“Precision Surgical Oncology” for Lung & Soft Tissue Cancers

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Opportunity for Precision Surgical Oncology for Lung & Soft Tissue

NaviSci™ System Highlights

- Targeting a major opportunity in precision lung and soft tissue tumor resections
- Enhanced tumor localization; tissue and lung function preservation
- Strong IP: 8 US, 2 EU, 1 Japan & China issued patents & others pending
- Successful early clinical experience at Brigham and Women's Hospital
- Rollout positioned to achieve regulatory clearance and commercialization in early 2028

Early-Stage Lung Cancer Diagnosis Has a Better Prognosis

Opportunities to improve care

American Cancer Society®

U.S. Preventive Services TASK FORCE

JAMA The Journal of the American Medical Association

National Lung Screening Trial

- 20% reduction in mortality with low dose CT scan
- Survival with Stage 1 disease 95%

Reimbursable screening population to double to 19 million per year

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Key Drivers and Clinical Need for Precision Lung Cancer Surgery

Emerging opportunity for precision surgical oncology

- ✓ Increasing numbers of early-stage diagnoses
- ✓ Where surgery can be curable

- ✓ Growing use of minimally invasive, tissue sparing Video-Assisted Thoracic Surgery (VATS)

Need for new tools to localize and resect tumors with clear margins

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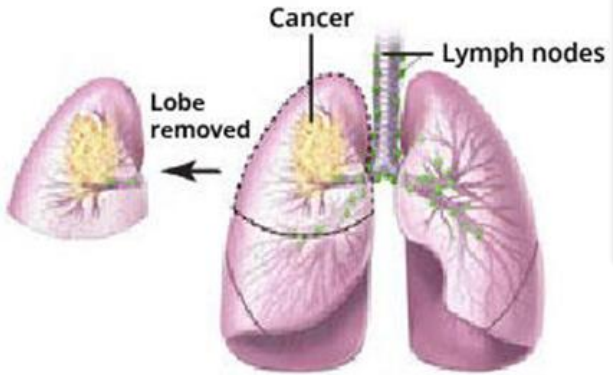
Growth in Early-Stage Tumor Detection

Driving “Precision” lung conserving surgery

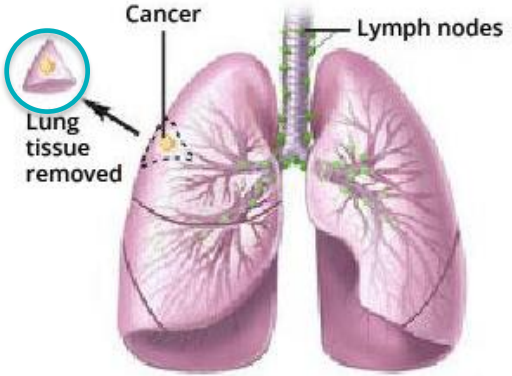
Video-Assisted Thoracoscopic Surgery (VATS)
Standard of Care for Early-Stage Lung Cancer

Lobectomy



- Older patient population
- Oncologically safe
- Conserve lung tissue
- Reduced post-op complications
- Improved the quality of life

