

ROBOTS DESIGNED TO SAVE PEOPLE'S LIVES

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Nowadays robots are the best human's helpers. They can do probably everything (apart from continuing the human race of course). You need to wash the dishes or do some louder? They can do that! You need to save someone's life? Yes, you guess right, this is also in their power to do.

When you have money to burn, robots are the best kind of first responders: the disposable kind. Bomb-squad bots are already a common tool for local law enforcement agencies and the military, but remote-controlled firefighters are just now making it into the field.

A team of robots built by London-based Qinetiq has recently started responding to a very specific threat: fires involving Acetylene gas. When (human) firefighters detect or even suspect the presence of these explosive cylinders in a blaze, they generally cordon off the area for up to 24 hours – then wait for the fireworks. But when the hazard zone covers a rail line, this can cause major train delays. So while it might not sound as heroic as plunging into a burning orphanage, a robotic solution could save money (thousands of dollars per hour, according to Qinetiq), and prevent human responders from walking into a potential bomb.

Over a test period of six months, Qinetiq has been commissioned to deploy a robo trio to Acetylene-related incidents. A Talon robot, like the ones used for Explosive Ordnance Disposal in Iraq, assesses the situation using thermal and video cameras. A much larger, construction-oriented bot, the 2160-pound Brokk 90 can then tear through walls or shove vehicles out the way. And if it looks like Acetylene cylinders are present, the ATV-size Black Max can use a high-pressure hose to douse the area. All of these robots are remote-operated, with no autonomous capabilities.

Not surprisingly, this isn't the robotics world's first shot at firefighting. Las Vegas-based InRob Tech has developed the 2070-pound FFR-1, a fire-resistant, remote-operated model that could respond to fires in confined spaces or hazardous environments, such as a chemical plant. However, InRob hasn't announced any orders for the FFR-1, and at press time, the company had not responded to e-mails or phone calls.

Another one example of useful vehicle is a robot that imitates the movement of cockroaches. Its latest version could potentially help find survivors in the ruins of an earthquake.

Called the dynamic autonomous sprawled hexapod, or DASH, the robots were designed to survive falls and unstable conditions. Recently researchers released an update which introduced "DASH + Wings". The robot can move at 1.3 meters per second and climb 17 degree inclines.

You should hear about another useful for us kind of robots too – MIAMI (CBS4). American soldiers know when they go in to battle there is a chance they may not make it out alive. It's these losses that have the military testing new technology. Robots will soon replace human medics.

It's the future of battlefield medicine. Imagine a robot four wheeling its way through a cross fire to evacuate a wounded soldier, and think about that same robot assisting or in some cases replacing human medics on the ground.

Doctor Alex Bordetsky is leading a team of researcher in a series of field experiments at Camp Roberts in Monterey County, California.

"Saves lives, in a big way, I hope, because it saves time," he said.

The team monitors the simulated battlefield's condition and the soldier's vital signs through prototype sensors in their uniforms. Robots deployed on the ground or as small helicopters are sent to find and help soldiers.

Thanks to advances in GPS and real time data feeds the robots already know which soldiers are the most seriously wounded, where they are and how to get there.

"Previously we would be controlling at every millisecond, the behavior of the mechanical device," Bordetsky said. "Right now we are only sending wave points instead of just communicating everything through verbal descriptions between the unit members. They are getting picture, they're getting data and a shared log of information."

The information sent to doctors may allow them to diagnose and even begin treatments from afar. Doctors might some day trigger the injection of preloaded drugs through so called "nano patches", which future soldiers would wear right next to their skin.

What you're seeing is the ability to extend human capability outside of our hands and arms, and to rugged and remote environments," said doctor Ray Buettner, director of Tactical Exercises. "Now technology is enabling us to be far from the doctor, sometimes thousands of miles from the doctor and still doing the things that make the difference between living and dying.

Although it's now developed for the military, the technology could someday be used to save the lives of police officers and firefighters.

So, that is how they like, humans of future. Yes, they say that someday robots could literary replace us and live in their own way. But happily for now they just help us to live more comfortable and safe.

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