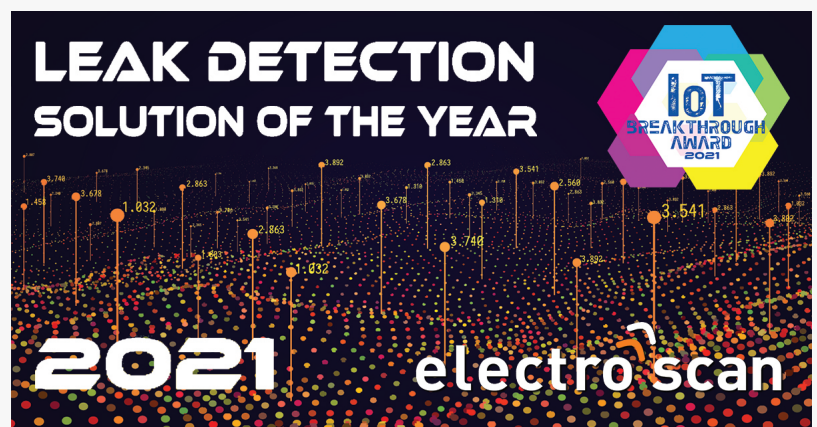# Electro Scan Inc. Wins 'Leak Detection Solution of the Year' Award for 2021 From IoT Breakthrough

IoT Breakthrough Award Recognizes Electro Scan's Water & Sewer Leak Detection Solution Over Acoustic, CCTV, Helium Tracers, Satellite, and Drone Alternatives

SACRAMENTO, CALIFORNIA, USA, January 11, 2021 /EINPresswire.com/ -- Electro Scan Inc., the world's leading provider of machine-intelligent pipeline leak detection technology, today announced its recognition as the "Leak Detection Solution of the Year" for 2021 by IoT Breakthrough, the leading business market intelligence organization serving the Internet-of-Things (IoT) market.

California-based Electro Scan Inc. Wins the Prestigious "Leak Detection Solution of the Year" Award for 2021 as the first technology to accurately locate & measure leakage in Gallons per Minute or Liters per Second.

The Company's breakthrough technology allows utilities to 'STOP' listening for leaks and 'START' using machine-intelligent sensors to measure the size of holes in pressurized and gravity pipelines.

> The Company's leak detection technology allows utilities to 'STOP' listening for leaks and 'START' using machine-intelligent sensors to measure the size of holes in all pressurized and gravity pipes."
>
> *Electro Scan Inc.*

"The introduction of Electro Scan Inc.'s Multi-Sensor IoT Internal Pipe Leak Detection Probe represents a significant breakthrough for the global water & sewer leak detection industry," said James Johnson, Managing Director at IoT Breakthrough.

Electro Scan's introduces the unprecedented ability to locate pipe leaks with 1 cm (3/8 inch) accuracy.

The company's technology is also the first to measure leak

severities in Gallons per Minute or Liters per Second.

Utilities now have immediate access to their data, in minutes, not days, weeks, or months – using the company's proprietary and patented global cloud-based analytics platform. Thus, pipeline system managers can immediately perform QA/QC on new pipes and Trenchless rehabilitation, like Cured-In-Place Pipe (CIPP), to document contractor compliance with specification requirements.

Precise leak locations and quantification represents the 'holy grail' for the water industry that has never before been accomplished by other commercial suppliers.

Electro Scan's unique technology and real-time IoT data delivery were key factors in its competitive recognition over other leak detection techniques.

"For way too long, the global water & sewer leak detection market has been stuck trying to locate – much less measure – leaks that can't be heard using acoustic sensors or seen using high resolution cameras," stated Chuck Hansen, Founder & CEO, Electro Scan Inc., a 40-year IT pioneer of the water industry.

As experts acknowledged limitations of current solutions, Hansen learned of acoustic devices that attempted to assess the presence of leaks from inside a pipe; often allowing severe leaks to go undetected.