Sublobar Resection



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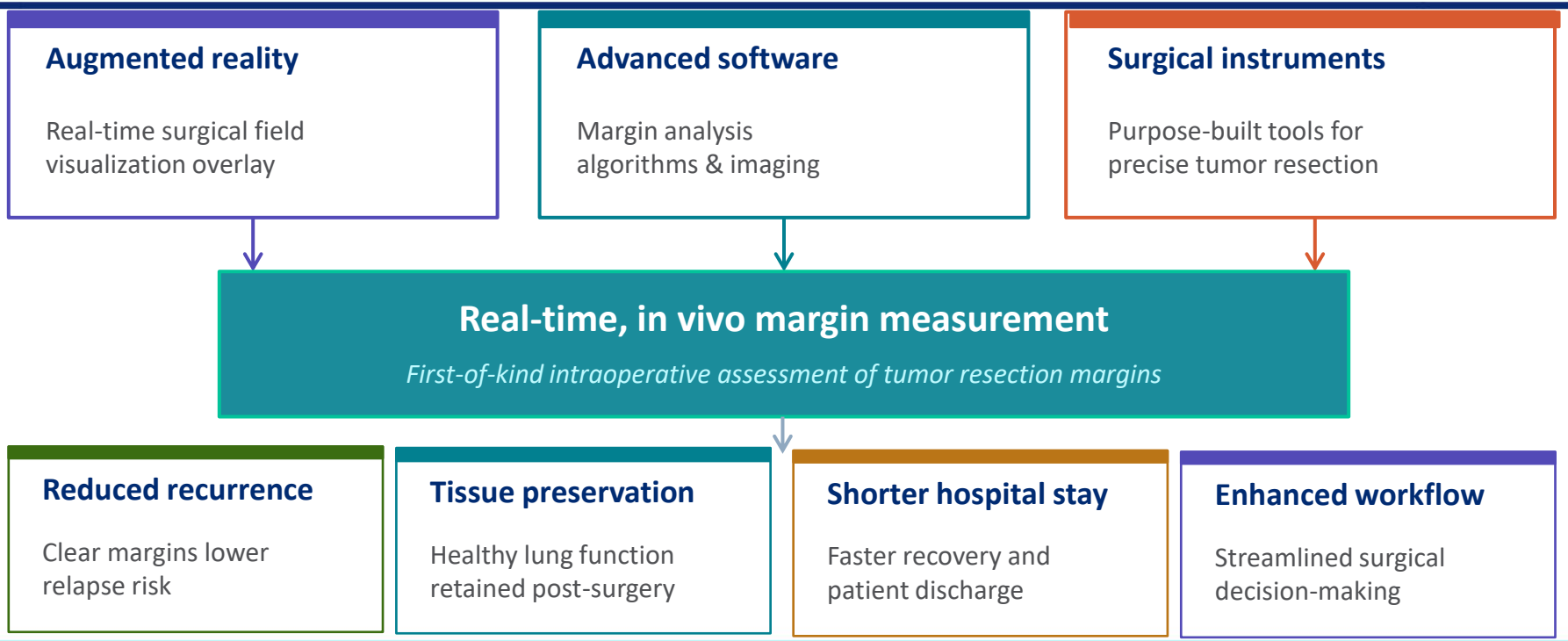
https://www.cancer.gov/news-events/cancer-currents-blog/2023/early-stage-lung-cancer-sublobar-surgery
https://www.nejm.org/doi/10.1056/NEJMe2215647
https://www.nejm.org/doi/full/10.1056/NEJMoa2212083

NaviSci™ System

Tissue-conserving tumor resection — guided by real-time margin intelligence



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Local Recurrence is a Significant Issue with Tissue Sparing Surgery

Adequate margins are key with smaller tumors

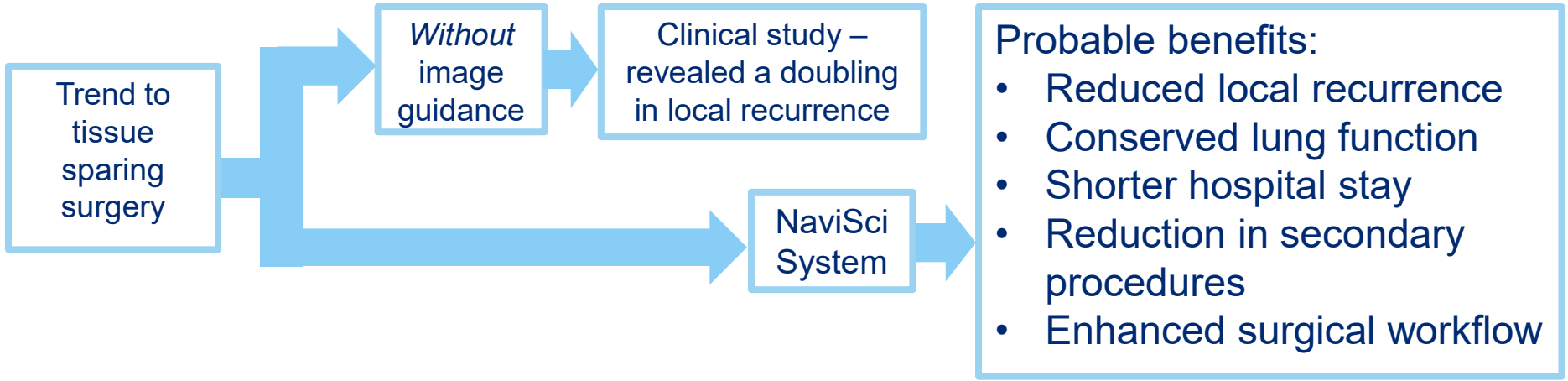
In a large clinical trial comparing lobectomy with Sublobar Resection, local recurrence was double in the tissue-sparing group (10.5% vs 5.4%)

