



CBRN Unmanned Ground Reconnaissance (CUGR) Advanced Concept Technology Demonstration (ACTD) Program

OPERATIONAL OBJECTIVE

- Take warfighter out of harms way
- Go places where larger manned reconnaissance vehicles can't:
 - Tunnels, caves and possible hostile or unknown hazard areas
 - Urban areas and buildings
 - Sensitive Site Exploitation

TECHNICAL OBJECTIVE

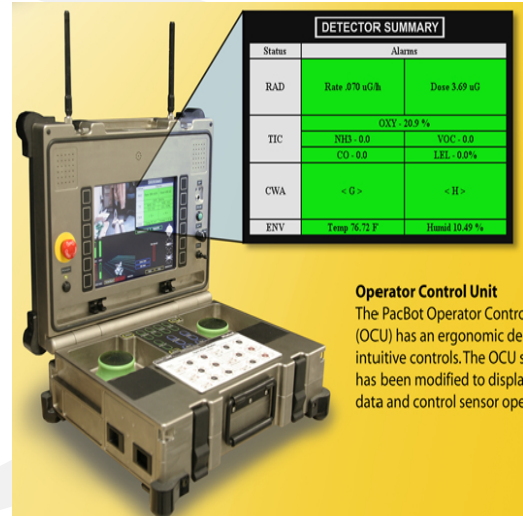
- Detection of:
 - Oxygen Level
 - Lower Explosive Limits
 - Volatile Organic Compounds
 - Gamma Radiation
 - Toxic Industrial Chemicals
 - Chemical Warfare Agents
- Collect chemical air samples

TECHNICAL APPROACH

- Integration of currently available and mature detectors onto a proven unmanned robotic platform.
- Transmit detection data from sensors on the robot back to the operator using existing robot communications.
- Clearly display detection data on robot control station.
- Use proven sorbent materials in a vapor collection system
- Control of detectors and samplers from robot control station.



The CUGV was tested to ensure that the integration of sensors and robot provided reliable transfer of sensor data to the operator. Testing was also performed to ensure that the integration did not degrade performance of the PackBot EOD below the MTRS performance requirements. Tests included over 150 hours of environmental, mobility and obstacle tests.



Operator Control Unit
The PacBot Operator Control Unit (OCU) has an ergonomic design with intuitive controls. The OCU software has been modified to display sensor data and control sensor operation.