Future Water Association Water Dragons Competition Selects Electro Scan as Winner.
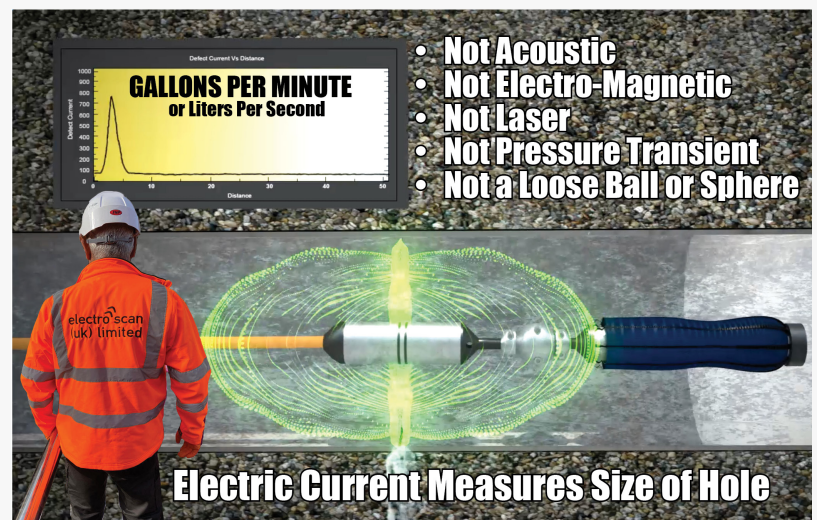
Electro Scan's disruptive technology is a departure from traditional listening for a leak. Instead precisely measuring each size of hole, by location and severity expressed in GPM or LPS.
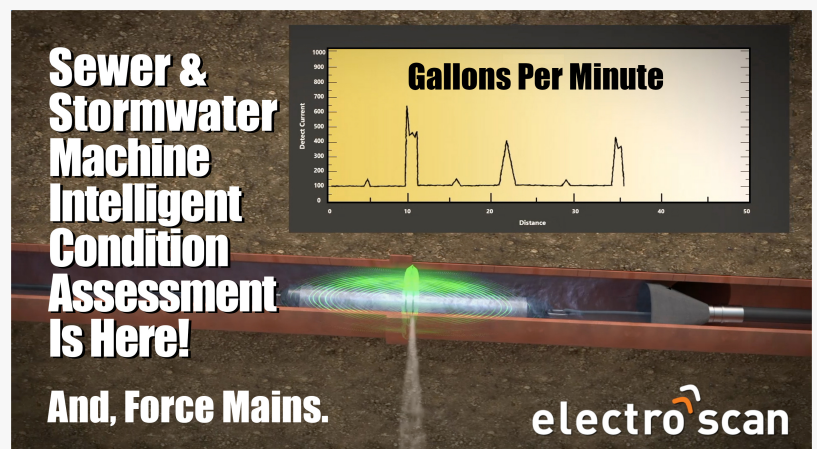
Electro Scan represents the only supplier that is able to find & measure leaks in both pressurized and gravity water and sewer pipelines.

In some cases, [catastrophic failures](#) occurred soon after internal acoustic inspections had issued a clean bill-of-health on pipes with 'NO LEAKS.' In others, untethered acoustic balls were lost, sometimes causing major equipment damage.

When water pools around a leak, an insulation condition is established that can suppress leak noises from inside the pipe, making them difficult or impossible to hear or see.

Recently a large European water company repaired several kilometers of older pipeline where it had found over 20 major leaks.

How Electro Scan Does it!

Hydochute Set-Up

Up to 6,000 ft Distance.

Pull Through Set-Up

Electro Scan can find & measure leaks either with or without pressure, ranging from ZERO to 175 psi.

Upon excavation, it was determined that poor pipe installation and construction were responsible for the large leaks.

