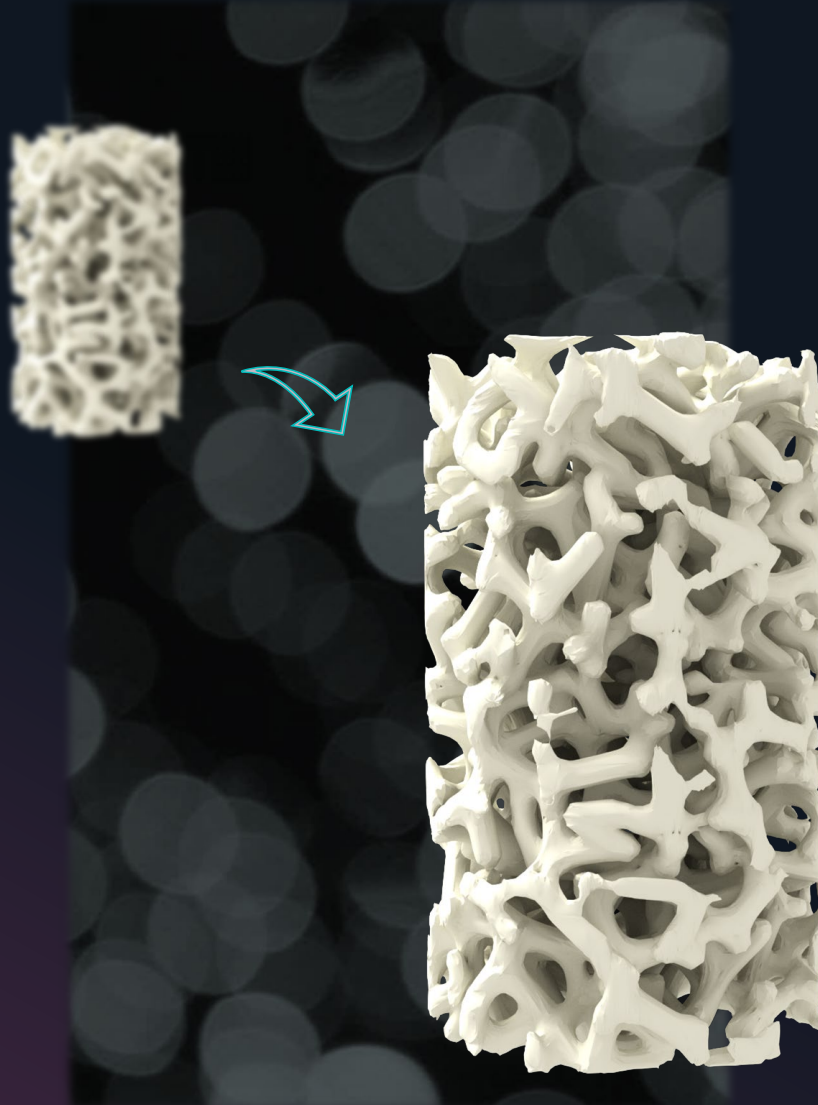




VENT CREATIVITY

The Digital Twin Surgery Company



PROBLEM

Innovative medical device companies can't translate their product to the market due to:

- Surgeons apply techniques taught by their mentors for every surgery
- One size fits all and biased surgical approaches are shown not to work for all with patient dissatisfaction in hundreds of thousands of cases
- Surgeons mix and match company products and need a unified UI to plan all cases
- Individual patients need custom solutions to increase satisfaction

Vent solves these problems using “digital twins” of each patient type to plan surgeries rapidly.

