Silvus SC3500 MIMO Radio Delivers Bidirectional Link in Excess of 16 Mbps NLOS to Untether Bomb Squad Technicians Using Taurus Robot

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Application

Silvus Technologies MIMO radios allow EOD technicians to operate high throughput hungry systems like never before thought possible. Advanced wireless capabilities have not been available to bomb squads, who have had to rely on a tethered approach, until now. With Silvus' cutting edge MIMO radios, EOD UGV operators can now wirelessly examine suspicious objects with 3D HD video and haptic feedback precision from safe NLOS distances of a few hundred meters.

Figure 1. Silvus SC3500 MIMO Radio in background used by Bomb Squad tech operating Taurus on an Andros robot

SRI International developed the Taurus dexterous tele-manipulation robot for bomb squad technicians to remotely engage with improvised explosive devices (IED). It enables surgical-like precision in a small frame that is attached to existing UGVs.

The Taurus consists of 2 independently controlled '7 Degree of Freedom' (DOF) arms and 3D HD stereoscopic cameras requiring over 16 Mbps of throughput, low latency and high frequency stability. It delivers hi-def 3D images and haptic feedback to a bomb disposal technician

from a safe Non Line of Sight (NLOS) distance of a few hundred meters.

Customer Feedback

"The Silvus MIMO radio is the only radio we found that will allow us to operate the Taurus and provide the EOD operator the ability to effectively utilize the system at a safe NLOS standoff distance. We tried other communications systems and they simply did not work." - Tom Low, Director, SRI International.

One SC3500 Replaces up to 3 Radios

Existing UGV systems that use unidirectional COFDM based technologies can require up to 2 radios to deliver video and Command and Control data. With the addition of further capabilities, the radio requirements can even increase to 3 radios to operate a single UGV. The Silvus SC3500 IP radio is a high throughput full duplex solution that allows multiple streams in either direction to be carried by the same radio. The result is a more compact and cost effective solution.

Figure 2. SRI Taurus on Andros robot