[1]Saji, Hisashi et al., "Segmentectomy versus lobectomy in small-sized peripheral non-small-cell lung cancer (JCOG0802/WjOG4607L: a multicenter, open-label, phase 3, randomized, controlled, non-inferiority trial". *The Lancet*, vol 399, April 23, 2022.

NaviSci System Provides Real-Time Surgical Guidance to Ensure

Adequate margins, preserve lung function, and other key benefits

Tissue Sparing Lung Conserving Surgery and Smaller Tumors
Will drive use of our image guiding system



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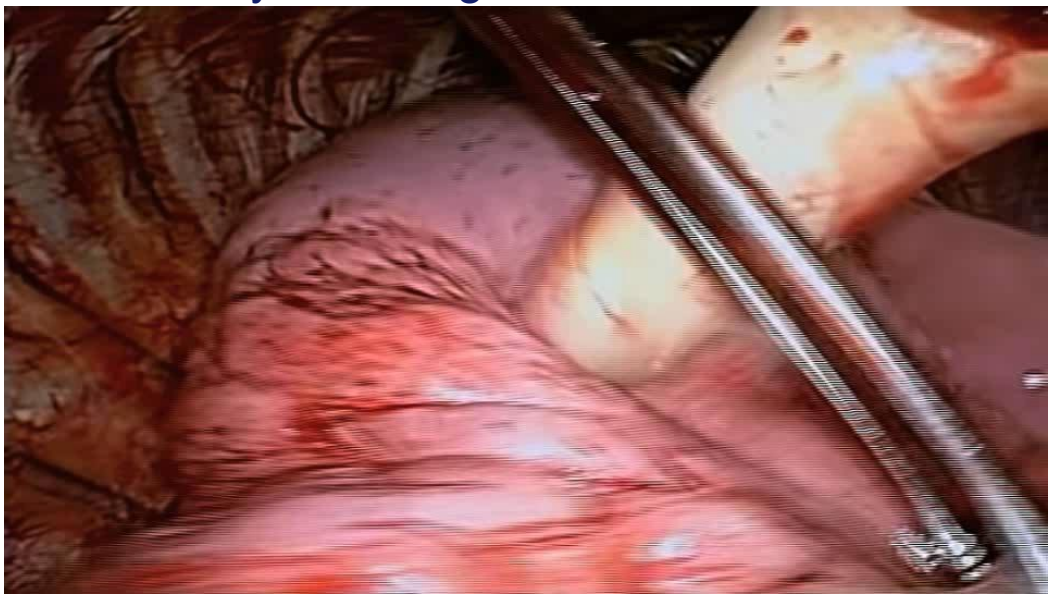
Currently Nodules are Identified by Touch

