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Licensable Technologies

Explosives Ordnance Disposal Using Endoscopic Tools

Applications:

- Render-safe operations for explosives ordnance disposal

Benefits:

- Minimizes target penetration and manipulation
- Reduces time at target location
- Allows tools to be retrofitted to existing fiberscopes
- Enables a variety of tool attachments

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Summary:

Military and law enforcement tactical groups often use video and fiberscopes to investigate and characterize potential explosive devices in a minimally invasive fashion. However, these tools are limited to observation and diagnostics. Explosives Ordnance Disposal (EOD) experts and federal, state, and local bomb technicians must use other tools to disarm, or render safe, a device. Render safe procedures may require extensive manipulation or penetration of the device and pose high risks to the personnel and property in the area.

LANL personnel use an endoscopic tool mounted on a fiberscope to render safe a mock explosive device through a small breach in the device casing.

Working in partnership with EOD and bomb tech personnel, engineering scientists at Los Alamos National Laboratory (LANL) have developed a suite of tools and techniques that greatly reduce both the time and invasive manipulation required for effective render safe techniques. The LANL team has adapted commercially available endoscopic tools and techniques for use with existing video and fiberscopes specifically designed for EOD operations. The endoscopic tools are used in conjunction with video or fiberscopes by the addition of an external lumen or channel, which is highly flexible and manipulative for this application. This lumen can accommodate a variety of different tools, including drills, sample collectors, liquid applicators, and even small energetic disruption systems.

Using the endoscopic tools, tactical teams would be able to disrupt or disarm explosive devices with a single set of tools by creating only a small breach. This drastically reduces the manipulation required to work with the device and expedites the render safe application.

Development Stage:

Prototype built and tested.

Patent Status:

Patent application in process.

Licensing Status:

This technology is available for exclusive and non-exclusive licensing.

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