



AETOS

member of  MISTRAS

ROBOTIC INSPECTION SOLUTIONS

UNMANNED SYSTEMS CENTER OF EXCELLENCE



AETOS OVERVIEW



Introduction

AETOS, a MISTRAS Group member company, offers a unique and innovative approach to cost-saving inspection solutions for Oil & Gas, Petrochemical, and Infrastructure assets.

AETOS' unmanned systems and robotic inspection solutions allow operators to make sense of their asset's condition and health status, helping operators reduce downtime, improve safety, and increase the useful life of an asset.

AETOS merges years of

aviation, robotics, and technical experience to deploy its broad spectrum of Unmanned Aerial Systems (UAS), Ground Crawlers, and Submersible Remote Operating Vehicles (ROVs). Capable of meeting a variety of on-site requirements, environmental conditions, and industry inspection standards, AETOS uses system attached digital imaging and sensor technology to collect, analyze, and interpret mechanical and operational asset information. AETOS' unmanned systems also remove the need for scaffolding and human

AETOS OVERVIEW

entry in at-height and other hazardous locations.

When a facility requires ANDT inspections, AETOS' provides MISTRAS Group with their inspection blueprint to deploy their full-service suite of NDT solutions for the prompt turnaround of key operating assets.

About Us

AETOS is a specialized solutions provider for Air, Land, and Sea robotic inspections, designed to identify flaws to minimize risk, promote safety, and facilitate prompt return of high-performing assets.

Deployed by MISTRAS Group, Inc. (NYSE:MG), a global leader in nondestructive testing (NDT) and technology-enabled asset protection solutions, AETOS is operated by trained and certified aviation experts who support MISTRAS' entire body of knowledge and capabilities.





Q&A

Are the robotic technologies utilized by AETOS intrinsically safe?

No. However, our aerial systems technology allows us to fly outside of classified boundaries while maintaining the ability to gather detailed inspection data.

How is inspection data from the robotic technologies used?

We use MISTRAS Group industry professionals, API inspectors, and NDT technicians to analyze the data, create actionable reports, and follow up as needed. All raw data and computer generated products are provided as well.

Is AETOS approved to work in my facility?

Yes, AETOS falls under all MISTRAS Group contracts and MSA's that are already in place.

FAQ (FREQUENTLY ASKED QUESTIONS)

Is there a procedure in place to bring this technology into my facility?

Yes. AETOS has integrated the technology into most facilities so that we can be easily deployed at your site. Our documentation guides the permitting process so that operators and robotic work crews consider the circumstances at each unique operating environment.

What is the benefit of using UAS to conduct a survey?

AETOS uses UAS along with a certified surveyor to conduct 3D volumetric analysis and other land surveys with equivalent or better accuracy than traditional methods. UAS can gather data much faster minimizing time on location and is safer because it does not require a survey crew walking the site.

What type of UAS does AETOS operate and what makes it different than what I see in stores?

AETOS uses military-grade multi-rotor UAS for external aerial inspection. Industrial-grade, purpose built UAS are used for indoor operations. These aircraft use extremely highly engineered parts and matched systems for longevity and compatibility. Redundant systems, continuous health monitoring, and pre-programmed safety logic make them robust.

Can AETOS fly UAS to conduct internal inspection?

Yes. We have specific UAS that are capable of flying in challenging indoor environments such as tanks, vessels, boilers, and stacks.

I have some applications where I think robotics could be used to make inspection safer and more efficient. Can AETOS help make this a reality?

Yes. AETOS is an integrator of robotic air, land, and sea technology for inspection. We have relationships with robotic manufacturers to customize or build solutions to meet your needs.

LAND (GROUND ROBOTICS)



AETOS Ground Robotics encompasses a broad and extensive range of Unmanned Ground Vehicle (UGV) designs to meet customer requirements and on-site challenges. Our ground robotics can be equipped with a variety of imaging and sensor technology to inspect for corrosion, cracks, weld defects, or any type of damage that can make an asset unsafe for operation.