Smaller tumors are too small to feel

- Lesions < 2cm
- Ground Glass Opacities (GGOS)
- Patients with two primaries

Difficulty localizing tumors and structures



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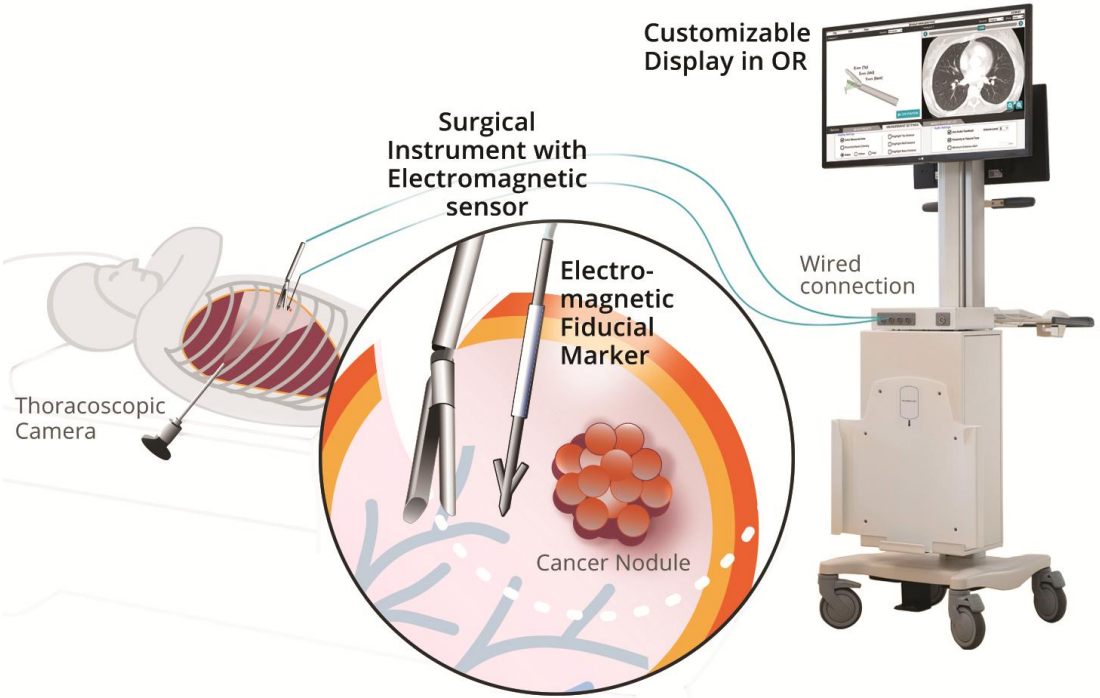
Precision Surgical Oncology

First technology that tracks surgical instruments in real-time

Electromagnetic fiducial marker (J-Bar) positioned next to the lesion to identify the optimal route

Second sensor on the surgical instrument, providing precise measurements between the sensors

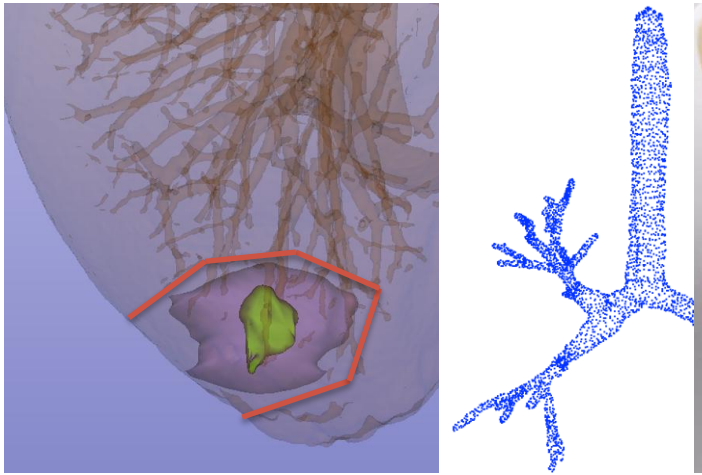
Proprietary software links the sensor on the J-Bar with the sensor on the instrument, providing real-time measurements for precise surgical removal



