

Good Things, Small Packages

By San Fernando Valley Business Journal

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The expander made by Microfabrica Inc. looks like a car jack albeit one that wouldn't even hold up a toy car.

Smaller than a dime, these expanders are used to retract tissue or deliver a stent into the body during surgery.

The company's EFAB manufacturing process makes these and other intricately designed devices in one piece, eliminating assembly of individual pieces.

"There is almost a magical quality to it," Microfabrica CEO Vacit Arat said of how the company makes these pieces.

For the past year, Van Nuys-based Microfabrica limited availability of their products, which they refer to as "building blocks," to select medical device makers.

But starting with the Medical Design & Manufacturing West trade show in late January, they have made them available to all manufacturers in the field.

The building blocks the aforementioned expanders plus micro-needles that deliver drugs just below the skin, 1mm-diameter turbines, micro-chainmail, and miniature ratchets, hinges and springs were first incorporated into existing products to prove they worked.

Now, Microfabrica encourages medical device makers to use the pieces when they are designing new equipment.

"When you have something in your hand it is much easier to visualize how it works," said Ira Feldman, vice president of business development.

There are also non-medical uses for the pieces.

As part of Los Angeles County Technology Week, Feldman promoted the building blocks for defense applications during the emerging company showcase on Jan. 31 at Loyola Marymount.

Whatever their use, cost savings results because of the more efficient EFAB process used to make them. The process is licensed by the company from USC.

When such tiny devices are assembled piece by piece, the assembly alone eats up a large proportion of their cost, Feldman said.

At Microfabrica, the pieces are designed using special software and then built in successive layers much the same way semiconductors are created. In a matter of weeks thousands of samples can be replicated.

Along with the cost savings, another advantage Microfabrica brings is innovation.

"It is making things possible that could not have been manufactured before," Arat said.

Founded almost a decade ago, the company receives its funding from venture capital firms and corporate and private investment.

In December, the company, along with Boston University and Children's

Hospital Boston/Harvard Medical School, received a five-year, \$5 million grant from the National Institutes of Health Bioengineering Research Partnership.

Microfabrica will help the venture develop minimally invasive medical instruments for complex surgical repairs while the heart is still beating.

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