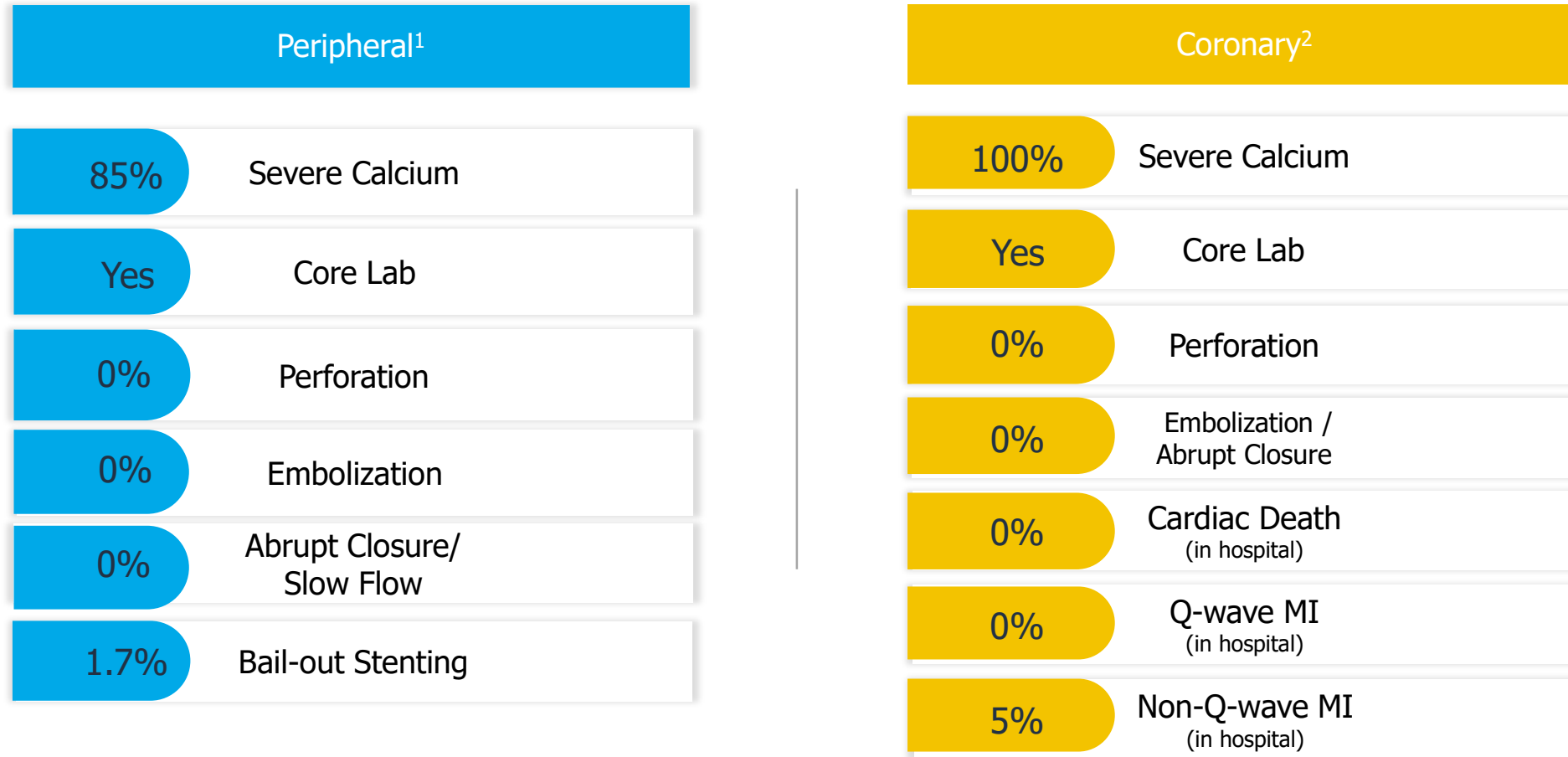
# Shockwave Clinical Study Highlights



1. Disrupt PAD I, PAD II and BTK Studies, data on file at company  
2. Disrupt CAD I & CAD II Study, data on file at company; excludes roll-in patients