5 mins

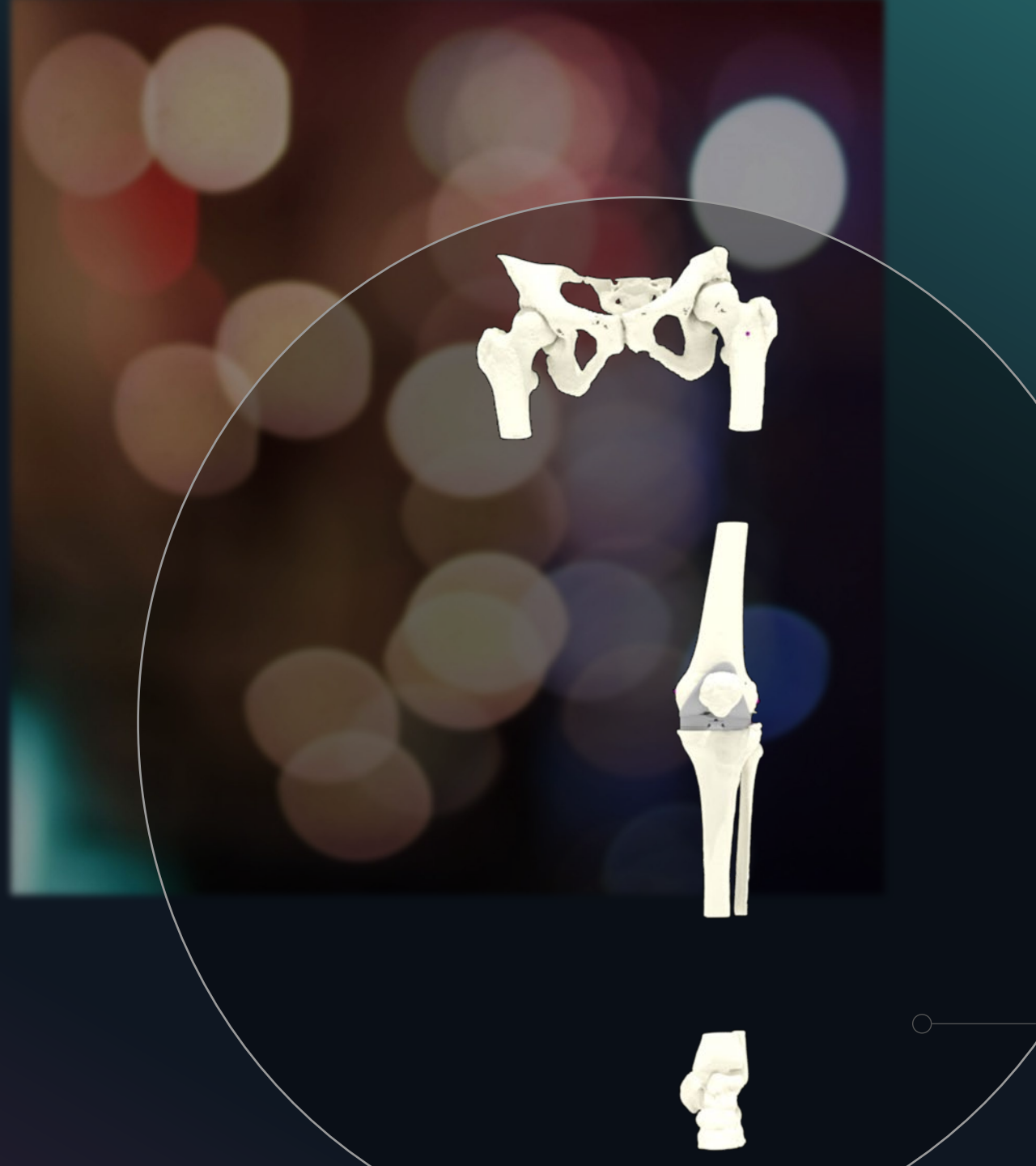
- Powered by cloud-based AI (Google AI Partnership)
- Medical image uploaded to secure server
- Takes medical images and converts them to surgical plans
- Can be reviewed on a web-based UI customizable for surgeon needs

Compared to

- Works with any workflow or surgical solution needed
- Order of magnitude reduction in cost and time

1-2 days

- Request medical images directly from clinic
- Segment semi-automatically or manually for hours
- Placing surgical plans by technicians with no expertise
- Send to surgeon, who must review, often revise
- Costly and time consuming to every professional involved





\$139

BILLION

**MEDICAL
IMAGING AI**

\$19

BILLION

**ORTHO
TAM**

\$6

BILLION

Serviceable

\$3

BILLION

Obtainable

MARKET

VENT is primed to lead digital-twin analysis for surgical planning

- TAM 3 million procedures in USA for ortho and soft-tissue interventions, 7% YOY growth, recession proof unlike SaaS industries
- 35% of surgeries technology driven
- Current total cost of each surgery USD 10-20,000, room for small fee bundling of solutions to reduce surgical costs significantly
- AI in healthcare expected to grow to USD 208 billion by 2030¹

