

Debuting in Boston: a 250-pound robot to help soldiers stay alive The Boston Globe

By Hiawatha Bray, Globe Staff | May 14, 2007

Brian Hart lost his son to a roadside bomb in Iraq in 2003, and ever since he's been looking for ways to save soldiers' lives.

His latest idea is the LandShark, a six-wheeled robotic vehicle that vaguely resembles one of those miniature bulldozers you sometimes see at construction sites. But at 250 pounds, it's a good deal smaller. And instead of a driver's seat on top, there's a video camera encased in a clear plastic bubble.

A soldier with a LandShark can remotely detonate a bomb or probe a roadway for booby traps, without risking his life. And with a price half that of other military robots, the Pentagon could afford to buy a lot more of them.

In the rear parking lot of Black-I Robotics Inc. in Tyngsborough, cofounder Richard Hart sits on the pavement, twiddling knobs and joysticks, putting the LandShark through its paces as his brother Brian looks on.

"We're not a big defense contractor," said Brian Hart, whose previous business made automated drug-dispensing equipment for pharmacies. "They don't wash their hands without a government grant." Instead, Hart has financed development of the LandShark with his own money.

Hart, 47, has a habit of drawing entrepreneurial energy from the tragedies of life. He was a liberal arts major in college, and later picked up an MBA from the University of Texas. But when his father died in a hospital in 1987, after a nurse gave him the wrong medication, Hart launched Telepharmacy Solutions Inc., a Billerica firm that automatically dispenses medications, using prescription data sent over a computer network. He sold the company in 2002 to AmerisourceBergen Corp. and was planning to take an executive job there.

Then came the death in Iraq of his son, John Daniel Hart, at age 20. Hart quit his career to lobby for better armor and defensive systems for US troops. In 2005, a television news report on the war set him on a different course.

"Richard and I started this company when we watched on CNN a lance corporal push a bomb off the road with his Humvee, and it blew up," Hart said. "That was it. We started buying parts the next day."

Hart wanted to build a robot capable of doing such deadly work. Existing military robots like the iRobot PackBot could never have pushed a bomb-laden truck out of the roadway. But Black-I's LandShark is capable of shoving a vehicle weighing up to 11,000 pounds over a short distance.

Indeed, just about everything on the LandShark is optional. It's a cheap, heavy-duty platform designed to let soldiers attach a variety of lifesaving gadgets: sniper-detection sonars, bomb detectors, minesweeping gear. It can zip down a road at 15 miles an hour, or crawl along, dragging steel hooks to snag and detonate trip wires. Or it can roll out to an exposed position in no man's land, where a wounded soldier could hang on and be dragged to safety.

Apart from a costly high-quality video system for guidance and surveillance, the prototype LandShark is strictly off-the-shelf. It's made of cheap welded steel, driven by a pair of high-powered German-made electric motors and powered by three heavy-duty car batteries. The robot uses the same costly controller system used by other military robots, but that's because Hart wants the LandShark to be compatible with the gear that soldiers already use.

Total price for the base model: \$25,000. That's less than half the cost of an iRobot PackBot. Because of its

simple construction, the LandShark can be repaired and maintained by the same people who fix Humvees and tanks.

"Robots for the common man," Hart said.

The LandShark makes its debut at the RoboBusiness 2007 show in Boston this week.

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