# Key Advantage of Shockwave IVL: Safety

*IVL Delivered Via a Low-Pressure Balloon Provides Exceptional Safety*



1. Disrupt PAD II Study, data on file at company  
2. Disrupt CAD I Study, data on file at company

# Disrupt CAD III Trial – Enrollment Initiated

Multicenter, prospective, non-randomized trial (50 clinical sites in U.S. and Europe)

392 Patients



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graph TD; A[392 Patients] --> B[Assessed Post Procedure and at 30 Days]; B --> C[The primary effectiveness endpoint is procedural success, which is defined as stent delivery with a residual stenosis of less than 50 percent and without in-hospital MACE. Enrolled study patients will be followed for two years.]; C --> D[FDA Approval of C2]
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Assessed Post Procedure and at 30 Days

The primary effectiveness endpoint is procedural success, which is defined as stent delivery with a residual stenosis of less than 50 percent and without in-hospital MACE. Enrolled study patients will be followed for two years.

FDA Approval of C<sup>2</sup>



# Commercialization Strategy

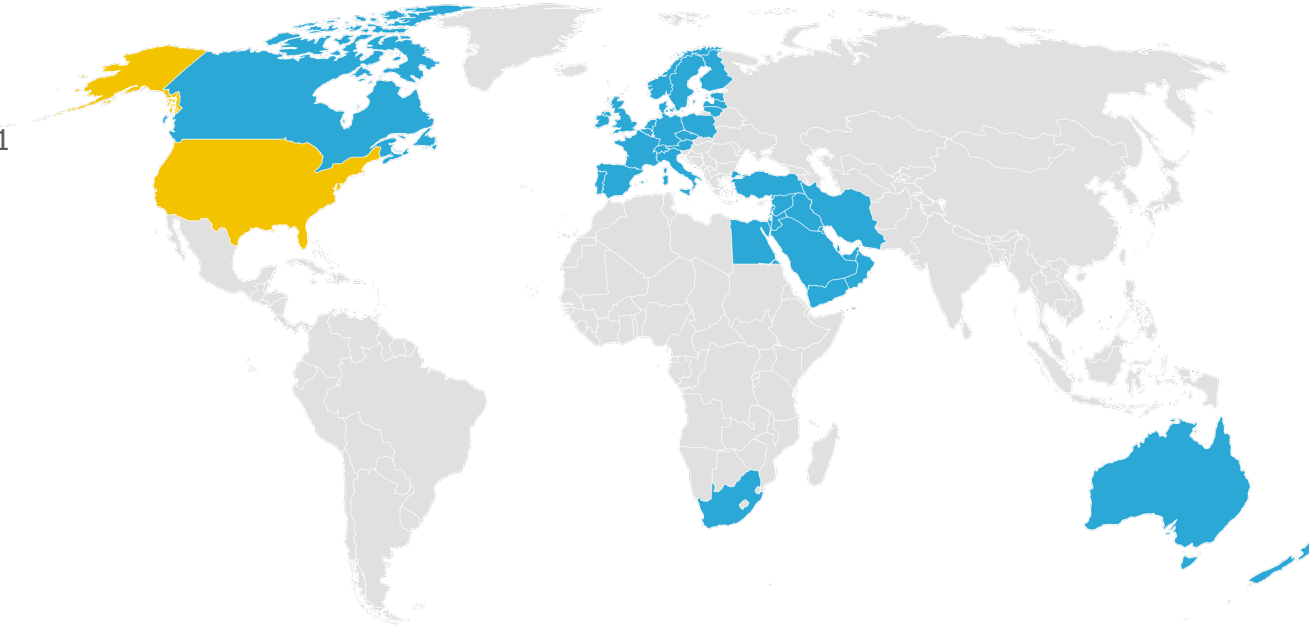
Two paths for growth: procedure share and expansion into new indications

