



**One Source for  
Asset Protection  
Solutions®**

OneSource™ for  
**OIL & GAS**  
Asset Protection

+ Upstream + Midstream + Downstream



## OVERVIEW

As a **global leader** in asset protection for the Oil & Gas industry, **MISTRAS Group** (NYSE:MG) provides data-driven intelligence to major **downstream/refining, midstream/transportation, and upstream/exploration & production** organizations to help extend asset lifetimes, reduce costs, and enhance safety.

**MISTRAS**® partners with our clients to serve as their **One Source for Asset Protection Solutions**®.

Our insightful, integrated solutions help our clients **maximize safety and uptime** and remain in compliance with governmental and environmental regulations, throughout all phases of their operations.

Backed by MISTRAS' global resource, knowledge, and support network, MISTRAS' portfolio of **integrated asset protection specialties** for the Oil & Gas industry includes:



**Field Inspections**



**Engineering Consulting**



**Maintenance**



**Access**



**Data Solutions**



**Monitoring**



**Equipment**



**Lab Testing**



**Special Emphasis Programs**

How We Help

# Field Inspections

Individual spot inspections all the way up to custom-designed inspection programs for refineries, offshore platforms, pipelines, and transportation assets.

## FIELD INSPECTIONS

- + Advanced and Traditional Non-Destructive Testing (ANDT/NDT) Services
- + Scanning Systems for Large Structures, including Tanks, Ship Hulls, Vessels, etc.
- + Predictive Maintenance (PdM) and Reliability-Centered Maintenance (RCM) Programs
- + Proprietary External Pipeline Crawlers and Inline Inspection Pigs
- + Inspection Technology Service Packages
  - In-Service Pressure Vessel Testing
  - Tank Bottom Condition Assessment
  - Detection of Active, Localized Corrosion in Steel and Alloys
- + Vibration Testing and Analysis
- + Evergreen Contracts

[inspections.mistrasgroup.com](https://inspections.mistrasgroup.com)



## LARGE STRUCTURE INSPECTION (LSI) SERVICES

MISTRAS' proprietary LSI scanner services are used to inspect larger scale assets, and other structures for significant wear or damage.

- ▶ High-speed corrosion/erosion mapping
- ▶ No scaffolding needed for large assets
- ▶ All files can be exported to Excel
- ▶ Transportable
- ▶ Water resistant and splash proof

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How We Help

# Engineering Consulting

Engineering and mechanical integrity consultations to streamline facility design, enhance safety, improve profits, and optimize operational productivity.

## ENGINEERING CONSULTING

- + Asset Integrity Management/Mechanical Integrity (AIMS/MI) Programs
- + Fitness-For-Service (FFS) Assessments
- + Fixed Equipment Mechanical Engineering
- + Plant Design and Process Optimization
- + Process Safety Management (PSM) Compliance
- + Risk-Based Inspection (RBI)
- + Turnaround Planning, Management, and Reviews
- + Evergreen Contracts

[consulting.mistrasgroup.com](https://consulting.mistrasgroup.com)



## RISK-BASED INSPECTION (RBI) SERVICES

With an RBI approach, you can focus your inspections on the assets that need attention based on qualitative or quantitative risk assessments.

- ▶ Reduce safety risks
- ▶ Make turnaround plans more effective
- ▶ Target resources to critical areas
- ▶ Reduce unplanned outages

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## How We Help

# Data Solutions

MISTRAS' world-class, proprietary data solutions are leading the digital transformation of asset protection, helping operators intelligently manage and gain value from their asset protection activities.



## DATA SOLUTIONS

- + Plant Condition Management Software (PCMS®) – Asset Integrity Management for Fixed and Rotating Equipment
- + Pipeline Integrity Data Management Software Suite Integrated into PCMS®
- + PCMS® Mobile – Mobile Inspection Reporting Platform
- + Corporate and Site-Level Metrics
- + Inspection and Maintenance Scheduling
- + Embedded RBI Calculations
- + Corrosion Analysis and Trending
- + Proprietary Pipeline Defect Analysis Software
- + MISTRAS OneSuite™ – Integrated Asset Protection Software Ecosystem

[dataservices.mistrasgroup.com](https://dataservices.mistrasgroup.com)



## MISTRAS ONESUITE™ ASSET PROTECTION SOFTWARE ECOSYSTEM

The first-ever asset protection software ecosystem that keeps integrity data safe, secure, and accessible.

- ▶ Manage asset integrity data in a single platform
- ▶ Access and cross-analyze PCMS® data
- ▶ Real-time, dynamically updated data
- ▶ Trend data to track progress on key compliance initiatives

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How We Help

# Maintenance

Integrated inspection and maintenance teams keep onsite personnel to a minimum by not only detecting damages, but performing light mechanical services to clean, repair, and protect assets and return them to service as quickly as possible.

## MAINTENANCE

- + Corrosion Removal and Mitigation Services, including Ultra-High Pressure (UHP) Blasting
- + Electrical Services
- + Flange Management
- + Winterization Programs
  - Small, onsite, integrated inspection and maintenance team inspects process conditions, installs/repairs heat tracing, and removes ice build-up
- + Surface Preparation and Coating
- + Welding
- + Insulation Installation, Maintenance, and Removal
- + Industrial Cleaning
- + Pipefitting

[maintenance.mistrasgroup.com](http://maintenance.mistrasgroup.com)



## INSULATION SERVICES

The right insulation is crucial to tanks, piping, spheres, vessels, and other containment assets. Our insulation options include metal jacketing, insulation blanketing, and cladding.

