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STEPHEN NELLIS PHOTO

TrueVision 3D Surgical CEO Forrest Fleming said breakthroughs such as a recent retina surgery using the company's digital surgery technology are paving the way for steady growth at the Goleta-based firm.

The long view

TrueVision builds on 3-D surgery breakthroughs

By Stephen Nellis
Staff Writer

TrueVision 3D Surgical, a company that makes digital heads-up displays and guidance software for surgical microscopes, has helped a German eye surgeon make a technical breakthrough and is expanding its relationship with Leica, one of the world's biggest optics companies.

TrueVision said that Claus Eckardt performed a retinal surgery in Frankfurt in front of about 1,200 colleagues using only the 3-D images generated by TrueVision's digital system.

TrueVision's systems have been used for years in brain surgery and in less complex eye surgeries such as cataract removal. TrueVision officials said the 45-minute surgery on March 15 was much more complex. The retina sits at the very back of the eye, rather than the middle part where cataracts are removed, and is where the optical nerve attaches to send signals to the brain.

The slightest misstep by the surgeon can damage a patient's sight irreparably. Until now, retinal surgeries were carried out with optical microscopes whose image quality beat out digital offerings.

TrueVision officials said the surgery shows that digital imaging can compete with optical.

"You need magnification of the field,

illumination of the field and a very steady hand. The retina surgeon is the crème de la crème of ophthalmic surgeons," said Forrest Fleming, the CEO of TrueVision. "To a surgeon, they intuitively understand that it's so hard to do with any kind of microscope. To do that with digital images blows people's minds."

For surgeons, the system means they don't need to hunch over a microscope, a position that caused neck and back problems for many surgeons later in their careers. In a news release, Eckardt said that digital sensors have the potential to perform better in low light, allowing surgeons to pump less light into the patient's eye, and could one day outperform optical microscopes.

"I now routinely use 'heads up' 3-D surgery in all my retinal and cataract cases, and I believe many surgeons will perform ophthalmic surgery this way within five years," Eckardt said in a statement. "It is remarkable what Leica Microsystems and TrueVision have developed and the speed at which they innovate."

LEICA PARTNERSHIP

In the meantime, TrueVision is also expanding its relationship with Leica. That relationship started in 2012 when the company offered an add-on to Leica's neurosurgery microscopes.

Fleming admits that the initial offering "didn't do very well. We were selling a cart. What we learned is that we needed to be inside the microscope."

TrueVision went back to the drawing board and integrated its technology inside the microscopes. It sold its first unit in November of last year, and ended up selling 45 by year's end. The company already expected to sell 60 this year. Leica only sells about 300 of the neurosurgery systems a year, and TrueVision's goal is to be in each of them, Fleming said.

Meanwhile, the success of the retinal surgery has persuaded Leica to offer TrueVision's technology in its eye surgery microscopes, which it typically sells more than twice as many of as the neurosurgery systems.

The work with Leica represents TrueVision's biggest successes so far in getting its hardware into the market. The company tried several different strategies, from a salesforce to sell directly into hospitals to a Chinese joint venture. It became clear that without a massive salesforce, TrueVision's best bet was to partner up with a microscope maker that already had expertise in how to win business in fields as diverse as neurosurgery and eye surgery. "All the people serving these markets are separate players. They're so specialized that the salesforces are essentially vertical," Fleming said.

And although China is slated to build huge numbers of new hospitals in coming years, Fleming said TrueVision has found its joint venture there "disappointing" and believes its partners have a better shot at cracking the market.

"There's gold in them thar hills, but how do you get it? Leica has sold five [TrueVision] systems in China so far. Let's let them figure it out," Fleming said.

SOFTWARE PUSH

Hardware is only part of the business, though. One of TrueVision's major goals is to foster the adoption of digital imaging hardware so it can sell its software, which provides overlays and measurements that help surgeons decide where to cut.

"In a big analogy, I'd go to Microsoft. Any manufacturer of PCs uses Windows. That's what we want to be — the common visual operating system for surgery," Fleming said.

TrueVision's employee base has held steady at around 32. Though the company has been around for more than a decade, Fleming said investors aren't looking for the exit signs quite yet. "Our board of directors has given me a clear directive: build the business. They'd rather optimize the exit," Fleming said. "Once you start to show revenue growth and positive cash flow, there are all kinds of opportunities."