This suggested that typical Desktop AI programs that use available pipe data, such as age, material, diameter, and soil conditions to schedule pipe replacement programs, may not be suitable to plan future capital expenditure (CAPEX) programs.

The American Society of Civil Engineers (ASCE) estimates that each year over 240,000 water line breaks occur in the United States alone, making effective pipeline leak detection work an essential need to support public health and safety.
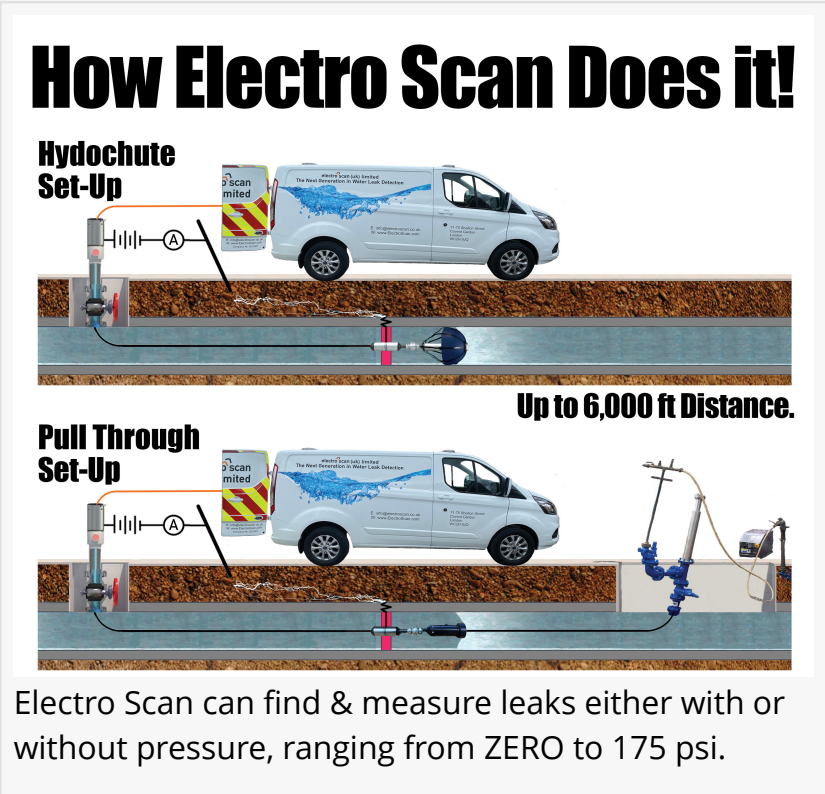
"Artificial intelligence (AI) & machine learning (ML) have had limited success in the field of leak detection; especially in interpreting acoustic sound waves or frame-by-frame CCTV video footage assessment," stated Hansen.

"After several start-ups focused on this area, utilities soon realized that AI & ML can't overcome what can't be seen or can't be heard. As a result, new technology, like Electro Scan's machine-intelligent solutions, were needed," continued Hansen.

According to Frost & Sullivan, the Global Smart Water and Wastewater Leak Detection Solutions Market was valued at $1.23 billion in 2020 and is expected to reach almost $2 billion by 2026.

Analysts forecast acoustic and visual-based technologies will lose market share to multi-sensor smart probes during the forecast period.

Deciding to pursue a next generation machine-intelligent approach to leak detection, not based on legacy acoustic or visual technologies, Hansen wanted to eliminate external background noise, flow rates, and pressure variations that cause misleading results; or worse, give false-positive readings during inspection.

In addition to using a low voltage electric current in a tethered probe configuration to pinpoint leak locations, Hansen wanted to adopt multi-physics orifice equations to quantify the severity of each leak.

By measuring the size of each leak's opening or hole, algorithms could simultaneously and automatically calculate defect flows in Gallons per Minute or Liters per Second.

Over the past 40 years the world's population has doubled and water use quadrupled. Moreover, the global middle class is expected to surge from 1.8 to 4.9 billion by 2030, which will only drive a significant increase in freshwater consumption.

