

WATERLIX INNOVATION HIGHLIGHT



COMPANY OVERVIEW

Waterlix provides AI-as-a-service solutions for water utilities. Its solutions deliver insight for cities at any digital stage. Waterlix project in the City of London is selected as one of the top 15 clean-tech projects in Canada by Clean50 in 2018. Waterlix also has received two Ontario Centre of Excellence awards in 2019 and 2020. It has four published papers in national water associations such as CWWA and recently initiated cooperation with universities in Canada and the USA. Waterlix is a member of the AI committee in the Water Environment Association of Ontario.


LOCATION: CAMBRIDGE, ON

TECHNOLOGY




Data Centre and Cloud

Mehrdad Varedi, Founder/Data Scientist

 varedi@waterlix.com
waterlix.com

Rick Penwarden, Sr. Manager, Marketing

 rick.penwarden@cengn.ca
cengn.ca/projects

PITFALLS OF REACTIVE MAINTENANCE

Cities lose millions of dollars as a consequence of water loss. Their model's accuracy is not enough for proactive decision making, so they rely on a reactive approach to fixing and maintaining pipe leaks. A water survey by Environment Canada in 2009 estimated the annual cost of non-revenue water to be around 3 billion dollars. Cities continuously search for proactive approaches to detect infrastructure issues and replace faulty pipes to increase their service level and reduce water loss. The majority of cities still rely on excel based models or manual rules in their decision-making systems.

PROACTIVE UTILITY MANAGEMENT

The application orders pipes by their risk rank, identifying areas of buried pipe networks that need proactive planning and provides an estimated time to the next break. It also shows where the above-average stress exists on pipes giving urban development and water managers a proper strategy for future infrastructure planning. Waterlix saves municipalities time and money by removing the risk of any error in the modelling process. It provides additional insight into the time to break for pipes using advanced AI techniques and provides financial measures for decision-makers. It enables managers to assess new scenarios for project prioritization and planning independently.

PREPARING FOR GROWTH

Coming to CENG N, Waterlix scale tested their application to process data concurrently for 32 cities and identified bottlenecks. This test provided the planning insight for Waterlix to anticipate the required computing resources. Waterlix found the relationship between resources required and city-specific attributes. In another project, thousands of new features were generated and the best combination of geographical data was selected to enhance the AI model's prediction accuracy. The information gained during this project has armed Waterlix with the knowledge required to support its future growth.

"At CENG N, we received services and hardware to test and monitor our applications and observed how to reduce the required resources and increase the efficiency of our software system for water utilities and asset management teams."

Mehrdad Varedi

Founder/Data Scientist, Waterlix

