

## Two startup firms establish local high-tech businesses

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Two relatively new startup firms, PhysioSim LLC and TechTol Imaging, have established local businesses based on new technologies in the medical and imaging fields.

Both firms have worked with the Launch Program and Rocket Ventures staff at Regional Growth Partnership (RGP) on the development of the business, financial and implementation plans for their new enterprises, according to Tasha Hussain Black, vice president of technology and director of the Launch Program at RGP.

### PhysioSim

PhysioSim was created eight months ago to develop training products for the medical market by Rick Wasserman, co-founder and CEO of the business. Wasserman is also CEO of the Pinnacle Technology Group Inc. located in Ottawa Lake, Mich.

PhysioSim has created a patient -assessment training mannequin for the medical education field. Nursing and medical students will use this mannequin to obtain realistic patient data, such as temperature, pulse and blood pressure.

Students will be able to perform a primary neural exam; check pupil dilation and eye-tracking; assess CO2 levels; and take gastric assessments with the PhysioSim “manikin.” It also emits breath, bowel and heart sounds, as well as an Electro-Cardio-Gram rhythm.

“The PhysioSim manikin has advanced physiological modeling that will allow students to perform real-world assessment with the ability to track results. This manikin closes the gap between preparation and reality when it comes to medical training,” Wasserman said.

PhysioSim is working with Nasco Healthcare, a distributor of medical mannequins, as well as the medical and nursing schools at UT on the development of the advanced manikin.

He reported that the cost of current mannequins on the market can run as much as \$250,000 each, while the PhysioSim manikin would cost an estimated \$55,000 to \$65,000.

“We believe that we have a viable solution for the existing growth market,” Wasserman said.

Nursing students at Owens Community College have been using human patient simulators since 2002, when the college acquired its first one for the Toledo Campus.

The college recently obtained one for the Findlay campus and now has a total of six simulators, including two each of the adult, pediatric and baby models. The human patient simulators have been fully integrated into the Owens nursing curriculum, reflecting the most simple to complex medical procedures, according to Cindy Hall, chairwoman of the nursing program.

“The simulators facilitate learning by allowing students to experiment with a variety of nursing interventions without the risk of harming a human patient,” Hall said.

The human patient simulators used at Owens were created by Medical Education Technologies Inc. in conjunction with the University of Florida. The simulators and accompanying METI lab on the Toledo campus cost \$250,000.

The METI simulator is a computer-driven, life-size mannequin that looks and responds similar to a real person. It blinks, breathes, speaks and has a heartbeat and pulse that accurately mirror human responses to such procedures as CPR, catheterization, intubation, ventilation and intravenous medication.

## TechTol

TechTol Imaging is the first and only company to offer instantaneous capture and viewing of 3-D rotational images on the Internet, according to Phil Cox, who founded the firm in 2008 and serves as its CEO.

Cox said there is a huge demand for rotational images on the Internet, but existing systems to produce them are time-consuming, result in poor quality images or are not available commercially. The higher-quality rotational images are created with extensive manual labor and require large data files that make quick downloading and sharing of images difficult.



**Chris Adams works at the computer, making a 3D image of Dyne Hoenie at TechTol.**

“TechTol uses a patented technology to capture rotational images in seconds and put them online in minutes compared to the current technology that takes hours or days to develop,” said Cox, “We have visions of Toledo becoming the 3-D imaging capital of the world.”

Cox said both stationary objects, such as a sculpture, and moving objects, such as a fluttering butterfly, can be captured, rotated and zoomed for use on the Web. Viewers can zoom in without losing resolution to see the small detail and even read the fine print of a product label online, he said.

These 3-D rotational images are used in advertising, e-catalogs and other commercial applications but also could be used on social sites such as MySpace or Facebook with the more affordable production of them using the technology, Cox said.

This entry was posted on Friday, February 13th, 2009 at 9:54 am and is filed under [Entrepreneurs](#), [Toledo Business Link](#).