

# endiatx

Microrobotics Inside the Human Body

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# VISION

The original PillCam passive device sold for almost \$1B in 2014.

Endiatx is ushering in a new era in diagnostic & interventional medicine using Microrobotics Inside the Human Body.

It's time for pill cameras to move, and to sprout surgical instruments.



# PROBLEMS WITH CURRENT TECH



## GI TRACT DIAGNOSTICS

### SCOPES

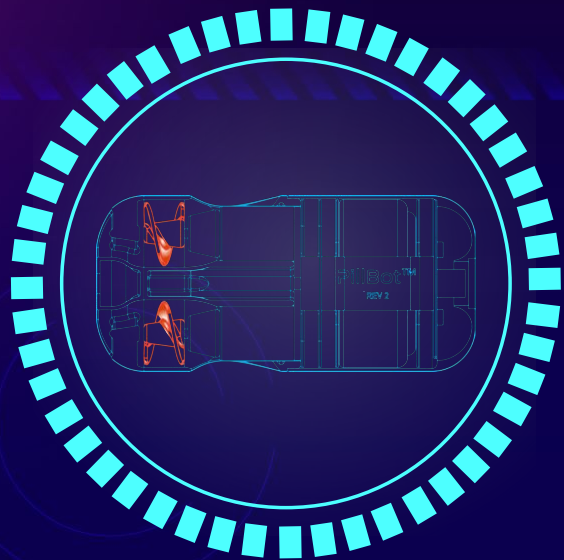
- ▶ Requires clinic visit
- ▶ Requires sedation (time/cost)
- ▶ Can cause tears/complications

### PILL CAMERAS

- ▶ Limited by passive nature
- ▶ Small niche market

### PATIENT RESULT

- ▶ Expensive and invasive endoscopy on third visit



# SOLUTION

## INTRODUCING PILLBOT™

- ▶ A multivitamin-sized intrabody robot

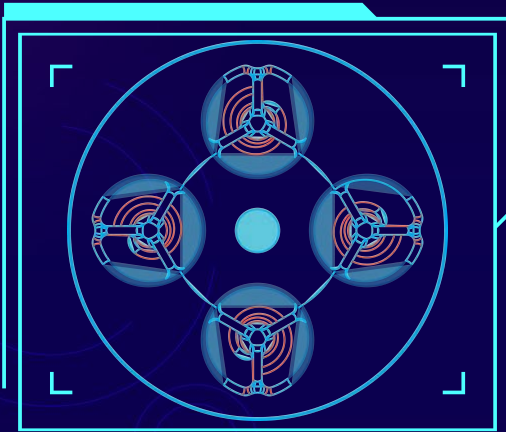
## PILL CAMERA WITH ACTIVE CONTROL

- ▶ Swims using 4 Pump-jets
- ▶ Forward facing Video Camera
- ▶ Secure Data transmission
- ▶ Existing hardware and No custom ASIC
  - 915MHz Radio penetrates tissue
  - Multi-board flex circuit
  - Lithium Ion Battery

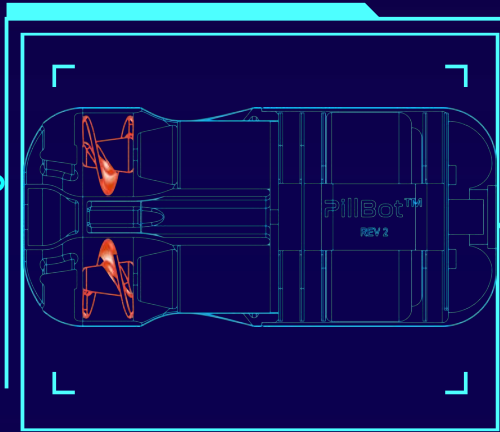




# CORE TECHNOLOGY



Differential thrust  
provided by  
4 individual pump-jets



Provides forward and  
backward thrust, as well  
as Pitch, Roll, & Yaw



Inexpensive, easy-to-use  
control system

## Quad Pump-jet propulsion system

- ▶ 5 full Patent applications underway  
(first provisional: June 28, 2019)

# FOUNDING TEAM



## TORREY SMITH

CO-FOUNDER & CEO

Aerospace Engineering, Cal Poly, SLO  
14 years designing med devices

3 exits:

