

MILITARY GROUND ROBOT
\$2.2M

Defense

Project
Management



Mechanical
Engineering



Systems
Engineering



Electrical
Engineering



Software
Engineering



GROUND REMOTE CONTROLLED ROBOT FOR MILITARY APPLICATION

APPROACH

- Transitioned client design from a proof of concept prototype state to a production representative design to build verification test and runoff competition units
- New platform incorporated a very modular design and architecture, and our team was responsible for seven (7) modular sub-systems
- Used a multidisciplinary team made up of PM and SE to guide the programmatic and technical direction of the project, with ME, EE, and SW tackling the different modules

RESULTS

Modules we worked on included:

- Five-axis manipulator arm (mechanical components, overall systems integration, and motor controller firmware)
- Camera modules (E/O and thermal imaging integration over USB 3.0 with two-way audio)
- Radio packaging (Silvus Radio) and thermal testing
- Fiber-optic deployment module for RF free control of the system up to 100 yards (including a disposable element as well as plastics and electronics packaging)
- Chemical, Biological, Radiological, and Nuclear (CBRN) sensor mount to accommodate 4 different Commercial off the Shelf (COTS) sensors with data and power interface back to the chassis

KEY TECHNOLOGIES

- Injection Molded Composite Filled Plastics
- Structural FEA
- USB 3.0
- Rigid Flex
- IP67 and MIL-810G Environmental
- Design for Manufacturing and Assembly