

## IAI's military robot acts like barber in charity role

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(PhysOrg.com) -- In robotics, three hands are better than one, in the form of a device that has been developed by Intelligent Automation Inc (IAI) for use as troop support. The Multi-Arm Unmanned Ground Vehicle (MA-UGV) is the name of this device from the Rockville, Maryland, R&D company that focuses on AI applications. The three-armed robot can protect troops by lending its handling skills to carry out backback inspections for explosive devices, for example, and, to use the military term, "disarm" Improvised Explosive Devices (IEDs).

IAI has produced a set of impressive videos that show how the robot, whether cutting wires or tying knots, or extending its mechanical joints for better reach and precision, has capabilities to perform tasks requiring complex manipulation under military-type scenarios.

Fingertip positioning and grasp are especially impressive as shown in the videos; the robot is capable of using a 29 degree of freedom system and the robot is shown deftly handling IEDs. It has three cameras, with pictures beamed back to a computer. The integrated video feeds from the cameras on the end of each arm are designed for better situational awareness, including depth perception.

The MA-UGV was developed with support from the U.S. Army's Tank Automotive Research, Development and Engineering Center (TARDEC).

A focus by the U.S. Army on ground vehicle technology solutions to safeguard the lives of troops comes as no surprise and has kept robotics teams busy, considering the heavy toll of fatal [explosive devices](#) in Afghanistan and Iraq. Last year, the Harris Corp. in Melbourne Florida, made news with its robotic arm using haptic technology, to enable soldiers to disarm IEDs. Paul Bosscher, a robotics engineer at Harris, described the impressive features of its device to ABC News at the time. "The robot can cut wires, pull blasting caps, surgically defeat the explosive device and in the process save all of this forensic evidence that they use to ID who the bombmakers are what their bomb-making methods are," Bosscher said. The device was shown last August at the Association for Unmanned Vehicle Systems International convention in Washington DC.

All such devices are considered a step up from endangering a human in a bomb suit who is asked to cut wires off an explosive device. With all the novel techniques and designs in robotics for troop and mission support,

however, IAI's three-armed robot has been the most successful in generating entertainment and in turn recognition. The MA-UGV was given the role of barber in this year's charity event to raise funds for cancer research. The MA-UGV video of the robot cutting the hair of a volunteer has drawn many compliments among viewers, not so much for the genius of the [robot](#) but rather for the courage of the man who agreed to sit in the chair.

**More information:**

via [IEEE](#)

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