CASE STUDY

THE PLUG-AND-PLAY LCRR SOLUTION

How the City of Salem, Virginia Water & Sewer Team used leadCAST for service line inventory development and management.

SOLUTION

leadCAST™

POPULATION SIZE

25,000 people

PRIMARY USE

Service line inventory development

"With Trinnex, you have a small, motivated team that is very knowledgeable about the Lead and Copper Rule Revisions. And you can clearly see that in the leadCAST product itself."

Michelle Cock, PE, LEED AP, Utility Asset Manager, City of Salem, VA

SUMMARY

Known as Virginia's Championship City, the City of Salem (Salem) hosts first-class sporting events and combines historical elements with a growing arts and culture scene. Salem covers 14.6 square miles, is home to 25,346 people (as of the 2020 census), and serves 10,508 drinking water service lines.

As with all other U.S. municipalities providing drinking water services, Salem must comply with the Environmental Protection Agency (EPA) 2024 Lead and Copper Rule Revisions (LCRR) regulation. Different requirements apply for water systems serving less than 50,000 in population size. However, all utilities must submit an inventory to the EPA identifying all of their service lines by 2024.

OPTIMIZING DATA MANAGEMENT

With limited resources, Salem desired to continue maintaining efficient daily operations while working towards complying with the new LCRR regulation to create a service line inventory and identify any lines with possible lead.

However, Salem faced several challenges:

- Assembling data that existed in separate systems into a single inventory involved a manual, tedious process, which would take up precious time and resources from other projects
- Data formatting inconsistencies across different systems and data sources meant risking the quality and reliability of ongoing inventory development
- Community members could not easily access inventory data or track progress, which Salem was required to provide

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CREATING A SINGLE SOURCE OF TRUTH

Salem sought an innovative solution that would combine service line data, customer accounts, and meter data into a single, web-based inventory to create one source of truth.

Salem selected leadCAST, a cloud-based data management platform, specifically built to assess, monitor, and report on the entire LCRR compliance process in a publicly- accessible dashboard. leadCAST was built from years of similar LCRR data projects, such as the Newark, NJ lead service line replacement project.

The Trinnex team made leadCAST plug-and-play for Salem by combining service line material inventory (CSV files and spreadsheet data) with GIS layers and their metering system to enhance information interpretation and clarity.

Through leadCAST, Trinnex:

- Identified duplicate records
- Highlighted properties with no corresponding meter or service line records
- Flagged records potentially missed by the current system

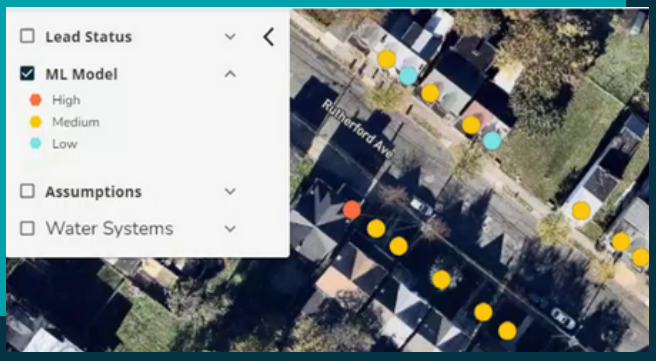
"leadCAST has an easy-to-navigate interface. It's easy to display everything required for compliance and provide updates that you're constantly improving and making changes."

Michelle Cock, PE, LEED AP, Utility Asset Manager, City of Salem, VA

leadCAST's machine learning feature also helped Salem predict and categorize service lines with unknown materials into those with the least or most likelihood of lead with a 95 percent confidence interval, enabling them to spend more time and resources on field inspections.

BENEFITS

- Improved customer service through enhanced transparency
- Cloud-based inventory accessible to anyone, anywhere
- Map view of service lines makes it easy for anyone to search for statuses
- Seamless integration with other applications such as Advanced Metering Infrastructure



Trinnex used machine learning to understand which of Salem's data features were most likely to accurately identify the likelihood of lead and thus prioritize sampling needs and field verifications.

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Visit www.trinnex.io to learn more

Salem, VA | The Plug-and-Play LCRR Solution