Using proven robotic technology, AETOS provides a safe and cost-effective alternative to current

methods of inspection for ground based assets. Each robotic inspection vehicle is configured to conduct various land based inspections for Oil & Gas, Petrochemical, and Infrastructure assets, utilizing specific inspection applications and MISTRAS Group's nondestructive testing (NDT) methods, for:

- Pipelines and Piping Circuits
- Pressure Vessels
- FOD Recovery
- Rail Tank Cars
- Tanks
- Emergency Response

LAND (GROUND ROBOTICS)



To ensure our customers have accessible inspection resources for their entire fleet of assets, our goal is to provide cost effective solutions to eliminate the need for human entry in dangerous and hazardous locations and environments, helping operators reduce asset downtime.

AETOS is consistently working to revolutionize the maintenance and inspection process for operators by performing inspections efficiently, safely, and cost-effectively.



AIR (UNMANNED AERIAL SYSTEMS)



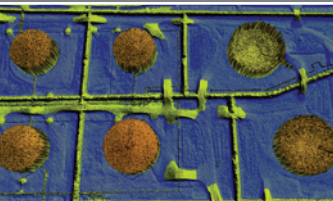
As an industry leader for Unmanned Aerial Systems (UAS), AETOS holds a Federal Aviation Administration (FAA) Section 333 Exemption legally allowing operations in petrochemical airspace, to perform UAS inspections for Oil & Gas, Infrastructure, and Environmental assets.

AETOS deploys a wide range of remote Vertical Takeoff and Landing (VTOL) multi-rotor aircrafts, state-of-the-art cameras and sensors, and Global Positioning Systems (GPS) to collect and analyze inspection information to help

operators cost-effectively improve the safety and efficiency of their operating assets.

AETOS UAS inspection services eliminate the need for human work at height, in hazardous environments, and confined locations. Additionally, by qualifying assets for advanced nondestructive testing (ANDT) with UAS technology, AETOS removes need for scaffolding, inspection preparations, and other unnecessary equipment costs, deploying pre-configured and “ready-to-go” systems.

AIR (UNMANNED AERIAL SYSTEMS)



As a benefit-oriented solution for on-site operators, AETOS UAS technology contributes towards effective turnaround planning and safety, minimizing asset downtime and inspection costs.

AETOS high-resolution and fully integrated cameras and environmental sensors provide aerial data for a variety of Oil & Gas, Petrochemical, and Infrastructure assets, including:

- Flare Stacks
- Open, Closed or Floating Storage Tank Roofs
- 3D volumetric survey/ mapping
- Fugitive emission detection
- Elevated Pipe Trays
- Cooling Towers
- Power Lines
- And much more



AETOS' UAS camera and sensor technology includes:

- High-Resolution Video/ Stills
- Infrared Cameras
- Multi-Spectral and Hyper-spectral Cameras
- Envir. & Gas Sensors

SEA (SUBMERSIBLE INSPECTIONS)



AETOS uses field-proven, highly maneuverable, surface and underwater Remotely Operated Vehicle (ROV) technology. AETOS' submersible inspection systems are designed to provide an effective and safe alternative to traditional underwater inspection methods.

AETOS submersible inspections can be used for a variety of applications including:

- Turnaround planning
- Submerged, in-pipe inspection

- Bridge and pylon inspection
- Environmental monitoring
- Disaster relief and underwater monitoring

Use of ROV technology eliminates the need to deploy manned watercraft and personnel sent into hazardous or confined space locations. ROV's add a high level of efficiency to reduce inspection costs and risk.

Using tethered submersible ROV's, AETOS provides operators with real-time feedback, streaming video and

SEA (SUBMERSIBLE INSPECTIONS)



sensor data from state-of-the-art submersible imaging and sensor technology. Our cameras, sensors, and imagers are pre-configured prior to each inspection and used for a variety of liquid-based inspections applications within shipping areas, canals, dams, bridges, sunken structures, and piping systems.

Our goal is to cost effectively reduce or eliminate the need for human underwater work, in confined spaces, and other hazardous locations, helping assets owners and operators improve their maintenance and inspection processes, while making assets safer, more efficient, and consistently profitable.

Our systems can be configured with a variety of sensor technologies, including sonar, lighting, manipulator arms, and MISTRAS Group's nondestructive testing (NDT) tools. We are able to meet demanding inspection needs and on-site requirements, helping operates reduce and eliminate their asset's downtime.



AIR



LAND



SEA



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