



MISTRAS

One Source for
Asset Protection
Solutions®

OneSource™ for
PIPELINES
Asset Protection



OVERVIEW

Operating as a multinational leader in asset protection for pipelines, **MISTRAS Group** (NYSE:MG) provides the data-driven intelligence pipeline operators need to help ensure compliance, reduce costs, and extend asset lifetimes.

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

Our specialized pipeline solutions – including advanced non-destructive testing (NDT) and inline inspection

(ILI) services integrated with pipeline integrity data analytics solutions – help our clients **maximize uptime and safety of buried and aboveground pipelines.**

Backed by an expansive global resource, knowledge, and support network, MISTRAS' collection of **integrated asset protection specialties** for the Pipeline industry includes:



**NDT
Inspections**



**Inline
Inspections**



**Data
Solutions**



**Engineering
Consulting**



Monitoring



Access



Equipment



Maintenance

How We Help

NDT Inspections

Traditional and advanced non-destructive testing that covers everything from individual spot inspections to large-scale runs for new construction and pipeline integrity projects.

NDT INSPECTIONS

+ Traditional NDT:

- Acoustic Emission (AE)
- Liquid Penetrant Inspection (LPI)
- Eddy Current (ET)
- Magnetic Particle (MT)
- Penetrant Testing (PT)
- Radiographic Testing (RT)
- Ultrasonic Testing (UT)
- Visual Testing (VT)

+ Advanced NDT:

- Digital Radiography (DR)
- Guided Wave Testing (GWT)
- Phased Array (PAUT)
- Time-Of-Flight Diffraction (TOFD)
- Pulsed Eddy Current (PEC)
- Automated Ultrasonics (AUT)
- Computed Radiography (CR)
- Real-Time Radiography (RTR)
- Automated Radiographic Testing (ART)

inspections.mistrasgroup.com



ART CRAWLER NON-INVASIVE CORROSION INSPECTION SERVICE

MISTRAS' ART Crawler is an advanced inspection service that utilizes robotic technology to accurately detect internal corrosion and CUI quicker than traditional techniques, with no need to remove insulation or take the pipeline out of service.

LEARN MORE!

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How We Help

Inline Inspections

Inline Inspections (ILI) to evaluate pipelines internally for damages using smart inspection tools or “pigs” which operate in free-swimming or tethered deployments, helping operators make more informed decisions.



INLINE INSPECTIONS

- + TriStream MFL™ ILI Services
 - Axial, Radial, and Circumferential Signals
- + Conventional ILI Services
 - Combination Inspection Tool
 - Intelligent Gauge Tool
 - High-Resolution Inertial Mapping Unit (IMU)
- + Bi-Directional Tethered ILI Services for Unpiggable Pipelines
 - Combo Bi-Directional Inspections
 - Bi-Directional Caliper Tool
 - High-Resolution IMU
- + Customized Inspection Solutions
 - Engineered solutions for difficult-to-inspect pipelines

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TRISTREAM MFL™ ULTRA-HIGH RES ILI SERVICES

MISTRAS' TriStream MFL is an innovative ILI service that gives pipeline operators in-depth insight into pipeline metal loss and corrosion conditions. This technology uses ultra-high resolution Magnetic Flux Leakage (MFL) triaxial sensors to accurately assess metal loss and provide operators with **The Complete Picture** of their pipeline.

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How We Help

Data Solutions

MISTRAS Group's integrated data analytics solutions enable data reporting, visibility, mapping, storage, and analysis across pipeline assets, empowering informed decision-making.



DATA SOLUTIONS

+ Data Management & Reporting Software

- Asset Integrity Management System (AIMS) Software
- HCA/MCA & Risk Identification
- Digital Field Inspection Reporting
- Corporate and Site-Level Metrics
- Inspection & Maintenance Scheduling
- Planning, Analysis & Data Alignment/Management
- Alignment Sheet Generation and Customization

+ Data Analysis Services

- Pipeline Movement Analysis
- Dent & Bend Strain Assessments
- Corrosion Analysis & Trending
- Fatigue, Wrinkle & Ovality Assessments
- Plausible Profile Assessments
- ILI Validation Reporting
- Signal-to-Signal; Signal-to-Box Corrosion Growth Analysis

dataservices.mistrasgroup.com



PIPELINE RISK ASSESSMENTS

MISTRAS' Spatial Risk Analyst (SRA) is an integrity management tool that increases productivity by automating data integration. SRA software enables you to resolve gaps and overlaps, dynamically segment, and map data from multiple sources to measure risks along a pipeline.

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How We Help

Engineering Consulting

Engineering and mechanical integrity consultations to provide data-driven insights that help enhance safety, improve profits, and optimize operational pipeline productivity.

