



## Critical Mass

**The Virginia Biosciences Commercialization Center is taking life sciences in the Richmond region to a new level, assembling venture funding and a support network to help foreign companies commercialize their products in the United States.**

*by James A. Bacon*

**V**irtual Ports Ltd., a start-up company in Misgav, Israel, is developing technology that promoters hope will revolutionize the practice of endoscopic surgery. Following the lead of orthopedic surgeons who use minimally invasive tools to reconstruct knee and shoulder joints, Virtual Ports is adding to the toolkit that surgeons can employ when operating inside a patient's chest or abdomen.

Dr. Ken Zaslav, knows a thing or two about orthopedic surgery: He founded the Sports Medicine Center at the Advanced Orthopedic Centers in Richmond. He believes that endoscopic surgery is following the same path toward less invasive techniques that orthoscopy began a decade ago, and Virtual Ports has created two surgical tools that will propel the process forward, he told a gathering of the Richmond Venture Forum earlier this month.

When surgeons insert endoscopic blades inside the

body, they can get fogged up, Zaslav explained. Surgeons have to pull the scope out of the body, clean it and reinsert it 16 times on average during an operation -- a process that increases the length of the surgery and raises the risk of infection. Virtual Ports has invented a tool anchored in the cavity, EndoClear, that allows the surgeon to wipe the lens clean without retracting the scope. Another device, EndoGrab, makes it easier to move pesky intestines and other organs out of the surgeon's way, saving the expense of an assistant and the trauma of a second incision for a second scope.



Zaslav

"Virtual Ports has a pipeline of tools that will revolutionize surgery," says Zaslav, who is helping the Israelis commercialize their technology in the United States. The new tools will make many surgeries

less expensive, speed patient recovery times and improve medical outcomes.

That's great news by any measure. For the Richmond life sciences community, the story gets even better. Virtual Ports is one of eight Israeli companies that has agreed to launch its United States operations from the Virginia Biotech Research Park in downtown Richmond. The hope is that, in time, the company's nominal presence could grow into a full-fledged U.S. headquarters that oversees clinical trials, regulatory approvals and the set-up of distribution channels.

The Israeli companies are the first fruits of a path-breaking economic development initiative, the Virginia Biosciences Commercialization Center. In contrast to the biotech park's successful incubation center for start-up companies, the Biosciences Center provides support for the next phase of growth. Under the leadership of Donna Edmonds, the Commercialization Center has built a support infrastructure -- a venture capital fund, academic support and a world-class scientific advisory board -- for companies that have reached the stage where they're ready to commercialize a product in the U.S.

Created in 1993, the park now encompasses nine build-

ings with 1.1 million square feet, says President Robert Skunda. Within the park reside 44 private companies, four Virginia Commonwealth University research institutes, four state labs and five life sciences-oriented not-for-profits. More than 63 companies got their start in the park. Thirty-one have graduated from the incubator, and three are now publicly traded.

For life science companies moving beyond the incubator stage, the Commercialization Center provides a support structure that, outside the established biotech centers of California, Boston and perhaps the Washington area, no region can match.

Donna Edmonds is the driving force behind the new center. As she tells the story, she was sailing with her husband through the Chesapeake Bay when she discovered Virginia. "I was thinking that I was going to stay a year." That was in 1981.

Edmonds still lives in Lancaster County today, but she drives to Richmond with some regularity. She'd spent her early career funding and managing technology start-ups and when she settled in Virginia, she gravitated to the biotech park. Appointed to the park board during the Gilmore administration, she got progressively more involved, Skunda recalls. In 2006, she licensed technology from a German company, Vital Sensors, that invented a device for monitoring intra-cardiac pressure,

brought it to Richmond and raised seed financing for it.

Skunda describes Edmonds as a dynamo, bringing tremendous energy and knowledge to the park. "She's got contacts from coast to coast. There is hardly a subject where I can't bring her into the room" to talk about intelligently, he says. "She has been enthused, excited and committed -- and able to dedicate the time."



*Skunda*

point into the United States market, Edmonds is the person who assembled the elements that would put Richmond on the map.

