

We're a global ILI company on a mission to help operators better know their pipelines.



# Technology Overview

2021

#### ENTEGRA UHR SYSTEM: THE NEW STANDARD IN ILI MFL TECHNOLOGY.

Our tools and services meet the real demands of pipeline operators, providing state-of-the-art UHR imaging capability. Shorter, lighter, more collapsible MFL/CAL/IMU combo tools. Tethered/bi-directional tools for offline applications. All backed by Engineers, Technicians, Data Scientists, former Pipeline Operators and the industry's premier team of Level III Data Analysts. This innovative system delivers an unprecedented level of POD, POI, and sizing of even the most complex metal loss. Run after successful run.

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# CATHODIC PROTECTION CURRENT MAPPING (CPCM), AN ILI TECHNOLOGY.

ENTEGRA's CPCM technology provides an in-line solution for assessing the effectiveness of a pipeline's cathodic protection (CP) system. The tool accurately locates, identifies, measures, and reports all CP current sources, drains, interferences, and gaps – from inside the pipe. The pipeline remains in service and ENTEGRA's in-line CPCM provides the most comprehensive, high-quality data available. Data that when aligned with historical surveys, or paired with a UHR MFL run, provides an in-depth story of the pipeline's integrity.

### Service Excellence

Our project management and field operations teams boast unprecedented first-run success, year after year. Our risk-based project management process is tailored to align our operations – and every inspection – to the challenges posed by each individual pipeline. Before each run, our team completes a thorough ILI risk assessment designed to uncover details and information about the pipeline. These, along with historical data, inform us of what, if any, adjustments need made to the tool or to the pipeline's operation to ensure a successful run and the delivery of the highest quality ILI data.

# **Results-Driven Data Analysis**



### **TACKLING COMPLEX CORROSION**

Complex corrosion involves numerous anomalies of different shapes and sizes converging within a single run of inspected pipe. Determining interactions between anomalies and accurately defining POD, POI, and sizing are challenging prospects. Our UHR ILI system can handle all of it, even complex corrosion previously thought to be undetectable.



### **PINHOLES & PILFERAGE DETECTION**

Operators tell us that pinholes within larger areas of metal loss, or pits-in-pits, are their number one concern. ENTEGRA's UHR system accurately detects and identifies true pinholes caused by microbially induced corrosion (MIC), AC induced corrosion, illegal taps (pilferage), and a wide range of manufacturing anomalies as small as 3mm x 3mm.



#### HARD SPOTS: ACCURATE POD, POI, & SIZING

The accurate mapping and prioritizing of hard spots is essential because some hard spots can be threats to pipeline integrity. ENTEGRA's Ultra-High-Resolution (UHR) system accurately detects and identifies the relative hardness value and location of each hard spot, providing operators with the information they need to confidently manage and optimize their integrity programs.

#### PUDDLE WELDS? NO PROBLEM.

Puddle welds could mask potentially injurious metal loss. Correct characterization is tedious and time consuming even for an experienced hands-on analyst, and nearly impossible for any automated system. ENTEGRA'S UHR ILI System correctly characterizes puddle welds and/or interacting corrosion delivering accurate POD, POI, and sizing.



### LONG SEAM ASSESSMENT

Metal loss or gain that interacts with a pipe's long seam can pose imminent integrity threats. Especially considering that the long seam is one of the most consequential areas of a pipe, yet among the most difficult to accurately assess. Our UHR ILI System provides the detailed detection, identification, and sizing of metal loss that is essential in the exacting inspection of the long seam.



#### **PIPE-GRADE REPORT: MAXIMIZE YOUR ROI**

An accurate Materials Classification Report is one of the most significant benefits of ENTEGRA's comprehensive ILI system. The combination of innovative UHR tools and human-based Data Analysis can provide both an integrity assessment and a pipegrade classification in a single run, allowing operators to maximize throughput and ROI.

# How Can We Help?

Mechanical, Electronic, and Software Engineering, Design and Testing. A range of innovative UHR technologies. An evolutionary Data Science practice. ENTEGRA's UHR system meets the real demands of pipeline operators around the world. It's not just about getting ILI tools launched and through the pipeline. It's about being able to effectively provide valuable pipeline integrity reporting and real-world solutions by giving operators a more complete picture of their pipelines.

#### For More Information

#### contactus@entegrasolutions.com

For our latest API 1163 spec, talk to your ENTEGRA rep.