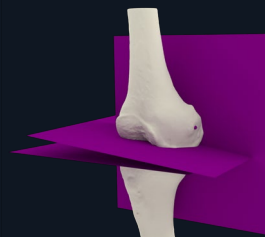
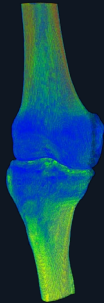


PRODUCT

HIPAA compliant cloud platform accessible from any device through our website (inVENT UI for accessing any product)
Software as a Medical Device (SaMD) with proven FDA pathway
Compatible with any hardware end-use
Hardware agnostic, works with any manufacturer's implant
Priced as a Software as a Service (license + per use)



CT, MRI, or X-Ray
DICOM Images



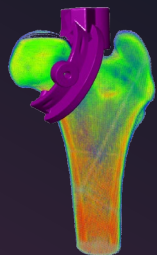
Auto-segmentation and surgical
planning in 2 minutes

Multiple expert surgeon
workflows to choose from

Surgeon customized phenotype based
surgical decision-making tools in cloud-
based UI

Software (Hermes – launched Oct 2022, consists of 1000 and 500 CT scans for knee and hip respectively)

End use Hardware Collaborations (Coming 2024)



Manual instrument attachment features
for accurate cut planes for both knees and
hips

Alignment guide for nav/robotics
incorporation, cut plane independent of
guide for in surgery decision on philosophy



LIDAR based point clouds for surgery area
detection, LIDAR based scan and
registration options to perform remote
surgery*



Pressure sensitive gloves for finger registration or
surface painting for registration of imageless bone
surgery, force measurement for laxity assessment



BUSINESS MODEL

Product	Customer	Unit	ASP	Current Revenue	Projected Quantity (2026)	Projected Revenue (2026)
Hermes Software	Medical Device Manufacturers	Batch	\$200k/yr	\$1.5M/yr	100	\$20M/yr
		Embedding License	\$2M/yr	Coming in 2023 Q3)	20	\$40M/yr
Hermes Knee	Individual Surgeons And Ambulatory Surgery Centers	Surgical Procedure	\$330	Coming in 2023 Q2	216k/yr	\$86M/yr
Hermes Hip			\$330	Coming in 2024 Q2	216k/yr	\$86M/yr
Hermes Hardware			\$300	Coming in 2024 Q2	300k/yr	\$90M/yr
Hermes Shoulder			\$330	Coming in 2025 Q2	10k/yr	\$3M/yr

\$1.5M

ARR
(Apr 2023)

100%

YoY Revenue
Growth (Apr 2023)

6

Medical Device
Manufacturers

10

Surgeries per
Month

15

Team Members

2

Peer-Reviewed
Papers

25%

Market
Share

4

Granted
Patents

10

Prominent
Surgeons

5

Fortune 500
Customers

Customers Include:

