

“Home Grown Robots”

Robotic Applications in North Carolina

Inspection Solutions



Three Main Application Types

- Pipe / Culvert
- Low Clearance / Crawl-space
- General Outdoor / Security

Pipe Inspector

Pipe and Culvert Inspection



Specification

- Fits 10+” Pipe and Ductwork
- Front 10x PTZ Camera
 - Position Presets
 - Sweep and Drive Programs
- High Power LED Assembly
- Rear IR Camera
- Tethered Control System rated for 500ft

MLT-42

Low Clearance and Crawlspace



Specification

- Fits 18" Pipe and Ductwork
- 27x Zoom Camera
- High Power LED Assembly
- Wireless Control System (Tablet)
- Tethered Option



4WD Inspector

Outdoor, Telepresence, and Security



Specification

- 10x PTZ Camera
 - Position Presets
 - Sweep Patterns
- High Power LED Bars
- Wireless Control System (Tablet)
- 2-Way Audio VOIP Option
- Tethered Option
- Docking Station Option

First Responder Solutions



Tactical

- Room Clearing, Surveillance, Negotiation
- Multi-Role EOD

Fire and HAZMAT

- Multi-Role HAZMAT and Detection

MLT – Jack Russell

Rugged and Throwable Compact Surveillance



Specification

- Droppable up to 10 Feet
- 4 Hour Run-Time
- Weights less than 9 pounds
- Digital Control System
- 2-Way Audio VOIP Option

LT2 - Bulldog

Multi-Role EOD and Surveillance Robot



Specification

- 4-, 5-, or 6-axis Manipulator Arm
- 10x PTZ Camera Assembly
- 27x Nose Camera
- Rear and Arm Mounted Cameras
- Flipper Stabilizer Arm
- Digital Control System
- 2-Way Audio VOIP Option

HAZMAT Solution

Shown here on LT2
also available on LT2A, HD2, HD2S



Specification

- Integrates MultiRAE Sensor
 - Readings overlaid on OSD
- Weatherproof
- 27x PTZ Camera Assembly
- Nose and Backup Cameras
- Flipper Stabilizer Arm
- Digital Control System
- Tethered Option
- 2-Way Audio VOIP Option

Engineering Solutions

Project: BoilerBot



Scope

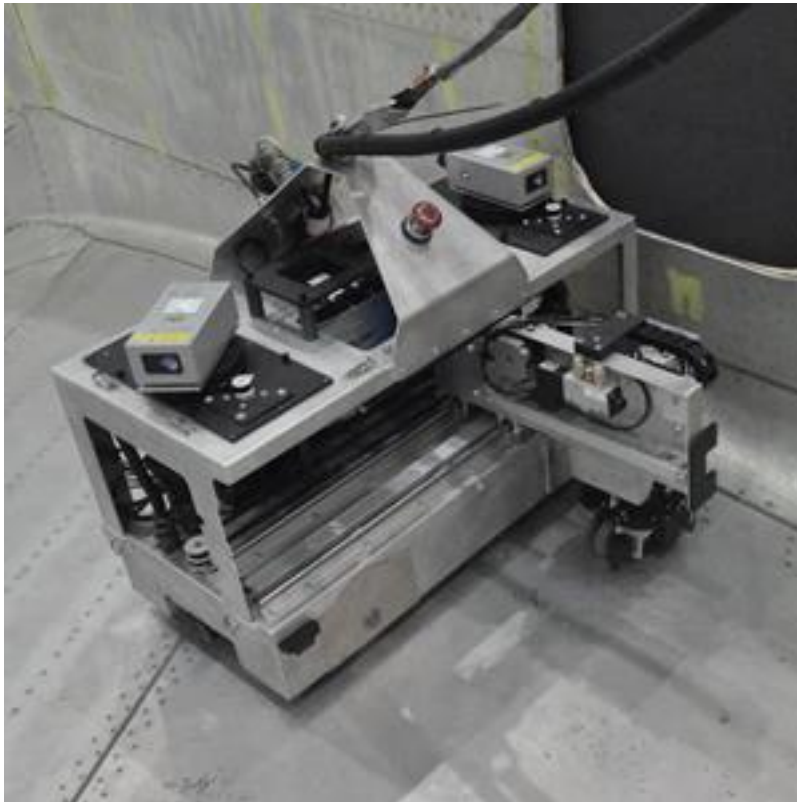
Autonomous Robot to clean and inspect industrial Boilers

Specification

- User Configurable Autonomous Algorithms
- Waterproof
- 360° Articulating Nozzle
- Extending Inspection Camera
- Tethered Controls

Engineering Solutions

Project: Wing Walker



Scope

Autonomous robot to perform nondestructive inspection on airplanes

Specification

- Wing Layout Import
- Integrate with specialized ultrasound equipment
- Autonomous Positioning
- Object and Edge Detection

Engineering Solutions

Autonomous Positioning Solutions



Scope

We've developed several autonomous robots that require precise indoor positioning. Using an array of sensors including: lasers, LiDAR, Sonar, encoders, IMUs (gyroscopes, accelerometers, and compasses). To accurately position robots to a resolution of 1/8" inside of an enclosed space.

These robots then performed a specific and proprietary task.