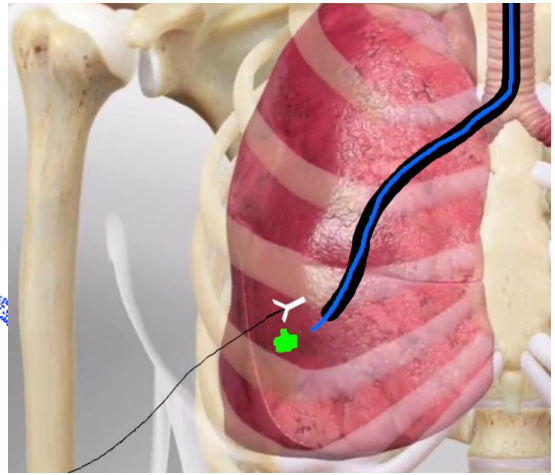
Bronchoscopy Guidance Two - $400,000 each SBIR Grants

Pulmonary nodule identification for fiducial placements

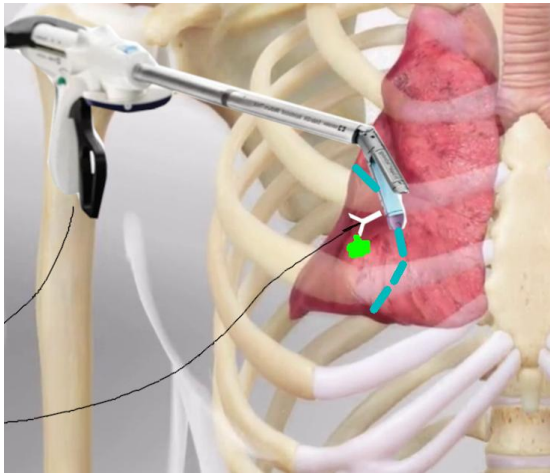
Preoperative planning



J-Bar fiducial placement



Surgical resection



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First-in-Human Clinical Trial – Scott Swanson, MD

FDA IDE & IRB – 25 patients feasibility study at Brigham & Women's Hospital (Boston)

"Realtime Margin Assessment for Video-Assisted Thoracic Surgery: A Pilot Clinical Trial," Publication Journal of Thoracic and Cardiovascular Surgery (JTCVS TECHNIQUES)

Key Measures

- Tumor removal with intraoperative measurement
- Workflow integration
- Development of user interface design (UI/UX)

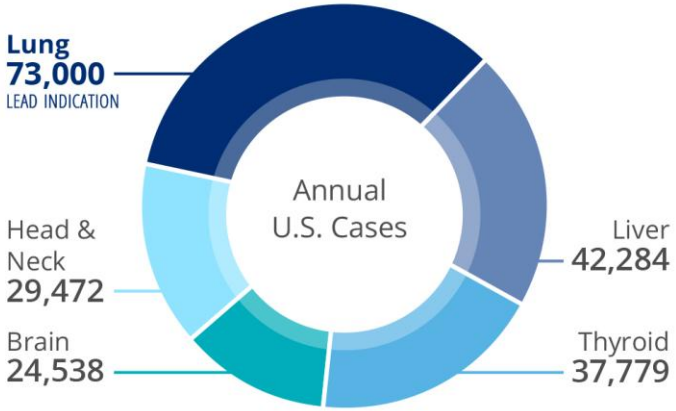
Results

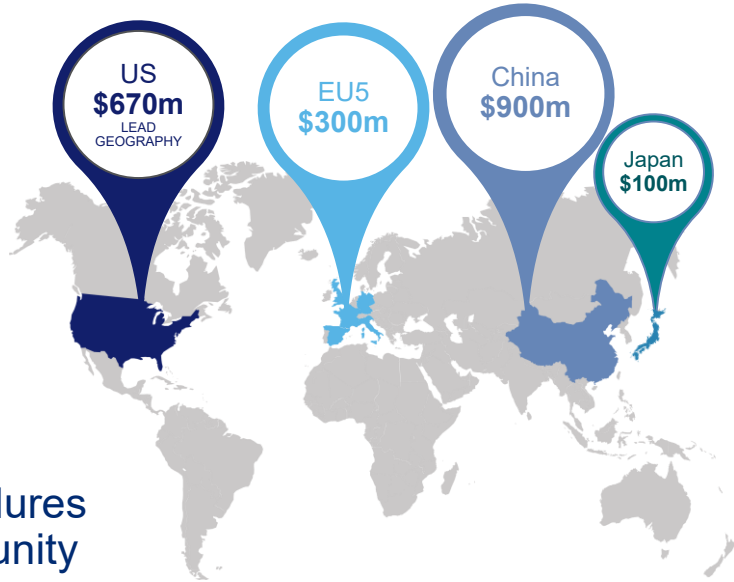
- Safe and effective
- Provided real-time measurement
- The system's measurements strongly correlate with the pathology lab

