

# Trenchless Technology Webinar Announced To Review New Standards for Testing & Accepting Cured-In-Place Pipe (CIPP)

*New Standards Help Utilities Locate & Measure Leaks in Pre- and Post-Rehabilitation Projects Typically Approved By Less Accurate CCTV Camera Inspection*

SACRAMENTO, CALIFORNIA, USA, February 18, 2020 /EINPresswire.com/ -- Electro Scan Inc. announced its sponsorship of a Trenchless Technology Webinar titled "What is Measured, Improves: Maximizing Infiltration Reduction and Rehabilitation Effectiveness," to review new recommended standards to test and accept repairs and rehabilitation, including Cured-In-Place Pipe (CIPP).

[Registration](#) to attend this FREE webinar is now open.

As a pipe rehabilitation technique invented in the early 1970s, most CIPP projects typically rely on guidelines contained in ASTM 1216, where acceptance of CIPP is based on Closed Circuit Television (CCTV) visual inspection only.

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We can tell 'where' & 'how much' CIPP leaks, but can't tell 'what' caused the leak or 'why' it wasn't found sooner. By collecting data by supplier & curing method we hope to tell 'when' it will fail.”

*Chuck Hansen, Founder & CEO, Hansen Analytics, LLC*

Today, nearly 50% of pipe repairs use CIPP as the preferred approach for trenchless rehabilitation to renew underground sewer & water pipes. Yet, the inability of CCTV to determine watertightness of newly installed CIPP and inability to determine if customer service restorations are watertight, have resulted in widely variable CIPP quality delivered to pipeline owners.

Where correctly installed CIPP lining may eliminate most leaks at joints and cracks, post-rehabilitation defect flows can often exceed pre-rehabilitation levels due to poor or uneven curing, contractor damage, and poor quality customer lateral reconnections.

Electro Scan's Trenchless Technology Webinar will discuss how utilities are adopting ASTM F2550 and machine-intelligent Focused Electrode Leak Location (FELL) technology to automatically locate & measure defects from pinholes to major leaks, and verify watertightness of customer service connections, before and after CIPP installation and curing.

**Trenchless TECHNOLOGY Webinar**

ASTM 2550 & AWWA M77  
**NO LEAK**

**LEAK**

What is Measured, Improves: Maximizing Infiltration Reduction & Rehab Effectiveness

Chuck Hansen peers through an exhumed section of CIPP with leaks identified by FELL & confirmed by eye-dropper dye testing, but missed by CCTV. New standards & utility best practices for testing Cured-In-Place Pipe will be discussed in the company's upcoming webinar.





methods.

The new standards can also be used to assess common gravity & pressurized pipe materials, including Asbestos Cement, Brick, Cement-Mortar Lined Ductile Iron, Plastic, Reinforced Concrete, and Vitrified Clay Pipe, to establish baseline defect flow levels.

Electro Scan's Trenchless Technology Webinar is scheduled for Wednesday, March 11, 2020, at 1:00 PM US Eastern, 10:00 AM US Pacific, 6:00 PM London (GMT), and Sydney, Australia 5:00 AM (GMT+11).

Guest Webinar Speaker & Case Study  
• Rich Cummings, Operations Manager, Hillsborough County, Florida, USA

Additional Webinar Participants and Case Studies

- Chuck Hansen, Hansen Analytics, LLC, Founder & CEO
- Michael Condran, PE, Electro Scan Inc. Vice President, Southeast
- Carissa Boudwin, Vice President, Marketing

Locating and reducing leaks in our infrastructure is a common challenge facing wastewater collection and water distribution systems, yet effective identification of has been challenging using legacy Acoustic Sensors, CCTV, Ground Penetrating Radar, Laser, Sonar, Smoke Testing, Dye Flood Testing, and Pressure Test results.

Too often agencies only learn that flow reduction goals were missed after having to wait for multi-year flow monitoring comparisons.

Ineffective prioritization, poor contractor performance, and inability to reliably certify repairs as watertight, especially after service restoration, are key factors responsible for ineffective rehabilitation outcomes.

Today, agencies are adopting machine-intelligent FELL, in accordance with ASTM F2550, to identify I/I and test rehabilitation as watertight.

# Vitrified Clay Pipe

The diagram illustrates two types of Vitrified Clay Pipe joints: O-Ring & Polyester Flexible Compression Joint and Polyurethane Compression Joint. It also shows an Open End Joint. Below the diagrams are two FELL (Flow Electrode Leak Location) detection graphs. The left graph shows a 'Dip' in current where a spigot is located, indicating a leak at the joint. The right graph shows a 'Dip' in current where a coupler is located, indicating a leak at the factory-tightened end.