ENGINEERING CONSULTING

- + Pipeline Integrity Program Management
- + Material of Construction Verification
- + Fitness-For-Service (FFS) Assessments
- + Dent Evaluation
- + ILI and Anomaly Management
- + Pipeline Risk Modeling
- + Criticality Assessments

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PIPELINE MATERIAL VERIFICATION SERVICES

Work towards PHMSA regulatory compliance with services to verify gas pipeline materials of construction, including:

- ▶ Hardness Testing
- ▶ Chemical Composition Analysis
- ▶ Metallurgical Field Replication
- ▶ Maximum Allowable Operating Pressure (MAOP) recalculations

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How We Help

Access

Trained and certified technicians safely access difficult-to-reach pipeline assets, including subsea lines, to identify asset integrity concerns.

ACCESS

- + Unmanned Aerial Vehicle (UAV) - Drones
 - Inspections
 - Pipeline Right-of-Way Surveys
 - Internal Pipeline Debris Removal
- + Diving - Subsea Pipelines
 - Magnetic Particle (MT)
 - Phased Array (PAUT)
 - Ultrasonic Testing (UT)
 - Visual Testing (VT)

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DRONE INSPECTION SERVICES

MISTRAS' Unmanned Aerial Vehicle (UAV) inspection services provide safe, accurate, and efficient aerial NDT inspection, mapping, and surveying services. MISTRAS' UAVs are equipped with non-destructive testing inspection tools, including:

- ▶ Infrared (IR)
- ▶ Ultrasonic (UT)
- ▶ Gas Detection Sensors
- ▶ High-Resolution Video/Imaging Tools
- ▶ Multispectral & Hyperspectral Cameras

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How We Help

Monitoring

Monitoring solutions keep owners & operators informed of potential damages in pipeline assets and are ideal for tracking pipe segments that are difficult to inspect frequently.

MONITORING

- + Remote, Long-Distance Corrosion Detection
- + Remote Pipe Wall Thickness Tracking
- + Online Leak Detection & Quantification
- + Data Management & Smart Analysis



REMOTE THICKNESS TRACKING

MISTRAS' CALIPERAY® technology is a permanently-mounted, non-intrusive UT remote thickness tracking system that monitors piping and vessel wall thickness in high-temperature and difficult-to-access locations.

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How We Help

Equipment

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



EQUIPMENT

+ Software & Hardware

- Acoustic Emission (AE) and Ultrasonic (UT) Equipment
- Sensors
- Scanners
- Wireless Systems
- Portable Systems
- Turnkey Systems
- Multichannel Systems
- Online Monitoring (OLM) Systems
- AE and UT Data Acquisition & Analysis Software
- Accessories

+ Damage Applications

- Corrosion
- Corrosion Under Insulation (CUI)
- Erosion
- Cracking
- Leaking
- Stress
- Fatigue

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VPAC™ II: THROUGH-VALVE LEAK DETECTION & QUANTIFICATION

MISTRAS' VPAC™ II is an AE instrument that can detect and quantify through-valve leaks using its proprietary software, and can store readings for up to 500 valves at a time.

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How We Help

Maintenance

Integrated inspection and maintenance teams keep midstream personnel to a minimum by detecting damages and performing light mechanical services to clean, repair, and protect pipeline assets and return them to service as quickly as possible.

MAINTENANCE

- + Corrosion removal and mitigation services
- + Surface preparation and coating
- + Insulation installation, maintenance, and removal
- + Industrial cleaning
- + Pipefitting

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INSULATION SERVICES

The right insulation is a crucial component to piping and pipelines protection. Our insulation services enable you to discover increased productivity, lower maintenance costs, and less downtime. These solutions also allow you to adhere to regulatory standards and compliance.

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How We Help



INTEGRATED DATA = INFORMED DECISION-MAKING

Simply conducting pipeline inspections is only one part of integrity management. Operators need to **integrate their NDT, ILI, and GIS data** to make the most informed integrity decisions. With MISTRAS Group's OneSource™ pipeline protection portfolio, operators have access to the integrity data they need, when they need it.

Insightful Pipeline Data Analytics

- + Integrate and Dynamically Update NDT, ILI, and GIS Data Platforms & Analysis
- + Access Historical ILI & NDT Inspection Reports
- + Digitally Report New Field Data to AIM Software
- + Create Inspection Schedules Based on Prioritized Risk Assessments
- + Map & Inform Spill Impact Locations and Consequence Areas
- + Remotely Access Pipeline Conditions





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Visit mistrasgroup.com/branches to find
a MISTRAS location near you.



- +1-833-MISTRAS (+1-833-647-8727)
- solutions@mistrasgroup.com
- mistrasgroup.com

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to start maximizing uptime and safety.