Unnecessary water losses from raw and potable distribution networks are no longer acceptable.

Today, the World Bank estimates that worldwide water utilities annually lose nearly 48 billion cubic meters of treated water from water distribution systems, primarily due to undetected leaks and unauthorized connections.

"The acoustic leak detection market has needed to be overhauled for some time," states Mike Condran, PE. "Well-documented acoustic sensor limitations occur because too often pipe leaks don't always reach detectable noise thresholds or are obscured by ambient/background noises that cannot be eliminated.

"In fact, leaks that might be detected cannot then be quantified," continued Condran.

In contrast to using sensory-based pipe leak detection techniques where readings must be manually interpreted by third-parties, Electro Scan's IoT breakthrough takes a machine-based approach that precisely locates and quantitatively measures the size of any leak's opening, and which is not dependent on ambient noise levels, operating pressure or flow, and then automatically calculates defect flow rates.

Results are immediately available using the company's CriticalH2o and CriticalSewers® Software-as-a Solution (SaaS) cloud applications.

While the global water & sewer leak detection market has traditionally relied on sensory-based acoustic and visual methods, helium has been injected into pipes to trace odors above ground, again without locational accuracy or severity.

More recently, satellite imagery and aerial drones have been used to identify Areas of Interest (AOI) and Points of Interest (POI) that may indicate potential leaking pipes. Showing initial promise, additional Boots-on-the-Ground (BOTG) are required to validate imagery interpretation and confirm whether actual leaks exist.

While acoustic data loggers and correlators have had difficulties confirming AOIs or POIs identified by satellite methods, Electro Scan's BOTG low-voltage inspection technology allows utilities to locate and quantify satellite hits and misses.

Using Electro Scan, machine-intelligent data shows 'MATCHING' Severe, Moderate, and Small Leaks and 'MISSING' Severe, Moderate, and Small Leaks from satellite or drone-based imagery.

Electro Scan's 2020 first place finish at the UK's Water Dragons Competition was an additional factor in judging it as IoT Breakthrough's 'Leak Detection Solution of the Year.'

Electro Scan's cloud application will be deployed soon in Arabic, Chinese, and Hindi languages to support growing adoption by international water utilities.

ABOUT IoT BREAKTHROUGH AWARDS
The mission of the IoT Breakthrough Awards program is to recognize the technology innovators, leaders, and visionaries from around the globe in a range of IoT categories, including Smart City technology, Connected Home, Connected Car, and many more. This year's program attracted more than 3,850 nominations from companies all over the world.

ABOUT ELECTRO SCAN INC.
Founded in 2011, the company designs machine-intelligent leak detection products that help utilities locate leaks in pressurized water mains, gravity wastewater pipes, and force mains. By pinpointing leaks, the company can quantify sources of Non-Revenue Water and certify new pipe installations and rehabilitation as watertight. Headquartered in Sacramento, California, the company sells equipment to utilities supported by a Software-as-a Service (SaaS) cloud and licenses its solutions to contractors on a Technology-as-a-Service (TaaS) basis, worldwide.

Hashtags
#acousticsensors #ai #amp7 #apem #artificialintelligence @asce #awwa #cipp #conditionassessment #conductivity #deeplearning #drainage #drought #electromagnetic #fell #infrastructure #innovyze #inspection #leak #leakdetection #machinelearning #ml #nassco #orbitalsidekick #pacp #parrot #pcat #piperepair #pressuretransient #resilient #resiliency #rezatec #SaaS #satelytics #sewer #sewerai #swan #TaaS #trenchless #utilities #utilis #wadi #wastewater #water #waterai #worksell #wsaa #worldbank #wsaa

Carissa Boudwin
Electro Scan Inc.
+1 916-779-0660
email us here
Visit us on social media:
Facebook
Twitter
LinkedIn

This press release can be viewed online at: https://www.einpresswire.com/article/534014890