Ensure Medical to Cordis: \$110M\*

AtheroMed to Volcano: \$150M\*

Volcano to Philips: \$1.2B



## JAMES ERD

CO-FOUNDER & PRINCIPLE R&D ENGINEER

Automata and biomechanical motion  
Expert Machinist & Maker  
Master on 40,000lbs of machine tools  
Founder, ERD Machining Services



## DAN MOYER

CO-FOUNDER & CTO

MS EE & CE, WPI  
Medical Devices, Gene sequencing,  
biomedical signal acquisition  
Apple Special Projects Group



## ALEX LUEBKE

CO-FOUNDER & CHAIRMAN, BOD

PhD Aerospace Engineering, Stanford  
20+ years in Military & Aerospace;  
Google X, C level roles, BOD for  
multiple startups

\* Including upfront & milestone payments

# PROGRESS TO DATE

3.19

Incorporated

4.19

Graduated  
Founder  
Institute

5.19

Developed  
1st  
prototype  
-  
"PoolBot"

6.19

Raised  
\$185K  
-  
Friends  
& Family

6.19

Filed  
5 patents  
-  
(3US, 2  
Int.)

7.19

Initiated  
Trademark  
-  
"PillBot"  
and  
"PillSurgeon  
"

6.20

First  
in-human  
trial

6.20

[\$600k]  
-  
Angel Round  
  
[140% over-  
subscribed]

11.20

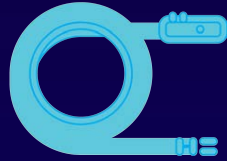
18  
in-human  
trials  
complete  
  
Received  
\$1M VC  
commitment

# COMPETITION

HIGH

## Physician Effectiveness

- Active Control
- No high cost capital required
- Low risk



## Endoscopes

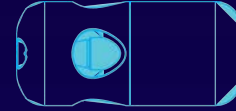
(Current Standard)

- Clinic setting
- Oral/Rectal entry
- Difficult to access certain regions (e.g. small bowel, pancreas)



## Magnetic Capsule (Active control w/ MRI-like capital equipment)

- Closest competitors, ANKON & Jifu out of China



## PillBot™

Potential to disrupt

- Active diagnostic power of a scope in the form of a pill



## Passive Capsule

No active control for diagnostics

- Travel the entire GI Tract but no active control

## Patient Experience

- Convenient procedure with no sedation
- Affordable and Low risk

HIGH



# COMPETITION

	<b>Endiatx PillBot™</b>	<b>Endoscopes</b>	<b>Magnetic Capsule</b>	<b>Passive Capsule</b>
<b>Active Procedure</b>	✓	✓	✓	✗
<b>Sedation-Free</b>	✓	✗	✓	✓
<b>At-Home Enabled</b>	✓	✗	✗	✓
<b>No Capital Equipment</b>	✓	✗	✗	✓

# MARKET OPPORTUNITY

**New Category:  
Microrobotics**

**Inside the Human Body:  
Endiatx becomes known as the  
SpaceX of med device**

**\$67B+**

**Endoscopy devices market:**

PillBot™ becomes disruptive force

**\$810M Global**

**Smart Pills:**

First revenue  
from PillBot™

1. <https://www.globenewswire.com/news-release/2020/12/07/2140735/0/en/Endoscopy-Devices-Market-Size-to-Surpass-Around-US-67-37-Bn-by-2027.html>
2. [statista.com/statistics/863381/world-capsule-endoscopy-market-size-forecast-by-type](https://www.statista.com/statistics/863381/world-capsule-endoscopy-market-size-forecast-by-type)

# BUSINESS MODEL

**INITIAL  
CUSTOMERS –  
GI DEPARTMENTS**

Hospitals &  
Outpatient Clinics

**95% GROSS  
MARGIN**

**REIMBURSABLE**

\$500  
single-use  
disposable

**DATA ANALYTICS**

**INEXPENSIVE SOFTWARE  
UNIVERSAL FORMATS**

**NO CAPITAL EQUIPMENT**

**TELEMEDICINE 2.0  
AT-HOME  
ENDOSCOPY**

**Dominating old markets while creating new ones**

- ▶ Leverage Medtronic's PillCam™ reimbursement & regulatory groundwork to quickly penetrate GI market