**O-Ring & Polyester Flexible Compression Joint**

**Polyurethane Compression Joint**

**Open End Joint**

**FELL Finds & Measures Leaks at Each Joint**

“Dip” in Current Where Spigot is Located, Due to Higher Electrical Resistance of Joint Sealing Material.

**FELL Assesses Both Field & Factory Tightened Ends**

“Dip” in Current Where Coupler is Located, due to Higher Electrical Resistance of Rubber Coupling Material.

Separately, Electro Scan's patented technology can locate leaks in new and existing Vitrified Clay Pipes, including compression joints and open ended joints.

The image shows a standard CCTV truck with Electro Scan's patented machine-intelligent leak detection system installed. The system is mounted on the truck's chassis and includes a laptop, a camera, and various sensors. The truck's license plate reads 'SMRSCN'.

Independent machine-generated results are replacing legacy ambiguous & subjective testing to (1) prioritize pipes with the highest infiltration, (2) test the watertightness of repairs & that rehabilitation meets contract requirements, and (3) compare before and after leakage results to get 'same day' estimated percent reductions in flow.

The need for enhanced quality assurance testing of CIPP was first published by Ken Kerri, PhD, PE, in 2015 as part of the 7th Edition, Volume 1, Operations & Maintenance of Wastewater Collection Systems, ISBN 978-1-59371-066-8, referenced by the US EPA to evaluate Capacity, Operation, and Maintenance (CMOM) program activities.

In the past, utilities and consulting engineers would display CCTV inspection results, combining Asset Management & Geographic Information Systems to help prioritize capital expenditure plans; however, missed visual defects often resulted in under-reporting of defects that can contribute to misguided condition assessments.

Combined with the inability to 'visually' assess the watertightness of repairs, replacements, and relining projects, FELL represents a new level of field accuracy and decision support.

Recently, Hansen Analytics LLC benchmarked CCTV and FELL inspections for 33,000 linear feet of pipe, assessing 429 customer service laterals where homes are connected to the agency's sewer main. In this benchmark, a certified CCTV operator identified five (5) defective customer tap locations, while Electro Scan's FELL technology identified 324, or 75%, of service connections with quantified leaks.

Last week, Electro Scan Inc. announced its global partnership with Innovyze Inc. to provide an end-to-end condition assessment & rehabilitation QA/QC solution.

Early adopters of FELL pipe testing are now able to re-test earlier surveyed CIPP liners to re-confirm leak locations and measure changes in leak severity. By measuring how leaks in CIPP get larger over time, surveyed at 1-to-3 year intervals, utilities can compute Remaining Useful Life (RUL) designations, by Supplier, Curing method, and Contractor, which is useful for capital planning and replacement and repair programs.

Electro Scan's webinar announcement coincides with the opening of the Water & Wastewater Equipment, Treatment & Transport (WWETT) conference in Indianapolis, Indiana, the industry's preeminent trade show attended by 14,000 attendees and 600 Exhibitors from 50 countries.

"Legacy CCTV inspection is still appropriate to locate service laterals and obstructions, including construction debris, fats, oil, & grease, crossbores, and roots. However, its inability to locate or quantify leaks, especially in new or relined pipes, indicates that machine-intelligent FELL technology from Electro Scan is best suited to assess pipe conditions and rehabilitation effectiveness," stated Chuck Hansen, Founder & CEO, Hansen Analytics, and investor in Electro Scan Inc.

A leading subject matter expert on pipe condition assessment and former Chair, ASTM Subcommittee F36.20 Committee on Inspection and Renewal of Water and Wastewater Infrastructure, Hansen developed the nation's first widely used CCTV coding system adopted by nearly 1,000 agencies. In 1989, the City of Houston used Hansen's CCTV codes and companion software to inspect all 5,000 miles of sanitary sewer with data collected by 250 CCTV trucks. At the time his company was sold in 2007, Hansen customers were storing over 1 million CCTV reports that included nearly 7 million defects.

#### ABOUT ELECTRO SCAN

Electro Scan Inc., a leading supplier of machine-intelligent pipeline assessment products and services for the water & wastewater pipeline market. In 2020, the company was named to

Government Technology's esteemed GovTech 100 list for the second year in row. Electro Scan Inc. develops proprietary pipe condition assessment equipment, delivers field services, and offers cloud-based data processing and reporting applications that automatically locate, measure, and report defects typically not found using legacy inspection methods.

#### ABOUT HANSEN ANALYTICS

Hansen Analytics, LLC, is a leading public sector artificial intelligence (AI) data analytics and data mining company dedicated to supporting asset stewardship and governance of capital assets. The company designs, develops, and supports real-time management dashboards to manage the program management of capital plans.

#### HASHTAGS

#cctv #cipp #cmom #electroscan #epa #f1216 #f2550  
#fell #leakdetection #leaks #m77 #sewer #sewerbackups  
#sipp #srp #sso #trenchless #water #wrc #wsaa

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