The U.S. accounts for 52 percent of world market share for biotech and biomedical products. "You cannot succeed without a global presence," Skunda says. Richmond has pitched its relatively inexpensive cost of doing business, its proximity to regulatory authorities in Washington, D.C., and adjacency to a significant medical research university. But Richmond was a hard sell. Most foreign companies head to a handful of world-class biotech centers where they can access venture capital and the management talent needed to commercialize

their products.

Edmonds identified two assets of the Richmond region that economic developers had not fully appreciated before: the existence of several world-class private medical practices that conducted clinical trials, and the presence of Owens & Minor and McKesson Medical-Surgical, two of the largest distributors of medical supplies in the nation.

While Skunda has long aimed to recruit foreign life sciences companies to the park as an entry

Not only do the VCU medical school and the Massey Cancer Center provide access to scientific expertise but the Richmond area has a number of "unusually strong clinical practices," Edmonds says. "Richmond has a unique mix. We have the perfect clinical community to launch new products in. ... The medical community here is academically oriented and practices good medicine."

One of the Israeli companies setting up shop here is BioProtect, inventor of the SpaceGuard Balloon, a device that is inserted into a patient during prostate surgery and inflated to separate the prostate from healthy surrounding tissue. Says Edmonds: "We're doing an FDA clinical trial at three sites around the country: one in New York and two in Richmond."

Another incomparable asset is the participation of senior executives at Owens & Minor and McKesson on the commercialization center's board. The two companies have an unmatched knowledge of

U.S. markets and distribution channels for medical equipment and surgical supplies. They provide market and strategic advisory capabilities that small firms would have to pay tens of thousands of dollars in consulting fees to acquire, Edmonds says. Of course, the two distribution companies are delighted to have a window into cutting-edge technology. "They're seeing technology they'd have to go to Israel to see otherwise."

Edmonds also has assembled a "world-class scientific advisory board" that includes scientists at VCU, local physicians like Zaslav, and prominent professors from the likes of Johns Hopkins University and the University of Pennsylvania. "We have a scientific advisory board with national reach," she says. Foreign companies can come to Richmond and access a national network of relationships.

Richmond has been a tough place to find venture capital for technology companies at the commercialization stage. But Edmonds is working on a solution for that problem, too. She and Zaslav are approaching Richmond's Jewish community to raise an "Israeli Opportunity Fund" of \$3 million to \$4 million to fund 10 or so of these companies.

Here's the pitch: The nine Israeli companies have been heavily vetted, reducing the risk to investors. First, the companies had to be selected by the best incubator in Is-

rael, and then they survived a development process that shakes out the companies with weaker ideas. Of roughly 900 life sciences companies in Israel, some 300 believe they have a market-ready product, Edmonds says. "We screened those companies. We met with the best 27, then cut them down even further. We have domain experts and a clinical community that looks at all of these companies. Then we have created a structure to surround them with folks, a circle of clinical, scientific and business support. We're committed to their success."



*Edmonds*

Aviv. Israelis feel comfortable here, Edmonds says. "These folks have been running to New York and Boston and Silicon Valley for years, and they get lost in the hub-bub for being just another set of folks. They come here, and they get a very good reception. We've made this feel like home for them. ... The local Jewish community has been very supportive."

So far, a number of Israeli companies have committed to locate in Richmond, including not only Virtual Ports and BioProtect but Cupron Inc., which has invented a way to bind copper oxide to

textile fibers and other materials as an anti-microbial agent, and EnzySurge, developer of a treatment for hard-to-heal chronic wounds.

"To participate in the program, they have to commit to put their U.S. headquarters here," Edmonds says. And that means jobs, swelling the life sciences talent pool in the region. One Israeli company expects to grow its Richmond staff to 60 to 70 employees over the next two or three years, she says.

Skunda is so optimistic about the prospects for the Israeli companies, he's thinking ahead to replicating the template for other countries. VCU has relationships with sister universities around the world that it may be possible to build upon, and the Greater Richmond Partnership has built ties to the biotech sector in Erlangen, Germany. (See "[Boosting Biotech in Bavaria](#).")

It's an incredibly exciting time for the biotech park, says Skunda, who has nursed the institution from its infancy more than a decade ago. For all the growth that Richmond has seen in its life sciences to date, he says, the best has yet to come. The research magnet, the venture capital, the labor pool and the entrepreneurial culture -- all the pieces are coming together. Says Skunda: "We've reached critical mass."

**-- May 2008**