

# UltraVision

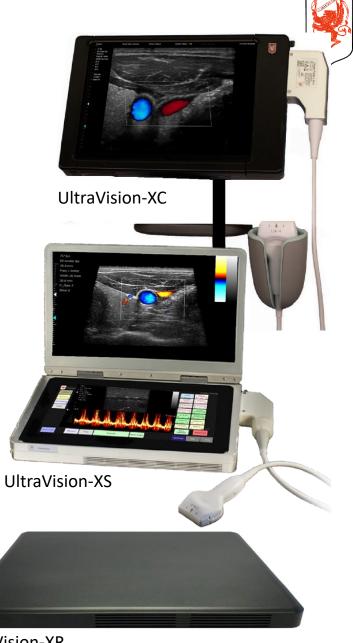
#### Medical Ultrasound Imaging Systems

Creating custom-designed solutions for medical imaging

January 2023

#### Who is UltraVision

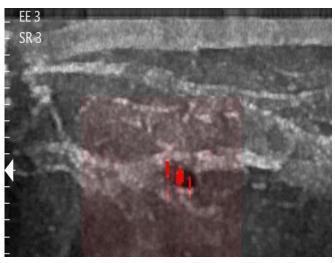
- We develop, manufacture, and sell medical ultrasonic scanners.
- We design and build the imaging engine behind some of the largest companies in their respective fields.
- Our business is profitable; we have a six-month backlog of sales.
- We've filed patents on two new Unicorn opportunities that can change the dynamics of their markets.



UltraVision-XR

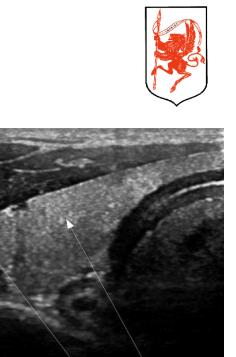
#### **The UltraVision Product**

- UltraVision has mastered the ability to create excellent image quality.
- We specialize in small-part imaging, which is applied to nerves, muscular-skeletal, and breasts.
- We are developing large-area imaging for cardiac, liver, and abdominal applications.



Microcalcifications in a cyst in a human breast previously found by mammography.







UltraVision image of carotid artery & thyroid



### We have customized and made systems for multiple OEMs

#### **Cadwell Industries Inc.**

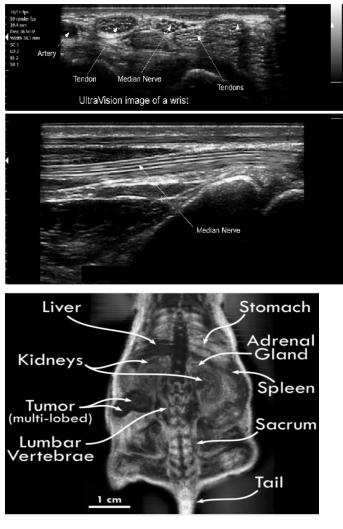
We are helping Cadwell become the world's largest supplier in the neurology and muscular skeletal businesses by visualizing diseases like ALS (Amyotrophic lateral sclerosis) for the first time.

#### PerkinElmer

Our UltraVision-XR is used by PerkinElmer for mouse scanning. More than 30 million mice are used in pharmaceutical research annually.

#### Sonovex, Inc.

We supply a deep tissue quantitative 3D Doppler blood flow estimator for use in monitoring grafts.





### We are preparing the UltraVision-C for end-user sales

The UltraVision-C is (UVC) a Point of Care Ultrasound System (POCUS) where the product may be carried to the patient's bedside.

The UVC can be equipped with Cardiac, Abdominal, Obg/Gyn, Small Parts, and Breast transducers and accompanying software.

As we do not have a sales force, the UVC will be designed to sell over the internet.

It will thus be:

- 5lbs or 2Kgm for low-cost shipping
- has a 5-year warranty
- special features to train, service and recall
- ready late 2023



The UltraVision-C

### **The UltraVision Team**



**Guy Scott, CEO**, has more than 45 years at the forefront of ultrasonic systems design for Searle, Siemens, Pie Data, and the WinProbe Companies.



**Dr. Charles Theofilos, MD**, is a spinal surgeon who conceived this product line for the Spinal Surgery Division. He is a board member and is guiding the development of the Pediview and SpinalView.



**Charles Scott**, **President**. He is responsible for all algorithms, IP and software development in the company.



**Stephen Claffey**, director of engineering, joined the Company in 2005 and has developed all the circuit boards and Field Programmable Gate Array code.



**Kyle Matheson**, production manager, is responsible for producing the scanners, and he makes the 3D-printed products that the Company uses.



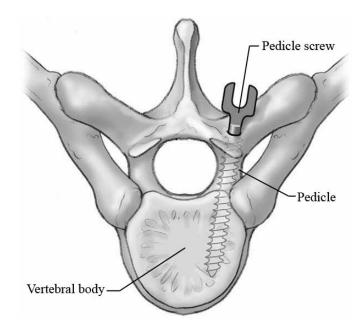
	Core Competencies
	1. Algorithm Design
	2. Electronic Circuit Design
	3. Printed Circuit Board Design
	4. Mechanical 3D Design
	5. Ultrasound Physics
	6. Spinal Surgery
nd	7. Manufacturing, Packaging
	8. Regulatory Affairs

#### **Our Spinal Surgery Project: a Unicorn Opportunity**

- The most performed type of back surgery is spinal fusion.
- In the USA alone, more than 352,000 fusion procedures are performed each year, costing \$20,000 \$300,000 each.
- The most common risk of any of the modern spine fusion surgery techniques is the failure to relieve lower back pain symptoms. This occurs in a minimum of 20% of spine fusions.
- The screws must be placed through pedicle bones, which are quite narrow, and if the screws accidentally penetrate the pedicle wall, they are then in contact with nerves which is cripplingly painful.







