

Viking's 3DHD has never looked better

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CEO Jed Kennedy

After more than a decade of making 2D cameras for blue chip medical device companies, Viking Systems (OTCBB:VKNG) is taking the operating room by storm with a new vision system that allows surgeons to perform complex minimally invasive procedures with a three-dimensional view of a patient's anatomy on a high definition TV monitor.

"The 3DHD Vision System that we began shipping last December has the potential to, not only improve the quality of care, but also to reduce procedure time and cost of procedures for the health care system," CEO Jed Kennedy says in an exclusive interview with BioTuesdays.com.

Up until now, the only 3DHD system available on a large scale for the OR has been as an integral component of Intuitive Surgical's da Vinci robotic system, which costs around \$1.5 million. "What we are offering is the only comparable vision system for advanced laparoscopic surgery available as a standalone device at under \$150,000, with no annual service agreement or additional consumable expenses to the hospital," he adds.



3DHD

Articulating Instruments

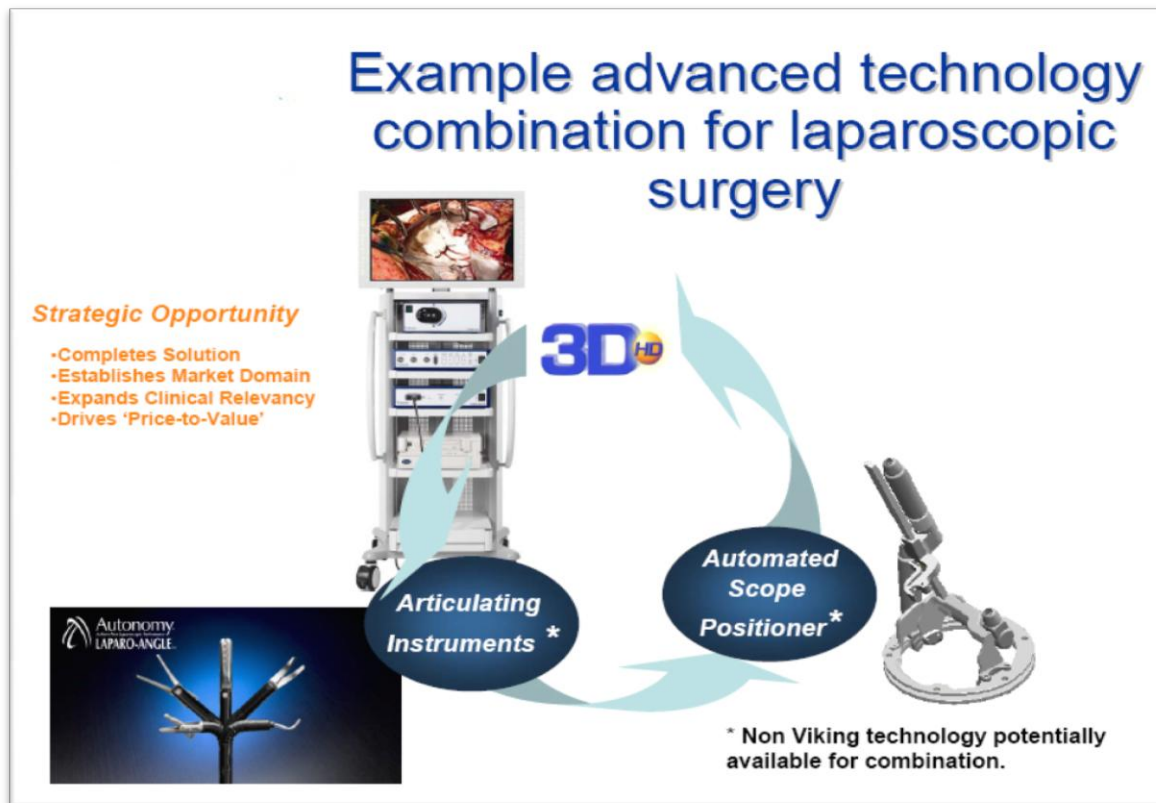
Scope Holders

Cost Comparison



Advanced Laparoscopic System with 3DHD		Surgical Robotic System	
Capital Equipment	\$<250K	Capital Equipment	\$1.4MM
Annual service agreement	\$0	Annual service agreement	\$142K
Per Procedure consumable	\$500-1500	Per Procedure consumable	\$1,900
2009 MIS procedures	3,000,000+	2009 procedure total	205,000

A key element of laparoscopic or minimally invasive surgery is the use of a laparoscope, which allows a surgeon to operate in the abdomen through a small incision, using images displayed on a TV monitor to magnify the procedure. 2D vision laparoscopy, however, lacks natural stereoscopic depth perception and spatial orientation.