## United States

**58** professionals on sales & marketing team<sup>1</sup>

Mix of direct sales reps and clinical specialists

Low service burden enables cost efficient sales model



## International

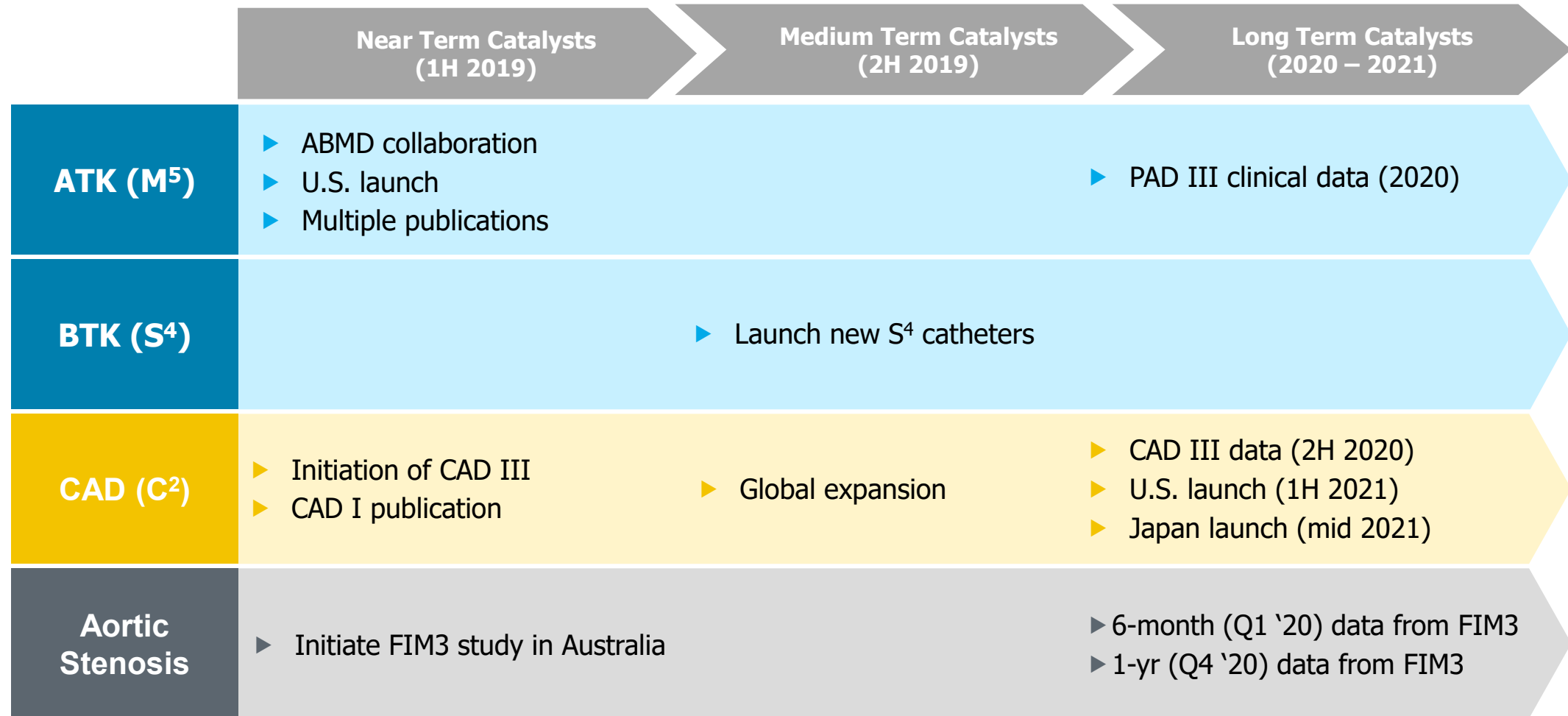
Direct sales Germany, Austria, Switzerland

Distributors in Australia, the Baltics, Canada, Czech Republic, France, Italy, Netherlands, New Zealand, the Nordic region, Poland, Spain, Middle East, Hong Kong, South Africa and the UK

Similar Call Points for Vascular IVL Catheters Allowing Further Leverage of Field Sales Team

1. As of 3/31/19

# Multiple Catalysts for Growth



# IVL Drives Economic Value for Hospitals



## Time Savings

Reduced time required by physicians to understand and adopt our system



## Procedure Savings

Reduced need for complex, risky and expensive procedures for additional devices and potential complications