Smith+Nephew

maxx
orthopedics

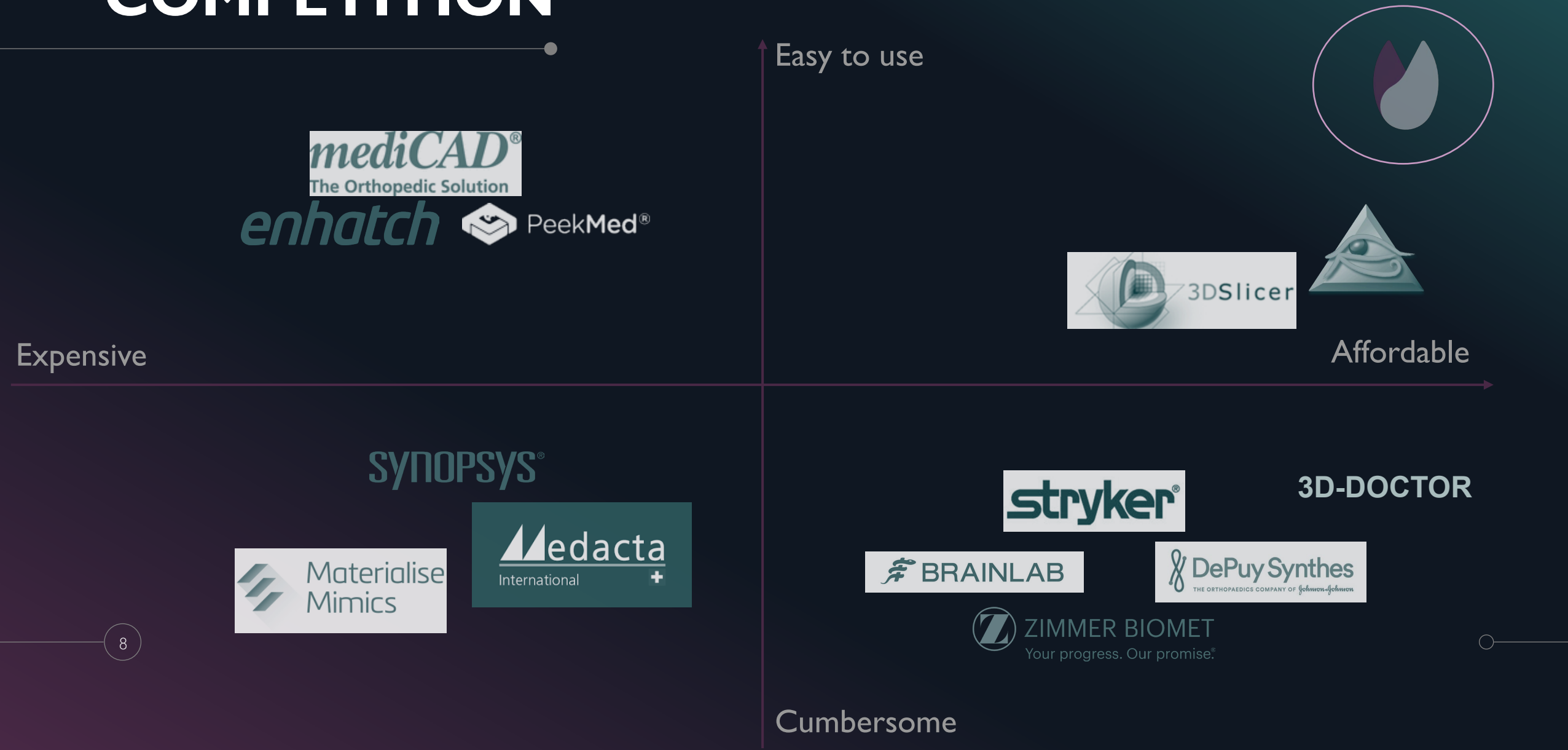
HOSPITAL
FOR
SPECIAL
SURGERY

Lilly

 **DePuy Synthes**
THE ORTHOPAEDICS COMPANY OF Johnson & Johnson

**CurveBeam AI**
INFORMED IMAGING

COMPETITION





SWOT ANALYSIS

Product	Available	Strength	Weakness	Opportunity	Threats
Vent Hermes	Autosegment Autolandmark Autoplan	Density based digital-twin for optimal implant position prediction for phenotypes, radical approach to all tools compared to all other companies, customizable UI	Lack implant portfolio	Access to Depuy, S+N, and Stryker for most utilized implants, and CurveBeam for low-dose CT to be utilized in smaller sites	Potential competing autoplan software solutions
Materialise Mimics, Synopsys Simpleware	Autosegment Autolandmark	Well known and widely used software for segmentation	Used for many industries so case-based solutions in Ortho are overlooked	Access to hospitals for various studies	Heavily used in aerospace and other industries, healthcare may be a distant second/third for major improvements allowing competition to take over
MediCAD, Medacta	Autosegment Autolandmark Autoplan	Extensive implant database mostly relevant to EU markets	No meaningful footprint in USA and top 4 companies	Existing system can be adapted to USA market	No network or distinguishing value compared to Mimics or Synopsys to enter USA, no plan options, take it or leave it approach
PeekMed, Enhatch	Autosegment Autolandmark	Gaining traction in 3d printed guides and 2D X-ray planning	No 3D planning or known surgeon/hospital relationships	2D X-ray is the most common current planning method	Vent is working with Anderson clinic large dataset to create a 2D X-ray planner
Implant Manufacturers	Autosegment Autolandmark	Access to implant and surgeons, nav/robotics capital equipment	No way of offering other implants in their system by virtue, no custom UI to please users	Improve outcomes measures with their implants and planners alone	Vent has access to the same surgeons, who might choose to use our flexible tool in lieu of their generic tools
Free Online tools	Manual	Free and easily accessible	No validation or bug support, take it or leave it tools with high risk for healthcare use	Improved open source can create more tools	No leadership to validate or FDA clear the products that cost too much for free tool to achieve



