Canadian Company to Create Breakthrough Technology that Could Save Lives in World's Combat Zones

Toronto, Ontario, March 26, 2008 — The top Canadian Commander in Afghanistan calls them "the weapon of choice" among insurgents. They've been referred to as a "fact of life" in today's non-traditional war on terror, and have claimed Canadian lives at a rate that outpaces deaths from all other combat activities combined. Crude bombs known as IEDs (Improvised Explosive Devices) have forced Canada's military to explore new ways to better deal with the scourge, and closer to home, one Canadian company has been tasked to create innovative new technology that will allow soldiers to detect, manipulate and eliminate them — all from the safety of their convoys thousands of yards away.

Quanser Consulting Inc., a Markham, Ontario-based company specializing in state-of-the-art robotics and control systems, has received assistance from the National Research Council Canada Industrial Research Assistance Program (NRC-IRAP), to create a prototype for a new, high-speed Unmanned Ground Vehicle (UGV). Representing a new pinnacle in cutting-edge, remote-control systems, a high-speed UGV will give military convoys a significant edge as they make their way across unexplored territory. Quanser's aim is to give these teams the ability to deploy a remote-controlled scout far ahead, searching out suspected IED locations and sending critical information back to their controllers.

"We are both honoured and excited to be given the opportunity to create technology that gives our military any advantage," says Paul Gilbert, CEO of Quanser Consulting. "While being in harm's way is a fact of daily life for them, we're developing leading-edge tools that will potentially save lives and keep them coming home."

Current UGV technology is slow, making bomb disposal teams easy targets for ambush and often resulting in accidental UGV flip-overs when users attempt to operate the unmanned vehicles at higher speeds. Quanser's new UGV technology will incorporate its revolutionary innovations in the emerging field of 'haptics,' an area of science that deals with the sense of touch for controlling virtual objects, with applications for the remote control of machines through vibro-tactile and force feedback. Apart from simply achieving faster speeds — up to 25mph versus the current 6mph — the advanced UGVs will allow users to "feel" what's happening to the remote unit, giving them a more realistic sense of the terrain and increasing the chance of success. With this technology, convoys will spend less time as targets while they deal with the immediate IED threat. As a result, reconnaissance may be conducted faster, potentially saving lives.

"The challenges of a creating a fully haptic-enabled UGV are substantial," says Gilbert, "but given our advances in this field, will ultimately result in a cutting-edge piece of technology to advance current UGV programs." According to Gilbert, accurate haptic control requires a closed loop rate of 1000 Hz. Plainly stated, this means the machine and the user must be able to communicate with input and output information at a minimum of 1,000 times *per second*. Advanced sensing technology will also be incorporated to ensure the UGV is as intuitive as possible.

Quanser's UGV development began in January 2008 after being awarded with $400,000 in funding from NRC-IRAP. Development will continue throughout the year and a prototype is expected by the fall, with the aim of producing fully deployable units by early 2009. With approximately 1,500 UGV units currently employed by the US and Canada for military purposes, this technology wields great potential to improve mission success and save lives.

In addition to military use, the significance of Quanser's advanced UGV technology may be felt in myriad other applications, from hazardous materials disposal to search-and-rescue operations, to crowd and border patrol.

About Quanser
Founded in 1990, Quanser is a world leader in the innovation and development of advanced control systems for industry, education and research. Quanser provides flexible, real-time solutions for complex control problems – from design to manufacture to OEM implementation – taking concepts, products and research to the leading edge. Quanser's flexible state-of-the-art control technology is currently employed worldwide in a diverse range of applications, including aerospace, robotics, medical assistive devices and the emerging field of haptics.

For more information about Quanser, visit www.quanser.com.

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