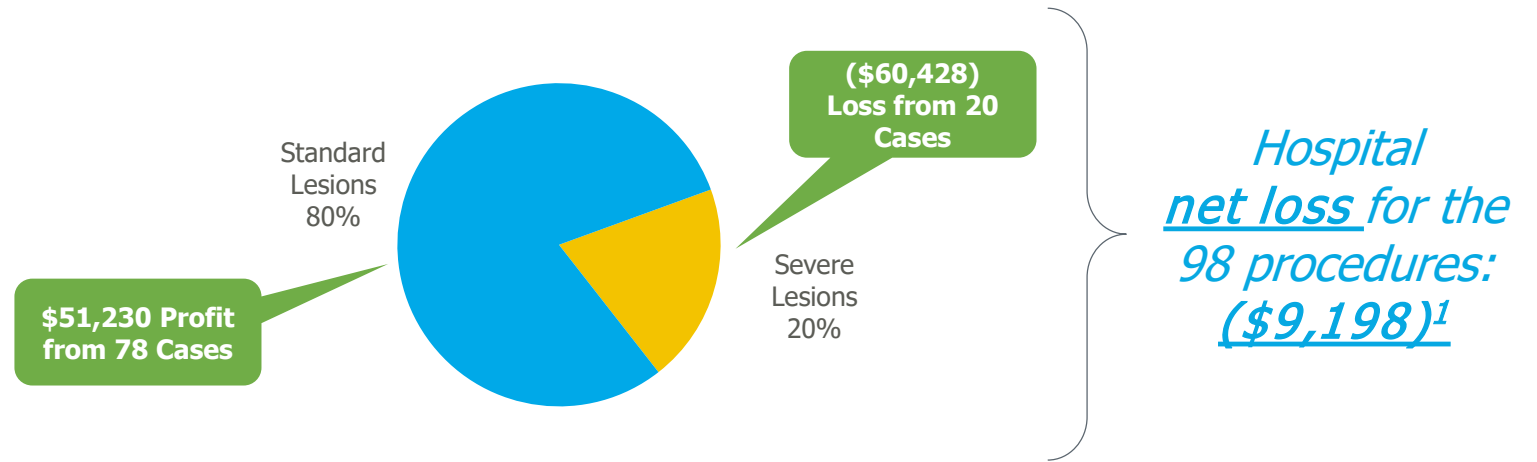


## Hospital Savings

Reduced costs associated with complications that lead to high supply costs and lower profitability



Severe lesions represent **20% of interventions**, but are very expensive to treat...**resulting in a net loss**



1. Dartmouth-Hitchcock, "Lesion complexity drives the cost of superficial femoral artery endovascular interventions," J Vasc Surg. 2015 October; 62(4): 998-1002. 10.1016/j.jvs.2015.04.450 and VIVA 2017 Presentation by Richard Powell "How Does Tracking Quality, Training, Experience and Outcomes Lower Procedural Costs Across Vascular Specialties?", Slides 15 & 17 - Information on loss is for illustrative purposes only; actual results & data may differ

# Operational Excellence

- Headquarters located in Santa Clara, CA
- European subsidiary in Germany
- Third party logistics provider based in the Netherlands
- 180+ employees<sup>1</sup>
- Lean manufacturing expected to drive margin expansion
- 50+ manufacturing employees<sup>1</sup>
- Specialized sales force fosters deep relationships
- Marketed products in 30 countries and growing
- Robust IP portfolio of 75 issued and 47 pending patents<sup>1</sup>