TEAM

VENT has curated a team of subject matter experts who can push the boundaries of the industry



Gilly Yildirim, MSc, MBA
CEO and Founder



Rachel Alexander, MSc
Product Engineering



Nick Camillo
Full-stack Engineering



Craig Vittorio
Quality and Regulatory Expert



Jennifer Grunden
Project Manager and Surgeon Engagement Lead



Dimitrios Georgopalis, MSc.
Neural Networks Engineering



Jordynn Lurie
Quality and UI Support



Tobias Stauffer
Hardware/Software integration for AR and AI expert currently pursuing PhD in the field in ETH Zurich



Dan F. Justin



Andrew Pearle, MD



Alex Wissner-Gross, PhD



Michael Hirschmann, MD, PhD



Eric Bogner, MD



Dean Cole, MD



Nick Slater

30 years of experience engineering orthopedic medical implant systems including leading the engineering development on total and partial knee replacement systems. Founder of Engage Surgical and had served on the Board and as the CEO of the Company since its inception until it was acquired by Smith and Nephew. He has led the development of over 110 other medical device systems.

Chief of sports medicine and Director of Computer Assisted Surgery Center at HSS. Stakeholder in Engage Surgical, an initial KOL partner for VENT. Key decision maker to influence and provide new surgeons to the team as well as publications in the world conferences

Award-winning scientist, inventor, entrepreneur, and angel investor. He serves as President and Chief Scientist of Gemedy and has held academic appointments at the Harvard Institute for Applied Computational Science, the Harvard Innovation Lab, and the MIT Media Lab.

Chief of Orthopaedic Surgery and Traumatology, Canton Hospital Basel-Land. World renowned expert in the use of phenotypes for surgical intervention decision making.

Chief of musculoskeletal CT imaging for HSS, world's leading specialist hospital. 15 years of experience in bone related diagnosis. Dr. Bogner consults for algorithm development for the machine learning tools we produce as well as CT database for neural network training

30 years of experience as an orthopaedics surgeon. He has designed several devices and is widely respected for his approach to complex procedures. He takes an innovative approach to joint reconstruction of the knee, hip, ankle, and shoulder using the latest advances in 3-dimensional surgical planning and computer-assisted procedures.

15-year veteran in the medical device industry and specializes in the development, commercialization, and divestiture of novel medical devices. Most recently, he was responsible for the development and launch of the US's first cementless partial knee replacement system, while serving as Chief Operating Officer and VP of Sales for Engage Surgical, which was acquired by Smith & Nephew.





FUNDRAISING

Seed Round

- \$525K seed round (Closes Sept 2023)
- Investors included: Dan Justin, Ron Tenenbaum, Fortune LLC, Andrew Pearle, MD.

Accomplishments since Seed

- Grew revenue from \$200K to \$1.4M in the calendar year
- Grew from 2 to 6 medical device company clients
- Grew team from 8 to 15 employees
- On-boarded 10 world renowned ortho surgeons as early users who are all Consultant surgeons for top 4 ortho companies with clear user needs and scalability knowledge
- 3 ex-executives with sales, marketing and M&A experience in orthopaedics
- Accepted to Google Cloud AI Startup Program
- Accepted to J&J Innovation Labs as development partners

Series A Raise

Raising \$5-10M to accelerate growth in 4Q23 to:

- Hiring additional cloud and backend engineers for advanced product development
- Hiring a dedicated sales and marketing team
- Sponsoring independent clinical studies of Vent's technology by prestigious universities and hospitals
- Depuy and Smith+Nephew interest for embedded solutions leading to potential purchase in year 2 (\$250 Million comparables exit potential)

CONTACT

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