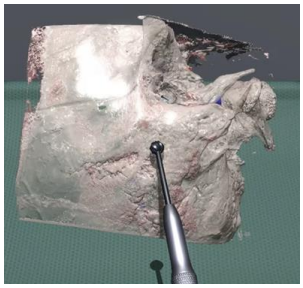

Clarasim Systems, Inc.

Company Contact
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Management Team

Vik Malik
Interim Chief Executive Officer

Kenneth Salisbury, PhD
Chief Technology Officer

Advisors

Nikolas Blevins, MD
Chair – Clinical Advisory Board

Sumit Agrawal, MD
Clinical Advisory Board Member

Sonny Chan, PhD
Clinical Advisory Board Member

Joseph Dort, MD
Clinical Advisory Board Member

Hanif Ladak, PhD
Clinical Advisory Board Member

Justin Lui, MD
Clinical Advisory Board Member

General Counsel/Secretary
Jennifer Hagan, ESQ.

COMPANY OVERVIEW

ClaraSim Systems, Inc. has developed a computer simulated environment in which surgeons can perform surgery on virtual bone using virtual instruments. By combining ***patient-specific data*** with a powerful simulation engine, we are able to create 3-D patient models that can be explored and modified in real-time with virtual surgical tools providing both haptic and visual feedback. Our system enhances the surgeon's ability to perform skilled surgery by enabling them to rehearse drilling through accurate representations of the patient's bony and fragile structures. The anatomical insight gained from interacting with the simulation provides guidance during actual surgery leading to better outcomes. While the system enables preoperative rehearsal, it is also used as a teaching tool, giving trainees the opportunity to experience many different cases in a safe and efficient setting. The technological and clinical capabilities of the product stem from over 30 person-years of research conducted by the company founders.

UNMET NEEDS

There are numerous surgical procedures during which a surgeon must dissect bony structures to expose target sites. In complex skull-based and spinal procedures, the surgeon must drill through a volume of bone that contains many fragile and critical structures that must be avoided. Currently, many surgeons plan out these surgeries by looking at 2-dimensional CT scans, while performing surgery in 3D. This translation from 2-D to 3-D can be challenging even for experienced surgeons. By giving surgeons a platform to plan and rehearse in 3D we give surgeons a more comprehensive understanding of their patients' specific anatomy and challenges posed prior to operation.

SOLUTION

- ✓ Advanced 6-degree-of-freedome Haptic Rendering
- ✓ ML-based auto-segmentation for fast accurate, easy model preparation
- ✓ High-performance game engine compatible
- ✓ Uses consumer-grade visual and haptic interfaces
- ✓ Innovative metrics and mentoring
- ✓ Cloud-based specimen library and sharing
- ✓ Proprietary downloadable software
- ✓ Hardware cost less than $10K

COMPANY MILESTONES

The Company has already made very significant headway in demonstrating the useability and validity of the technology.

- ✓ Product of over 30 person-years of research in US, Canada and extensive publishing
- ✓ Q3 '01 File provisional patent application; Academic deployment to multiple centers for testing and feedback
- ✓ Q4 '01 Negotiate Licenses, raise funding; develop Version 2 ClaraSim
- ✓ Q1 '22 Identify distribution partner
- ✓ Q2 '22 Hard product launch

MARKET OPPORTUNITY

United States

- ✓ 13,500 Practicing ENT and Spinal Surgeons
- ✓ 40,000+ Eligible otology procedures annually
- ✓ 325,000+ Eligible Spinal Procedures Annually

Canada

- ✓ 900 Practicing ENT and Spinal Surgeons
- ✓ 4,000+ Eligible otology procedures annually
- ✓ 14,500+ Eligible Spinal Procedures Annually