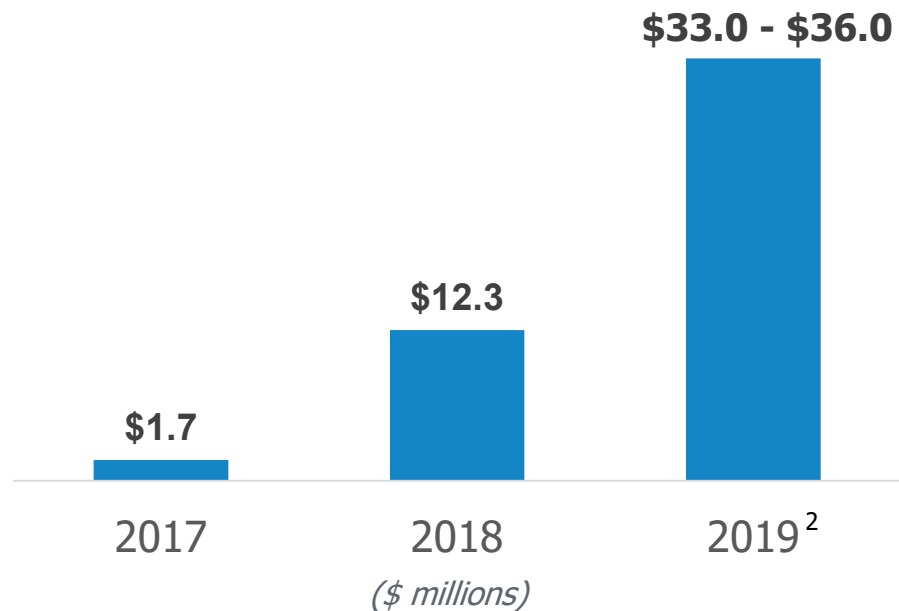


1. As of 3/31/2019

# Strong Financial Profile

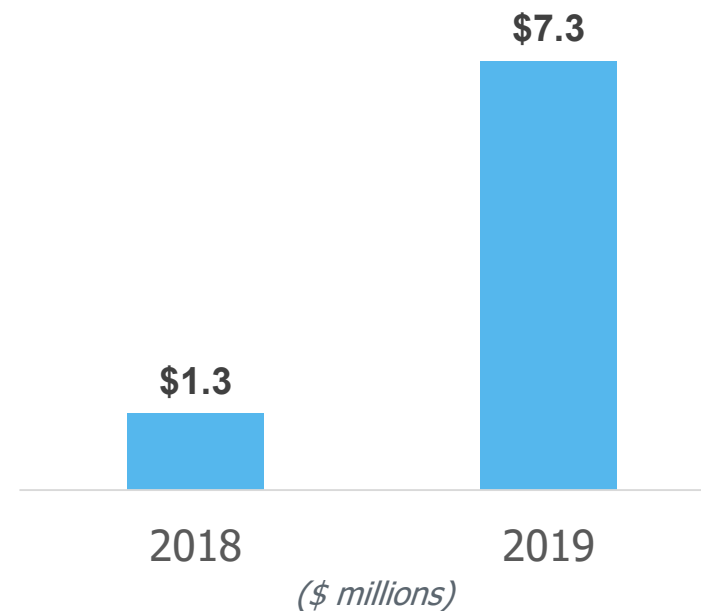
## Annual Results

Revenue CAGR: 350%



## First Quarter Results

Revenue Growth<sup>1</sup>: 450%



## Q1 2019 Performance

- 1Q 2019 revenue growth of 450% year over year
- Increase in gross margin to 58% in 1Q 2019

## 2019 Expectations

- 2019 annual revenue guidance \$33M - \$36M<sup>2</sup>

<sup>1</sup> Unaudited financial results

<sup>2</sup> Represents the Company's publicly disclosed guidance as of May 8, 2019. This presentation should not be construed as an update to such guidance.

# Growth Drivers

## Advance Clinical Evidence

- Demonstrate that IVL is standard of care for calcified arteries
- Expand indications
- Improve economic story

## Expand Commercial Capabilities

- Increase direct and distributor field sales organization
- Grow across indications and geographies
- Initiate broader Medical Affairs initiatives

## Scale Business

- New products
- Increase interventional procedures by addressing unmet clinical needs
- Partnerships for mutually beneficial outcomes
- Scale efficiencies to improve profitability

# Investment Highlights

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## ADDRESSES LARGE UNMET CLINICAL NEED

Advancing proprietary IVL System for multiple large **addressable markets totaling \$6B+**

**Optimizes existing treatment** with improved outcomes and **expands market** with superior, effective products

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## DIFFERENTIATED AND COST EFFECTIVE PLATFORM

Unique mechanism of action that cracks both medial and intimal calcium

**Cost saving potential** through reduced complications and minimal required time and training for physicians

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## STRONG PIPELINE

Ongoing clinical programs to **expand geographies and indications** and build a robust body of clinical evidence

Platform IVL **Technology leverageable** for new products to satisfy additional significant unmet clinical needs

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**We Crack Calcium**