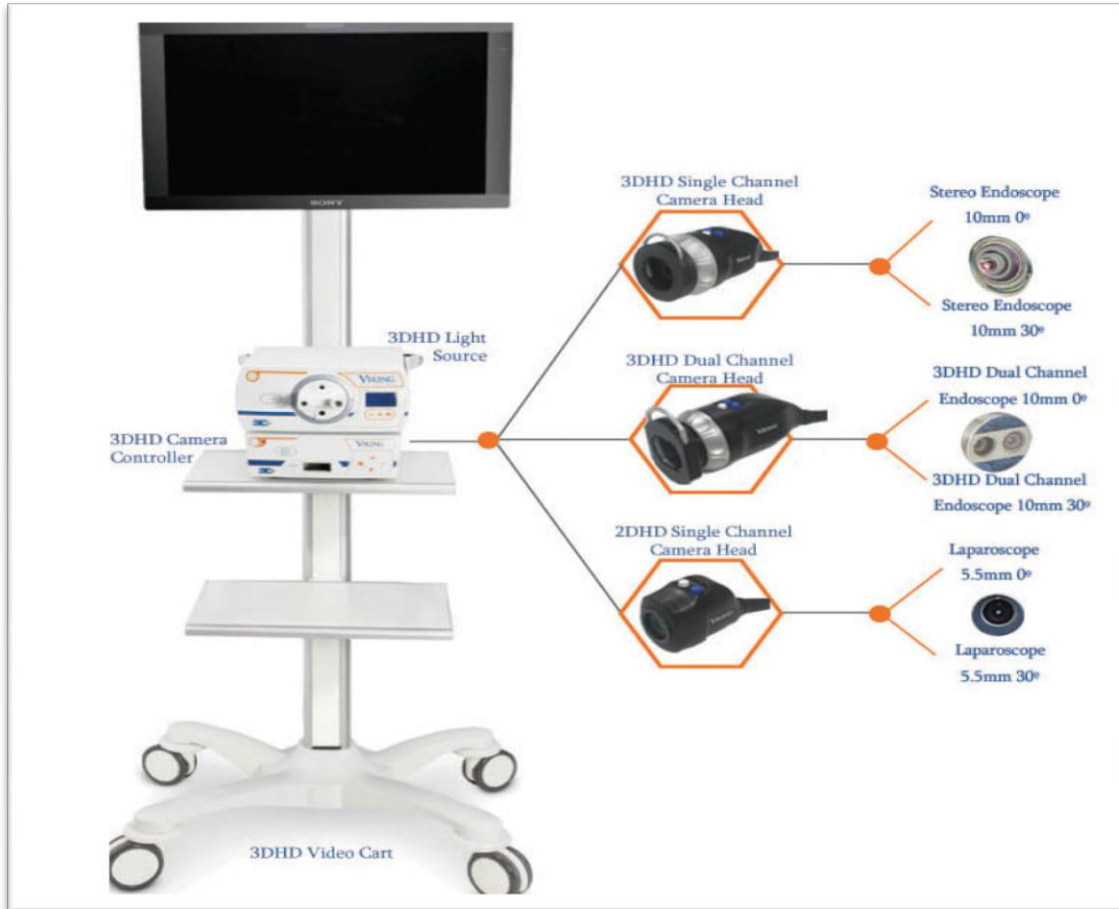
An independent study of 3D vision at the University Hospital in Bern, Switzerland, and University of California at San Diego found that the “more complex a task, the more 3D vision sped up task completion, compared with 2D vision, independent of the surgical modality. A major factor for improved task performance of robotic-assisted 3D surgery, compared with conventional 2D laparoscopy, is the improved vision.”