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Competitive Analysis

Superior Performance at an unmatched price point

	ClaraSim	Voxel-Man	VES (Virt. Ear Sim.)	Medic Vision	Simbionix
Use	Education/ Rehearsal	Education/ Rehearsal	Education/ Rehearsal	Rehearsal	Education/ Rehearsal
DICOM Data	yes	yes	yes	yes	yes
Anatomical Structures Segmentation	Automatic	Manual	no	no	no
Display Type	Mono/stereo Flat Panel; VR	Flat Panel	Flat Panel; Stereoscopic (Red/Blue); Oculus	Binocular	Flat Panel
Performance Scoring	Yes	Yes	Just Metrics	?	Yes
Force Feedback Haptics	Yes	Yes	Yes	Yes	Yes
6 DoF haptic physics	Yes	no	no	no	no
Bone Drilling	Yes	Yes	Yes	Yes	No
Virtual Mentor	Yes	No	No	?	Yes
Case Authoring	Yes	Yes	Yes	Yes	Yes
Shared Virtual Specimens	Yes	Yes	No	No	No
Cloud Data Access; Large Case Library	Yes	No	No	No	No
Cost	< $10K	$50K-$100K	Free	?	$40K-$100K
Notes	Positioned to capitalizes on consumer-driven progress in VR, Machine Learning hardware; etc.	Sub-optimal depth perception; most recent version: 2012; Distributed by 3B Sci.; Revenue: $200,000, Employees: 1	Free; Educational tool; last revised 2017; PC; Otology	Sold as a very large unit - no records of product after 2010; for rehearsal; focus on image enhancement	Endovascular simulation; acquired for $120M in 2014 by 3D systems

OUR TEAM

Vik Malik – Board of Directors & Interim Chief Executive Officer
Vik Malik has over 20 years of diversified Life Sciences & Healthcare industry experience as an Interim Executive, Commercial Operator and Senior Business Advisor for numerous startups, growth-stage and multinational Medical Device & Diagnostics organizations. Plus, he has held senior leadership positions with the Life Sciences Commercial Strategy & Operations practices at IQVIA, TechCXO, Deloitte Consulting and interim executive posts for BioFuse Medical, Ascension Orthopedics, Amplify Surgical as well as sales & marketing roles with TissueLink Surgical, RITA Medical, Serono Labs and Wyeth Pharmaceuticals. Furthermore, Vik has extensive experience in medical technology corporate strategy, commercial operations, business development and has a new product launch track record of 12+ biomedical products and services. Mr. Malik earned his Bachelor of Science in Marketing from Southern Illinois University and has completed numerous clinical preceptorships in several medical sub-specialties.

Kenneth Salisbury, PhD – Board of Directors & Chief Technology Officer
As Professor Emeritus with Stanford University's Departments of Computer Science and Surgery, Dr. Salisbury is a long-time member of the Stanford Artificial Intelligence Laboratory. Holder of over 50 patents, Prof. Salisbury is known for his seminal contributions in the fields of robotics, medical robotics and haptics. With a penchant for technology transfer, he was honored with the "IEEE Inaba Technical Award for Innovation Leading to Production." As co-founder of SensAble Technologies, Inc. (acquired by 3D Systems, Corp. [NYSE: DDD]) he was co-inventor of its principal intellectual property. Prof. Salisbury has served on the Scientific Advisory Boards of Mako Surgical and Magic Leap. At Intuitive Surgical [NASDAQ: ISRG], he served as Fellow and Scientific Advisor where he developed the surgeon's singularity-free haptic interface for the daVinci surgical robot, which among other inventions, contributed to the company's success. Prof. Salisbury has also served as expert witness for entities such as Sony, iRobot, HTC, NASA and the US Department of Justice.

Nikolas Blevins, M.D. – Head of Clinical Advisory Board
Nikolas Blevins MD is the Larry and Sharon Malcolmson Professor of Otolaryngology at Stanford University. He is the Chief of the Division of Otology and Neurotology, Program Director of the Neurotology Fellowship, and Director of the Stanford Cochlear Implant Center. His research is focused on the development and application of technology to augment microsurgical approaches to the skull base. This includes the use of computer modeling and immersive surgical simulation for preoperative rehearsal, and the development of augmented reality platforms for operative guidance. Additionally, he and his collaborators are developing minimally invasive techniques for inner ear surgical access, and other technology to optimize hearing restoration. Dr. Blevins is a California native, and received his bachelor's degree from Stanford University. He completed medical training at Harvard University, and then returned to California for residency in Otolaryngology at the University of California at San Francisco. And he remained at UCSF for a fellowship in Otology/ Neurotology. Dr. Blevins joined the Stanford Department of Otolaryngology in 2003.