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CANADA'S WATER INDUSTRY INSPECTING AND REHABILITATING WATER INFRASTRUCTURE

Rapidly growing urban populations, expanding industry, and a changing climate are a few of the challenges utilities face as they work to meet increasing demand for sustainable water and wastewater services. They also contend with leaks and breaks in failing or aging distribution and collection systems. Utilities everywhere need cost-effective solutions to maintain these networks, to avoid disruption to service and protect infrastructure investments.

Innovative Canadian companies are making it possible to assess the condition of water infrastructure networks using a combination of non-invasive and digital technologies. Using acoustics, robotics, sensors, and connected solutions, they are helping utilities detect leaks and weaknesses, in turn helping them prioritize repairs.

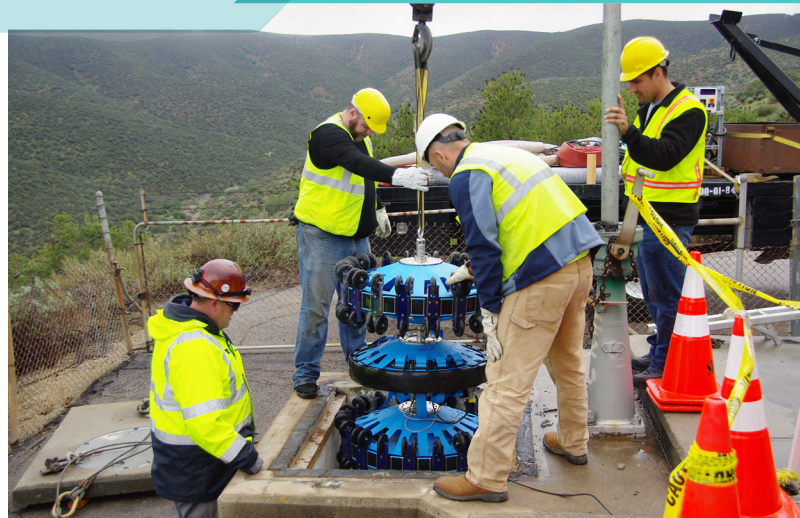
In maintaining and repairing existing pipes and mains, Canadian firms are also helping cities save time and money using “trenchless” solutions. In many cases, these technologies can help cities extend the useful life of their infrastructure and defer new capital investments.

Canadian pipe inspection and rehabilitation solutions are giving utilities the power to know their water systems. As a result, cities are making better plans to manage and finance their infrastructure.

The urban population is expected to increase to **60% OF THE WORLD'S POPULATION BY 2030.**¹

Increasing demand from growing cities is placing a strain on urban water infrastructure networks.

60%



PICA CORPORATION > picacorp.com

Following a serious failure in 2015 that resulted in a one-month shutdown for repair, asset managers at California's Helix Water District wanted to assess the health of a 5.7-mile-long, 36-inch-diameter, concrete cylinder pipe that supplies water to a large municipal water treatment plant. Together with the San Diego County Water Authority, Helix Water selected **PICA Corporation (Alberta)** to support this work. Using its collapsible Restricted Access Flexible Tool (RAFT), PICA performed non-destructive condition assessment on the pipeline over two weeks. The final report showed that 98% of the pipeline is still in excellent condition. The report allowed Helix Water to identify the sections that needed to be replaced or repaired. The total cost of this work was less than \$600,000—far less than the estimated \$20 million to replace the entire pipeline.

¹ Global Health Observatory data. World Health Organization, 2014.



WATER INDUSTRY

Bringing leadership and innovative solutions to the world.

TRADE COMMISSIONER SERVICE (TCS)

CANADIAN COMPANIES WORKING GLOBALLY

When it comes to inspecting and rehabilitating water infrastructure, Canadian companies are leading the way. Here are some examples of firms at work around the world.



ECHOLOGICS > echologics.com

The San Jose Water Company (SJWC) serves more than one million people in California's greater San Jose metropolitan area and is considered one of the most technically advanced water providers in the United States. After evaluating several technologies, SJWC selected the EchoShore®-DX fixed leak detection system for distribution mains due to its proven ability to quickly identify and accurately locate leaks. The project will be the largest deployment of **Echologics (Ontario)** fixed leak detection technology, with the planned installation of more than 10,000 nodes throughout SJWC's service area. The technology incorporates the latest generation of acoustic sensors to non-invasively monitor water pipe infrastructure through existing water assets - fire hydrants. Sensors are installed on standard fire hydrants and continuously monitor the pipes for new and existing leaks. The early detection capability provides utilities with numerous benefits, such as the ability to prioritize repairs based on actual need, effectively allocate repair crews, and avoid catastrophic water main breaks.



CIVICA INFRASTRUCTURE INC. > civi.ca

After years of conducting sanitary sewer flow monitoring, primarily within the Republic of Ireland, Capital Water Systems Ltd. began seeking a comprehensive data management platform in order to enhance its service offerings and manage its data in a coherent and efficient manner. To this end, CWSL began working with **Civica Infrastructure Inc. (Ontario)** to evaluate its DataCurrent platform. This platform, which leverages Civica's extensive flow monitoring experience within southern Ontario, has allowed CWSL to streamline their data review process through the implementation of real-time alarm, and flexible charting, which significantly reduced data review time. Working with Civica, CWSL found the tools and solutions to address these requirements and intends to expand its services in this area.



FER-PAL INFRASTRUCTURE > ferpalinfrastructure.com

In 2016, the Town of Huntingburg, Indiana decided to address a 120-year-old, 150mm cast iron water main that had reached the end of its service life. Knowing that typical construction methods disrupt its downtown businesses, the Town hired Midwestern Engineering Inc. to pursue alternative methods. That team decided to use structural water main lining, and with the Town, hired **FER-PAL Infrastructure (Ontario)** to complete the work. Using the Aqua-Pipe water main liner and its industry-leading installation technology, FER-PAL structurally relined the water main with minimal disruption to traffic and the local businesses. The project gained state-wide attention and won the 2016 Merit Award for Engineering Excellence from the American Council of Engineering Companies (ACEC) of Indiana.

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- > Pure Technologies
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- > Water Matrix Inc.

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