Robotic Marathon Targets Continue to Evolve

Representatives from Marathon Targets Pty Ltd (Booth 2741) are happy to discuss the success of the Australian company's robotic smart small arms targets have enjoyed since I/ITSEC 2013.

"I think the big over-arching theme is that multiple end users have now evaluated the smart targets and concluded that they have unique - and perhaps unprecedented? – training value and this is fueling rapid adoption across global militaries," Ralph Petroff, President – North America for Marathon Targets, told *Show Daily*.

"These smart targets are now becoming 'mainstream' products for both elite and regular units around the world. For example, we currently have customers on three continents and expect to be on five continents by I/ITSEC 2015."

The Australian company's target comprises a human-sized all-aspect 3D mannequin mounted on a four-wheel autonomous mobility platform developed by Marathon, which is able to traverse moderately rough terrain.

The mannequin is made from durable plastic which will withstand hundreds of shots before easy replacement, while the mobility platform is protected by armor plate. The targets use GPS and a scanning laser rangefinder for navigation, positioning, and obstacle detection and avoidance.

The mannequins can be easily 'clothed' to represent enemy forces, friendly forces or civilians. The targets replicate humans by moving at various speeds and by turning abruptly.

When the mannequin is shot, it tips over at the waist to indicate a hit. When targets are operating as a group, they can be programmed to respond by scattering, as civilians are likely to do, or react as an enemy might do either by moving behind cover or advancing toward the firer. Stationary or rugged laptop computers can be used to program the targets.

A recent Marine Corps Warfighting Lab Moving Target Engagement Test showed over a 100% increase in marksmanship in 'just a few days' with shots per kill dropping from 4.7 shots down to 2.3 shots," said Petroff. The US Army has deployed the targets to at least five bases for evaluation and training and has bought additional targets.

"The latest robots have a whole bunch of under-the-hood improvements including a higher top speed, increased performance on more rugged terrain, and armor enhancements," said Petroff.

"And software advances to heighten realism. For example, the robots can now function as an attacking robotic OPFOR that can assault a position either in a human wave assault – or by fire and movement – bounding from one obstruction to another."

"The range of wireless communication has also been increased by the use of wireless repeaters that extend the range to almost 2000 meters," said Petroff.

"For qualifying purposes, the robots can also function as standard 'movers', pop-up targets, or even stationary targets. Including autonomous target mode, the robots are effectively four target systems in a single product."

Marathon has custom-designed a trailer which can be used to transport up to eight targets.

"The trailer is a multipurpose vehicle that also functions as a radio transmitter, command and control center, work bench, and battery charging station all powered by an on-site generator," explained Petroff.

"On a previously mapped range, robots can be put into action in less than five minutes after the targets' arrival. Almost any range can be turned into a state-of-the art moving target range in just a few hours, saving millions in construction, earth moving, underground infrastructure, and years of lengthy approvals."

DAQRI Spotlights Augmented Reality Designs

First time exhibitor DAQRI (Booth 659) is using I/ITSEC 2014 to spotlight several of its augmented reality designs.

Founded in 2010, DAQRI has grown to become the leading global augmented reality company, according to business development lead Kevin Weafer.

"The definition that we like to use for augmented reality is that it's a software that allows for the superimposition of computer graphics on the real world," he said. "And one of the things that distinguishes us, in this setting in particular, is that 'real world aspect.' As opposed to virtual reality, which is mostly goggle and headset use to create a specific simulated environment, for augmented reality our 'targets' can be essentially anything. Any subject can serve as a 'target' for us."

He added that the company can then apply its reality augmentation on top of that 'target,' "depending on the goals and objectives of the partners that we have."

"You look at the subject matter, which we call the 'target,' and data that has been built into the app is rendered in four dimensions," he said.

Products highlighted on the I/ITSEC booth include the company's 4D Studio licensed product and the new Smart Helmet, which is a heads up display unit that can be worn in any industrial environment.

"In the end, core to all our tools is the software that we build," Weafer said.