
Opportunity

Seeking a licensing and development partner to scale into manufacturing and infrastructure deployment.

Development Stage

Validated in the laboratory.

Intellectual Property

Patent pending

Publication

[Application PCT](#)

IDF#

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Electrified Plastic Pipe for Locatable, Information-Enabled Infrastructure

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PROBLEM STATEMENT

Plastic pipes are widely used because they are inexpensive, corrosion-resistant, and easy to install. Once buried, however, they are difficult to locate and provide little information about condition, leaks, pressure, temperature, flow, or remaining service life. Infrastructure owners need plastic pipe systems that can be easily located, monitored, and managed without relying solely on excavation, records, or external sensors.

SOLUTION

Researchers at the Missouri University of Science and Technology have developed a method to integrate conductive structures directly into the walls of PVC or polyethylene pipes. These structures can allow the pipe itself to emit a detectable signal and support sensing, communication, and monitoring functions. The approach delivers a practical pathway to turn ordinary plastic pipe into locatable, information-enabled infrastructure while preserving its advantages.

VALUE PROPOSITION

This technology turns passive plastic pipe into the starting point for smart infrastructure. The first value is a safer, faster way to locate buried pipe before excavation. Follow-on value may include leak detection, structural health monitoring, pressure and temperature monitoring, flow-related measurements, wireless communication, and digital asset management. The platform gives pipe manufacturers and infrastructure operators a means to higher-value pipe products and more intelligent infrastructure systems.