Prior to the recent launch of Viking’s 3DHD Vision System, nearly all laparoscopic procedures were performed with a 2D camera. The new 3DHD Vision System is targeting more than three million minimally invasive procedures in urology, gynecology, thoracic and general surgery performed annually.

“3DHD is the future of visualization for minimally invasive surgery,” Prof. Günter Janetschek of the Medical University Salzburg, Department of Urology, says in a Viking presentation. “It is really the patient who will ultimately benefit from this superior visualization, as it will enable more surgeons to perform more complex minimally invasive procedures, which will reduce trauma and improve clinical outcomes.”

The Viking system captures two HD images simultaneously from slightly different perspectives and displays the view in real time on a specially designed 3DHD flat screen display developed by Sony. Among other things, the system enhances dissection, grasping skills, suturing, stapling and overall surgical efficiency.

“We are providing the highest image quality available to surgeons performing minimally invasive surgery,” Mr. Kennedy contends.



Viking's Next Gen 3DHD Vision System

The company's original 3D technology required the surgeon to wear a two-pound headset, had lower resolution and blocked the surgeon's views of the operating room. The new system features light-weight eyewear similar to what you wear at a 3D movie, with 1080 HD resolution.

Citing the launch of the 3DHD Vision System, Viking's sales in the first half of 2011 rose 44% to \$5.6 million. During the second quarter, Viking sold 16 of its 3DHD Vision Systems, bringing the number of systems shipped, since the fourth quarter launch, to 50. Of the 16 systems sold during the second quarter, eight were to customers and eight were to distributors as demonstration systems. As of June 30, there were 28 demonstration systems deployed worldwide.

All of the customer system sales in 2011 have been in markets outside the U.S. where adoption of the technology is happening more quickly than in the U.S., Mr. Kennedy notes. "We're finding that international markets have been more conditioned to the benefits of 3D visualization by the distributor network that was selling Viking's predecessor 3D product." While a majority of 3DHD Vision System sales in 2011 will be from markets outside the U.S., he predicts Viking will receive first orders for U.S. hospitals during the third quarter.

Viking's independent regional distributors cover parts of the U.S., most of Europe, portions of South America, Mexico, Israel and South Korea. The company's Chinese distributor is in the process of registering the 3DHD Vision System and has been doing pre-promotional work ahead of a planned launch in China. One of Viking's goals this year is to develop coverage for most of the major markets in the U.S.

“Our research indicates that approximately \$2 billion is spent every year on visualization systems to do minimally invasive surgery, and the market is growing globally at about a 3% to 4% rate,” Mr. Kennedy says. That translates globally to between 25,000 to 30,000 vision systems purchased annually. “It’s a healthy market, and it’s one that we feel that we can have an impact on with our unique technology.”

Indeed, a 5% conversion in the annual global market for 2D HD vision systems to 3DHD would represent some \$100 million of sales. “So, modest penetration makes us a pretty powerful company,” he adds.

While he says Intuitive’s da Vinci robot is a great product for specific applications, “we believe that other companies are developing robotic systems and that Intuitive isn’t going to be the only robot in the market forever. We also believe this will provide a secondary outlet for our 3DHD Vision System technology.”

Viking is also working with surgical instrument companies where 3DHD can enhance the use and application of articulating instruments that can be used table side by the surgeon, eliminating the need for an expensive robotic system altogether.

In the second quarter, for example, the 3DHD Vision System was successfully used in the first two human surgeries utilizing Terumo’s Kymerax Precision Drive Articulating Surgical System during a minimally invasive procedure at the Medical University Salzburg, Department of Urology.

Viking is also evaluating several different technologies for its next generation 3D system. Mr. Kennedy says they are all in the prototype phase and could be ready for specific pre-clinical testing in the later part of the year, which is a key step in defining Viking’s technology and product roadmaps.

Mr. Kennedy remarks, “we are uniquely positioned in the gap between conventional 2D HD systems and very expensive robotic systems.”