#### **The PediView: Our Patent-Pending Solution**

- Success requires the surgeon to place the pedicle screws down the center of the pedicle bone and not break the pedicle bone's cortical walls.
- UltraVision's solution is to image from inside the pedicle bone.
  - The PediView rotates the awl's shaft 360 degrees. The awl's shaft is also the waveguide, so real-time ultrasonic images can clearly show the distance to the pedicle walls in front of the tip of the rod which makes the hole for the pedicle screw.
  - This dramatically enhances the navigation of placing the hole for the pedicle screw.



### The Financial Opportunity and First Mover Advantage

- Disposable sterile spinal endoscopes are required because of their simplicity of use and functionality during a very difficult procedure with extreme outcomes.
- The PediView is a disposable single-use device. We simplify spinal fusions, improve outcomes, and potentially reduce liability by recording the procedure.
- The price of the PediView is offset by improved outcomes. Plus, the product's low manufacturing cost yields very attractive gross margins.
- The unicorn opportunity is in this advancement becoming the recommended tool for efficacy, safety, and liability in a \$500M+ market.





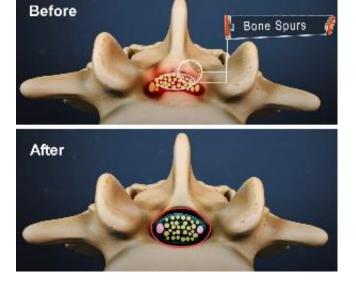
Sensor PZT

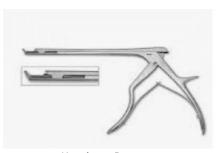
#### **Completing the SpinalView Market**

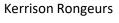
UltraVision is developing the SpinalView, an ultrasonic imaging endoscope for viewing through the spinal sack to aid in the removal of spurs that press into the spinal nerves in arthritis.

- The 6mm diameter 3D phased array provides a 3D view of the spinal canal to show the arthritic bone spurs before and after removal using Kerrison Rongeur's tool.
- Too little cutting leaves the patient in pain. Too much cutting weakens the spine.











### The Existing Market and Opportunity

• The companies in the spinal surgery market are the largest in the world, and they grow by acquisitions.



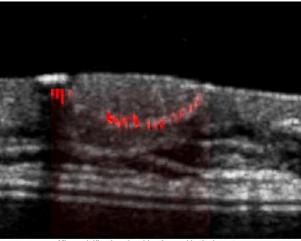
• There are no equivalents to the PediView or the SpinalView.

• UltraVision anticipates having the Spinal Surgery Division acquired by one of these eight identified companies, within three years.

#### **Our Breast Cancer Project**

- Breast cancer today is the leading cause of cancer deaths in women.
- 40% of breast cancers present through the visualization of microcalcifications.
- UltraVision has a US and EU patent-pending algorithm for the visualization of microcalcifications by ultrasound.
- UltraVision is the only company to detect microcalcifications reliably.
- We are perfecting a method to discriminate benign from cancerous microcalcifications in our processes.





Microcalcifications in a blood vessel in the breast

#### **Breast Cancer Microcalcifications**



- There are two main types of microcalcifications found in the breast.
- Type I is not associated with cancer, and Type II is made by cancer and has even been found to assist cancer growth in mitosis
- Mammography cannot distinguish between Type I and Type II, so consequently, 80% of biopsies in the US today are found to have only benign tissue.
- UltraVision is entering into a research project with Memorial Slone Kettering Cancer Center, with our method of visualizing and differentiating the types of microcalcifications that are found in the breast.

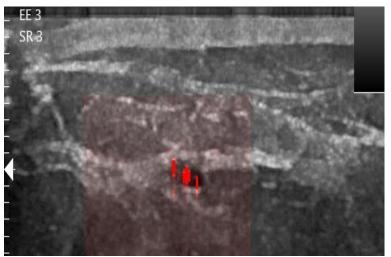


Figure 2: Human breast with three mammography proven microcalcifications in a cyst



#### **Our Breast Cancer Project: a Second Unicorn opportunity**

- Over 2.3 million breast cancer cases are found, and 685,000 women die worldwide annually.
- 38 million mammography examinations are performed in the US, resulting in 1.6 million biopsies which find 281,550 new cases of invasive cancer and 60,290 cases of Ductal Cancer in Situ (DCIS). 43,600 breast cancer deaths occurred in the US last year.
- There are 8673 mammography facilities in the US, with 22,840 mammography systems and ~25,000 ultrasonic scanners used to determine whether a palpable lump is solid or cystic (liquid filled). Cystic lumps are common and rarely cancerous.
- Domestically, scanners are usually upgraded every five years due to maintenance costs and new features, which creates a market for 5K new scanners per year just because of obsolescence
- The ability to visualize and discriminate microcalcifications can be expected to increase this upgrade market to 10K scanners domestically and 20K worldwide annually.

#### **Unicorn Opportunities**



- UltraVision Corporation is profitable, despite its aggressive product development programs.
- Spinal surgery and Breast Cancer microcalcifications are each unicorn opportunities.
- We are seeking \$5 million.
- Use of proceeds:
  - Patent and Trademark filings,
  - FDA development work
  - Manufacture of the PediView and Imaging Endoscopes for demonstration sales
- Refer to our data vault for details at <u>www.winprobe.net</u> with a password of lucy





## Thank You For Your Time

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