

SUCCESS STORY PROFILE: SIMBIONIX

By Nancy Anisfield
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The corporate mission of Symbionix, Ltd. is: “To lead in the development of training simulators for minimally invasive surgery.” Since it was established in 1997, Symbionix, based outside Tel-Aviv, Israel, has pursued that mission with expertise, innovation and success. With the backing of the Israeli government and Symbionix’ partners in technology and medicine, the company has become an industry leader in highly effective, safe MIS training tools.

Physicians and clinicians in training must acquire critical skills for handling medical instruments. At the same time, they must gain experience working with the human body. Symbionix’ training simulators let physicians practice endoscopic procedures without having to use live patients. The simulator enables a virtual experience that is realistic—gravity, resistance factors and on-screen graphic representations duplicate the feel and look of working with a real scope inside a real patient. The simulators work in real time, allowing instructors to both monitor trainees’ performance and also adjust the training for different skill levels.

Using Symbionix’ simulators, medical professionals can now develop competency in handling scopes and navigating through the human body. They can enhance hand-eye coordination as well. Equally important, they can achieve familiarity with a variety of situations they might encounter during an actual procedure.

Motion tracking is an important component of these sensitive training tools. Students hold an actual endoscope in which the fiber optic camera has been replaced by a motion tracking sensor. As the student inserts the scope into a life-size anatomical model, the position and orientation data of the sensor is transmitted via the tracking unit to the host computer,

where a screen displays what the camera would show inside the patient as the scope moves.

Symbionix’ GI-Mentor is used to perform upper and lower GI diagnostic and therapeutic procedures. It employs an Ascension Technology miniBIRD 800 motion tracker. The Uro-Mentor, used in training for urethroscopy, cystoscopy, ureteroscopy, nephroscopy and laparoscopy, employs Ascension’s new miniBIRD

500 tracker. Because the Uro-Mentor procedures are performed in the body’s narrower access channels, Ascension had to reduce the sensor size from 8mm to 5mm. Without this critical miniaturization, the scope’s size and feel could not be accurately imitated.

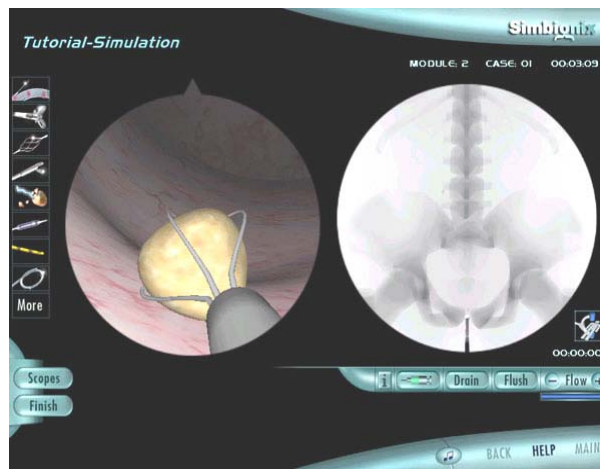


Image courtesy of Symbionix, Ltd.

“Symbionix’ medical simulators will do for medicine what flight simulators have done for aviation: give students an interactive training experience that prepares them for real-world experiences. Procedures can be practiced as often as required to develop new skills. At Ascension, we are pleased to provide the enabling tracking technology that makes these new training tools a reality,” says Jack Scully, Ascension’s Vice President of Marketing and Sales.

Symbionix has been endorsed by medical authorities and institutions worldwide. The company is currently garnering attention from several of the world’s foremost medical equipment providers. Beta testing sites in Germany, France, the United States and Israel provide medical validation of Symbionix products.

Combining the technologies of force feedback, computer graphics, endoscopy and motion tracking, Symbionix gives the medical world training methods that eliminate the need for live patients or animals. Simply put: the future of MIS training is simulation and the future of simulation is Symbionix.