Market Opportunity

Worldwide opportunity $2 billion, US market $670 million

Opportunities in lung, liver, head & neck, brain, thyroid cancers





Addressable U.S. market opportunity is ~210,000 procedures at $3,200 per case, yields at $670 million market opportunity

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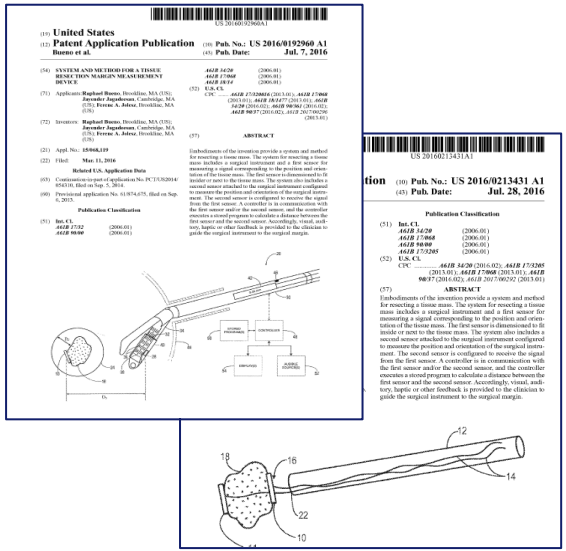
Eight US Patents, Two PCT, One Japan and China Issued Patents

Additional US & OUS applications pending securing seven exclusive features

1. **Navigational placement of fiducial marker**
2. **Electronically tracked surgical instruments**
3. **Quantitative feedback**
4. **Audio & visual feedback**



(19) United States
(12) Patent Application Publication
Bueno et al.
(10) Pub. No.: US 2016/0192960 A1
(43) Pub. Date: Jul. 7, 2016

(54) SYSTEM AND METHOD FOR A TISSUE RESECTION MARGIN MEASUREMENT DEVICE

(57) ABSTRACT

Embodiments of the invention provide a system and method for resecting a tissue mass. The system for resecting a tissue mass includes a surgical instrument and a first sensor for measuring a signal corresponding to the position and orientation of the surgical instrument. The first sensor is dimensioned to fit inside or next to the tissue mass. The system also includes a second sensor attached to the surgical instrument configured to measure the position and orientation of the surgical instrument. The second sensor is configured to receive the signal from the first sensor. A controller is in communication with the first sensor and/or the second sensor, and the controller executes a stored program to calculate a distance between the first sensor and the second sensor. Accordingly, visual, auditory, haptic or other feedback is provided to the clinician to guide the surgical instrument to the surgical margin.

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(10) Pub. No.: US 2016/0213431 A1
(43) Pub. Date: Jul. 28, 2016

Publication Classification

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5. **Augmented reality video overlays**
6. **Real-time tissue deformation algorithms**
7. **Multiple surgical applications**

Patents: US11058494, US11,234,732, US11,246,666, US12,023,108, EP3,041,427, EP3426145, CN115209826B, JP7726485 and patents pending

