

Robot firefighters help mitigate hazardous conditions

October 7 2012, by Nancy Owano



(Phys.org)—Events worldwide remind us of the fact that modern-day fire-fighting has taken on added complexities such as explosions, chemical leaks, and nuclear accidents. In fact it was after Fukushima that two brothers in Waterboro, Maine, resolved to start making their fire-battling robots. The two had been working with the military and they realized how applicable their machines might be to help out in natural disasters. "We could have helped out in Fukushima," they said, and they resolved to come up with robots that can reduce the exposure of human

firefighters to out-of-control fires.

Their company, Howe and Howe Technologies, offers a set of robots, in modular fashion, that are designed to clear paths, pull debris and bodies out of the way, and spray water, and the robots can be transported on an all-terrain customized truck. The Howe and Howe portfolio of robots includes the "Guardian" that uses its [robotic arm](#) to move debris out of the way of the disaster scene, the "Terra Maxa," to clear the way with a plough, and the "Thermite" which uses a multidirectional nozzle that can spray 600 gallons of water every minute.

Howe and Howe Technologies have commercialized their firebots for sale. The two brothers note that their helpers are not intended to replace [firefighters](#) but to be another tool that human firefighters can use to save lives including those performing the [rescue operations](#). The idea is to use the robots to bring the situation under control. Once under control the firefighters can go in to continue putting out the fire and assist victims.



The Thermite is the centerpiece, a fire-fighting and emergency response [robot](#) propelled by caterpillar tracks which is remote-controlled from up to 1/4 mile away. The robot is hand-made from steel and aircraft-grade aluminum. The Thermite is small and compact enough to go through average door widths. Startup time to assume full robot functions is five seconds.

The robots can arrive at the scene on the back of a truck called the "Bulldog," a non-robotic component that acts as the water source for Thermite. The truck is outfitted with 54" tires and can cross rugged terrain.



The creators developed the robots over three months. They were helped by a grant from the U.S. Department of Homeland Security, which is interested in new gear for first responders. The Thermite alone would cost \$98,500.

More information: howeandhowe.com/robotics.php#

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