

CASE STUDY

Integrating Robotics and Vision for Next-Gen Drone Inspection Processes



OVERVIEW

ALTEN replaced manual inspection processes with an automated testing system that integrates robotics, vision systems, and specialized calibration routines across multiple drone platforms. The solution includes platform-specific software modules, precise measurement systems, and complete data tracking capabilities.

Sector	Defense
Customer	OEM Defense Systems
Department	EE SW ME PM SE QE
Product	System
Task	Automated Testing Systems

PROJECT DETAILS

- Three-phase project spanning concept, design, and build & verification
- On-site kickoff for a deep dive into the current inspection process
- Leveraged existing SW platforms developed by the client and optimized them into a single, user-friendly application
- Drone inspection and calibration were automated with COTS robots and sensors, and product-specific custom hardware
- Over 400 unique COTS and custom part numbers specified for this system
- Built and integrated at the ALTEN facility and then delivered, installed, and trained at the client facility
- Regular demonstrations of SW functionality via emulators
- Collaborative effort between ALTEN and the client to continuously understand their system design and use it to improve ALTEN's
- SW was designed with expansion in mind to add additional drone models



SolidWorks | C# | Visio | OEM Robot Simulation Software