

Lead The Way

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My Other Battle Buddy

The Regiment and its Soldiers have to keep pace with growing technologies to continue to be relevant on the battlefield. The acceleration of technology is growing exponentially: What used to take twenty years to progress now takes five.

A pleasant surprise we've seen in the last five years is the birth of a new friend on the battlefield—the robot. No more going out and investigating whether an improvised explosive device (IED) is real or fake. Got to clear a danger area? Call on your “Other Battle Buddy,” the robot. The technology that went into building today's robot gives us enough situational awareness to allow us to make an informed decision. How much better will robots be in another five years?

Unmanned aerial vehicles (UAVs) were used in combat before the ground versions. World War I started the concept by miniaturizing the Sopwith Camel and controlling the plane with radio frequencies. We continued to use UAVs in World War II as a training aid for anti-aircraft gunners and also as attack aircraft.

The first use of ground robots in combat was at the Battle of Normandy in World War II. The German army's engineers operated a robot called the Goliath. The robot was 2 feet wide and 4 feet long and carried approximately 200 pounds of explosives. Operated by a German sapper using a telephone cable, the robot was designed to engage tanks and infantry formations and destroy buildings and bridges.

The Regiment's engineers are learning to use robots as a part of framework operations. For route clearance teams, using robotics is an everyday occurrence. Mounted on the exterior of vehicles, robotic arms and cameras allow



Soldiers to investigate potential hazards without exposing themselves to the possible threat.

Robots unconditionally trust you to make the necessary decisions, and they are willing to go anywhere and do anything for you. You communicate with them either through a set of wires or by electronic signals. The speed of that communication is getting faster with the improvement of the computer (brain) and your reaction time, which will improve the more you work with your Other Battle Buddy.

What kind of improvements will we see in future robots? Some things we can expect is a better interface than what we're using now. The Army is working on a 3D simulator that trains Soldiers to go out on a patrol. It is only a matter of time before that type of interface is available for you and your robot out in the field.

A robot isn't limited by the size that we humans grow up to be: The size of a robot is entirely dependent on the task we require it to do for us. Routine tasks such as filling Hesco® barriers, searching confined areas, digging fighting positions, pulling security, recovering vehicles, performing routine maintenance, breaching obstacles, emplacing anchorage systems, surveying terrain, and crossing gaps are just a few tasks a robot can accomplish for the Regiment.

So let's hear from the Regiment. What are your opinions of your Other Battle Buddy? What would you like to see from tomorrow's robot? Send your ideas to me in an e-mail at <bobby.wells@us.army.mil> and we'll include them in the next issue of the *Engineer Professional Bulletin*, along with an exclusive interview by one of our engineer Soldiers with a combat-tested robot that just returned from a deployment.

Stay safe.

“Where a new invention promises to be useful, it ought to be tried.”

***—Thomas Jefferson (1743-1826), U.S. Founding Father,
drafted the Declaration of Independence, third U.S. President***