CASE STUDY



SPRING TOWNSHIP WATER AUTHORITY

SPRING TOWNSHIP WATER AUTHORITY USES SMART WATER SOLUTIONS TO REDUCE WATER LOSS

BACKGROUND:

Spring Township Water Authority, located in Central Pennsylvania near State College, faced challenges with identifying and remediating water loss. When Water Operator Toby Dashner took over in October 2017, the system was operating without leak detection tools and suffered from severely outdated and unreliable water usage data. The utility's non-revenue water was estimated at 47%.

THE CHALLENGE:

IIn 2018, the first full year with more reliable data, the Authority measured water loss at 42.33%. Up to this point, no previous monitoring tools or formal detection methods were in place, and leaks could only be addressed when they became obvious or disruptive. This made it challenging to identify non-revenue water loss within the distribution system.

THE 540 SOLUTION:

The 540 Technologies team introduced Lift and Shift Loggers, a mobile leak detection system that allows operators to monitor sections of the system and identify hidden leaks. These loggers collected data, allowing the team to pinpoint areas of concern, prioritize repairs, and reduce water loss systematically. The solution was easy to integrate into their already existing operations and became a part of the Authority's infrastructure strategy.

THE RESULTS:

Since the introduction of Lift and Shift Loggers, Spring Township Water Authority has seen consistent and measurable improvements. Water loss was reduced from over 42% in 2018 to just 18% by 2024. Over that period, dozens of leaks were located and repaired, over 100 in total, each contributing to better efficiency and lower operating costs. The overall data trend was steady improvement and increased control over system performance.

OPERATIONAL IMPACT

Using Lift and Shift Loggers has allowed the Authority to lower production and energy costs by reducing water waste, improve service reliability by proactively identifying and repairing leaks, and save money through more efficient water use and system operations.

The Authority expanded its operations team by hiring Dion Barnard, who played a key role in reducing the organization's water loss to below 20%. Barnard was able to get up to speed quickly thanks to 540 Technologies' Lift and Shift procedure. Dashner's leadership and commitment to improving system performance have since been recognized at a broader level. In 2025, he was named Water Operator of the Year by the Pennsylvania Rural Water Association, highlighting his dedication to operational excellence, innovation, and measurable system improvements.

NEXT STEPS

The Spring Township Water Authority plans to continue its use of data-driven leak detection and refine its maintenance strategies. With the right tools and the right approach, they're positioned to build on this success and drive even greater efficiency across their system.

540 Technologies brings comprehensive data solutions and actionable insight to cities, towns, schools, and more for water and wastewater needs. With deep industry roots and powerful partnerships, 540 Technologies helps deliver smart solutions to your most challenging problems.

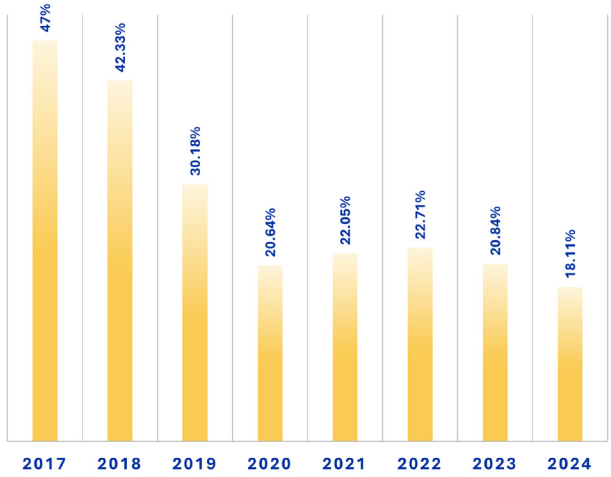
THE PRODUCT:

PCorr+ leak correlator enables water network operators to quickly and efficiently locate leaks.

Units are deployed in areas of the distribution system to provide continuous monitoring of leakage. Easily installed on pipe fittings, they are retained in place by a strong magnet. As soon as a potential leak is detected, the unit enters an alarm state and transmits a radio signal to indicate a "LEAK" condition.



WATER LOSS BY YEAR



540 TECHNOLOGIES™

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