- ▶ Reduce burn risk to personnel
- ▶ Increased productivity
- ▶ Less downtime and maintenance costs
- ▶ Adheres to regulatory standards and compliances

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How We Help

# Access

Trained and certified technicians safely access at-height, confined, and subsea assets to perform a complete range of inspection and maintenance services.

## ACCESS

- + Rope Access
  - At-Height Refinery Assets
  - Offshore Platforms
- + Diving
  - Offshore Platform Supports
  - Offshore and Subsea Pipelines
- + Confined Space Entry (CSE)
- + Unmanned Systems (Drones) – Aerial, Land, Subsea

[access.mistrasgroup.com](https://access.mistrasgroup.com)



## ROPE ACCESS

Our trained, expert rope access technicians can complete inspection, maintenance, and repair services safely and effectively for hard-to-reach assets.

- ▶ Faster and safer than using scaffolding
- ▶ Allows for different traditional NDT methods such as EC, MT, and PT
- ▶ Allows for advanced NDT methods to be performed such as AE, AUT, and GWT

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## How We Help

# Monitoring

Monitoring solutions keep owners informed of potential damages in high-value assets, ideal for tracking hard-to-reach assets that are difficult to inspect frequently.

## MONITORING

- + Aboveground, Buried, and Subsea Pipeline Condition Monitoring
- + Remote Wall Thickness Tracking for Hard-To-Reach and High-Temperature Refinery Piping
- + Online Leak Detection and Quantification
- + Process Equipment Monitoring
- + Structural Integrity of Offshore Platform Supports
- + Storage Tank Corrosion and Cracking



### REMOTE THICKNESS TRACKING

MISTRAS' CALIPERAY® is an ultrasonic (UT) remote thickness tracking system used to monitor piping and vessel wall thickness.

- ▶ Real-time monitoring
- ▶ Continuously collects wall thickness data
- ▶ Increased safety measures
- ▶ Effective planning & reduced costs

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[monitoring.mistrasgroup.com](http://monitoring.mistrasgroup.com)



How We Help

# Equipment

Portable, handheld, wireless, and turnkey Acoustic Emission (AE) and Ultrasonic (UT) equipment, along with corresponding data acquisition sensors and software.

## EQUIPMENT

- + Corrosion, Cracking, and Structural Fatigue Assessments
- + Overnight Condition-Baseline Testing
- + Pipe Wall Thickness Tracking
- + Through-Valve leak detection and Quantification
- + Calibrators
- + AE Equipment and Accessories
- + Online Monitoring Systems

## VPAC™ II: THROUGH-VALVE LEAK DETECTION & QUANTIFICATION

The VPAC™ II is an intrinsically safe (IS) and effective handheld system used to detect and quantify through-valve leaks.

- ▶ Calculates leak rates directly on the unit
- ▶ Increased safety measures
- ▶ Lowered downtime and shutdowns
- ▶ Can store readings for up to 500 valves

[equipment.mistrasgroup.com](http://equipment.mistrasgroup.com)



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How We Help

# Lab Testing

In-house inspection and testing for quality assurance/quality control (QA/QC) of newly-fabricated components to identify discontinuities introduced in the manufacturing process, or to ensure existing components remain fit-for-service.



## LABORATORY QUALITY ASSURANCE / QUALITY CONTROL (QA/QC)

- + Advanced and Traditional Non-Destructive Testing (ANDT/NDT)
- + Chemical Analysis
- + Destructive Testing (DT)
- + Metallography
- + Quality Assurance/Quality Control (QA/QC) Programs

[qaqc.mistrasgroup.com](http://qaqc.mistrasgroup.com)



## LINAC INSPECTION SERVICES

Linear Accelerator Inspection Services, or LINAC was created to perform inspections in nearly half the time it would take for larger scale assets.

- ▶ Radiographic inspections through up to 16" of steel
- ▶ Can be used on small and large assets
- ▶ Much quicker, yet accurate
- ▶ Data can be created within minutes

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How We Help

# Special Emphasis Programs

MISTRAS' proceduralized special emphasis programs use our asset protection expertise to target the unique, uncommon, hazardous, and costly damages that risk the integrity of your assets and facility.

## SPECIAL EMPHASIS PROGRAMS

- + Corrosion Under Insulation (CUI)
- + High-Temperature Hydrogen Attack (HTHA)
- + Sulfidation Corrosion
- + Non-Intrusive Inspection (NII) Program Development
- + Touch Point Corrosion (TPC)

[specialempphasis.mistrasgroup.com](https://specialempphasis.mistrasgroup.com)



## NON-INTRUSIVE INSPECTION (NII)

Our non-intrusive inspection methods are all able to be conducted without any interference nor entry into any assets including tanks, piping, and other assets.

- ▶ No hazards from entry
- ▶ Costs and downtime are reduced
- ▶ Any potential for damage is reduced
- ▶ More accurate inspection planning

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**MG**  
LISTED  
**NYSE**

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to start maximizing uptime and safety.