

Background

Current sensitive site assessment (SSA) operations expose Warfighters to hostile forces and environments to take and retrieve numerous samples. Currently, the only capability to assess a facility involves troops with “boots-on-the-ground.” A capability is needed to survey sensitive sites remotely through automated means.

Stakeholders

Program Manager – Defense Threat Reduction Agency Joint Science and Technology Office (DTRA JSTO)

Technical Manager – U.S. Army Edgewood Chemical Biological Center (ECBC)

Operational Managers – MARFORPAC; 20th SUPCOM

Transition Managers – JPM NBC Contamination Avoidance; JPM Guardian

Strategy

Evaluate a contractor developed man-portable or unmanned ground vehicle mounted detection system capable of rapid detection and identification of multiple liquid and solid chemicals of concerns (e.g., agents, precursors, degradation products).

Demonstrate capability:

- Technical Demonstrations (TD)
 - Laboratory evaluation of detector (TD0)
 - Integrated system – detector and UGV (TD1)
- Operational Demonstration (OD) – included scenarios for manned and unmanned operations

Assess capability:

- Operational Test Agency Assessment Report (OAR)
- Joint Military Utility Assessment (JMUA)
- Technology Readiness Assessment (TRA)

Major Goals/Milestones by Fiscal Year

FY09: Algorithm Benchmark, Risk Reduction

FY10: Competitive Prototype, Industry Awards, Test Planning, Laboratory Evaluation

FY11: Technical Demonstration, TRA

FY12: Operational Demonstration, JMUA, Final TRA, Reachback Demonstration

FY13-14: Extended User Evaluation (EUE)

Benefits

- Increase speed of analysis relative to manual sampling
- Sensor integration on unmanned platform to autonomously map a contaminated area and reduce risk to personnel performing SSA operations
- Provide data for future Analysis of Alternatives

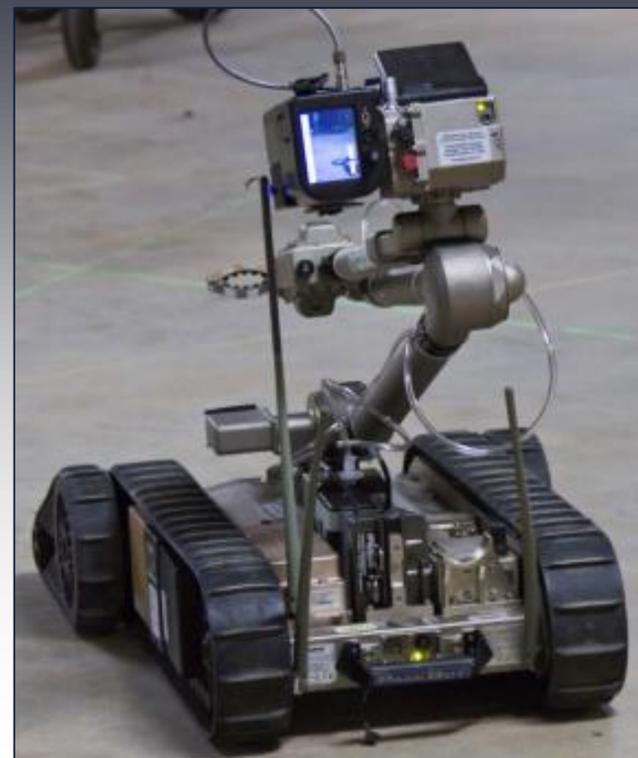
FLIR Systems

Sensors:

- Avalon (chemical agent identifier) – Raman spectroscopy, IR laser, 785 nm wavelength
- MultiRAE Plus (toxic industrial chemical/homemade explosive monitor)
- Radiac Set AN/UDR-14 (neutron/gamma radiation dose detector)



Robotic Platform: iRobot PackBot 510



Mapping Package: integrated system includes a front mounted LIDAR sensor and a user assist payload (for semi-autonomous operation)



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