# G.I. GO TO MARKET STRATEGY

## REGULATORY & REIMBURSEMENT APPROACH

▶ Leverages previous Pill Cameras

**JUNE 2020**

R&D demo proves concept of “upper endoscopy in pill”

1st in Human Trials

Small IRB Trials

**Q1-Q2 2021**

Evolve R&D demo prototype into MVP

FDA 501(k) Trial

**Q3 2021 - Q2 2022**

~100 patients

Market Clearance

**Q3 2022**

FDA Approval

First Revenue

**Q4 2022**

Early adopters

# PRODUCT ROADMAP



## PILLBOT™

- ▶ MVP
- ▶ Sedation-free upper endoscopy in a pill



## PILL SURGEON™

- ▶ Remove small polyps
- ▶ Tissue biopsy
- ▶ Cauterize bleeds
- ▶ Scan bile duct for Pancreatic Cancer



## MICRO SURGEON

- ▶ Pill Surgeon the size of a rice grain



# VISIONARY BOARD (1/2)



## **Lt Col Benjamin Bonnes, MD, (Chairman VB)**

ER Physician  
Johns Hopkins University  
Flight Surgeon & Chief of Clinical  
Services, 144th



## **Paul Escudero, Medical Device Industry**

Co-Founder - AtheroMed(sold to  
Volcano)  
Philips, Ensure, Abbott, Perclose  
Cal Poly - Mechanical Engineering



## **"Matty" Goodman, Embedded Firmware**

Co-Founder - 3Scan (M&A with Strateos 2019)  
PhD., Biomedical Engineering  
Co-Founder - Orage/Coup de Foudre art  
collectives



## **Nancy Lincé, Reg/Clin/Quality**

20 years of exp for RCQ for medical  
products  
160 submissions & extensive FDA  
negotiations



## **Heather Gallagher, Augmented Reality**

Magic Dev/Public Speaker - Enklu  
Head of Technology - Burning Man  
MS CS - George Mason U  
BS CIS - James Madison U



## **Ilya Polyakov, Robotics Industry Expert**

Head of Hardware - Doordash  
Co-Founder & CTO - Revolve  
"Blade Runner" - BattleBots  
Co-Founder, Icarus art collective



## **Dan Raymer, Designer, Author, Futurist**

Vulcan, Lockheed Martin, Aerojet,  
Rockwell  
PhD Aerospace Engineering, KTH  
Royal Institute of Technology



## **Todd Huffman, Biotech / Deep Tech**

VP Prod Mgmt Prellis Biologics  
Co-Founder & CEO - 3Scan  
Computational Biosciences  
Neuroscience

# VISIONARY BOARD (2/2)



## **Bu'Hussain Hayee, PhD Gastroenterology**

GI, King's College Hospital  
Fellow, Royal College of Physicians  
King's Institute of Therapeutic Endoscopy  
Fellow, American GI Association



## **Matthew Schultz, Art / Tech / Design / Vision**

Founder, Pier Group  
Lead Artist, Pier 2 / La Llorona  
Lead Artist, Embrace  
Lead Artist, Head Maze



## **Darold Cummings, Designer, YF-23**

Designer, YF-23 Advanced  
Tactical Fighter  
BS Industrial Design, CSU LB



## **Mike Suprovici, Fundraising Advisor**

Founder Institute - Entrepreneur in Residence  
Founder & CEO - Explorence



## **Seth Warhaftig, BusDev Advisor**

BS Computer Science,  
Cornell  
Life Sciences  
Tech Executive



## **Elizabeth "Liz" Hwang, Gastroenterology**

Assoc. Chief of GI @ Santa Clara Medical Center  
Clinical Affl. Assoc. Professor @ Stanford School of Medicine



## **Nathan "Poppins" Altman, Finance / Politics**

Partner, Altman Investments  
BCM, Purdue University



## **Adeo Ressi, FI Select Portfolio**

CEO & Founder: Founder Institute  
Founder - TheFunded  
Board Member - XPRIZE

# THANK YOU!

Does anyone have any  
questions? ▶

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