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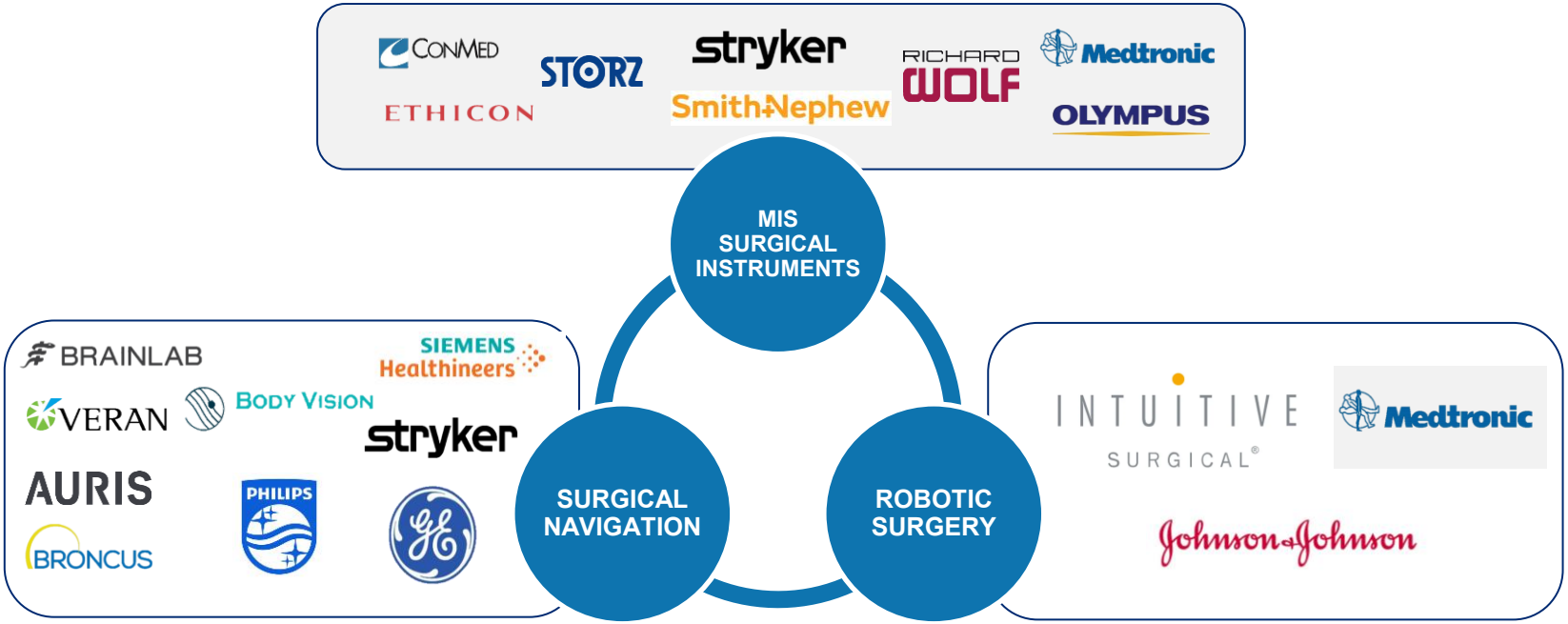
Exit Strategy

Precision surgery is a complementary addition for multiple strategic buyers



Leadership Team

Combined domain expertise with business development capabilities & prior exits

Alan D. Lucas
CEO & Director

Raphael Bueno, M.D.
Co-Founder, Director
Brigham and Women's Hospital

Jayender Jagadeesan, Ph.D.
Co-Founder, CTO
Brigham and Women's Hospital

Gabriele Brambilla
Director
CEO, Alira Health

Steve Gullans, Ph.D.
Director
Principal, Gullans Advisory

Cynthia Ekberg Tsai
Director
Healthquest, CEO

T. Forcht Dagi, M.D.
Director
Senior Managing Partner, ROSC Global LLC

David Fogel, MBA, CPA
CFO

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Medical Advisory Board

Engaging additional experts as optimize technology

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Bryan Burt, MD	Thoracic Surgeon	UCLA
T. Forcht Dagi, MD	Neurosurgeon	Mayo College of Medicine
David Feller-Kopman, MD	Interventional Pulmonology	Dartmouth-Hitchcock Medical Ctr
Robert McKenna, MD	Thoracic Surgeon	Stanford
Brian Mitzman, MD	Thoracic Surgeon	University of Utah
Scott Swanson, MD	Thoracic Surgeon	Brigham & Women's
Jeff Velotta, MD	Thoracic Surgeon	Kaiser Permanente Oakland

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