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# CANADA'S WATER INDUSTRY HARNESSING THE POWER OF AI, BIG DATA, AND IoT

The digital revolution has the potential to disrupt the water industry on a global scale. As more technologies employ artificial intelligence (AI), big data, and the internet of things (IoT), the way the world handles water resource management will change irrevocably.

Canadian firms are already taking steps to harness this rich synergy and lead this technological shift into a new water era that will be defined by informed decision-making, resiliency, and affordability. These companies have developed innovative methods and tools for predictive analytics, automation, and real-time monitoring that transform the vast amounts of raw data collected from smart sensors and meters into actionable insights.

Working with utilities, municipalities, and across industry verticals, Canadian firms are helping clients optimize its systems to use water more efficiently, saving them time and money. This conservation is especially important at a time when water scarcity is a growing problem across the world. Canadian solutions are helping clients curb unnecessary water usage, identify opportunities for reuse, as well as anticipate negative impacts of climate change.

The annual revenue generated from implementations of AI-software is expected to increase from **\$1.4 BILLION** IN 2016 TO **\$59.8 BILLION** BY 2025<sup>1</sup>.



1. Harnessing Artificial Intelligence for the Earth. World Economic Forum. 2018.



## EMAGIN CLEAN TECHNOLOGIES INC. > [emagin.ca](http://emagin.ca)

**EMAGIN Clean Technologies Inc. (Ontario)** secured an agreement with United Utilities in 2018 to deploy its artificial intelligence (AI) technology, HARVI, across the North West of the United Kingdom. Serving over 7 million residents, this is known to be the largest deployment of AI technology in the region and first of its kind in the water industry.

In 2019, a deployment was launched with Scottish Water to enhance service across Edinburgh. The technology will provide these utilities with a suite of real-time digital capabilities. In doing so, the company will help reduce total expenditure, enhance reliability, and prepare for emergencies.

EMAGIN empowers utilities and industrial users to act in real-time, with predictive knowledge to control critical processes. HARVI is system agnostic and is able to work with treatment, network, and industrial (Food and Beverage, Mining, Oil and Gas, etc.) processes to support a reduction in wastages leading to savings in total expenditure. Currently deployed across North America and the United Kingdom, agreements are in place to deploy in Europe, the Middle East, Latin America, Asia and Africa.



**WATER INDUSTRY**

**Bringing leadership and innovative solutions to the world.**

**TRADE COMMISSIONER SERVICE (TCS)**

# CANADIAN COMPANIES WORKING GLOBALLY

When it comes to advances in digital technologies for water management, Canadian companies are leading the way. Here are some examples of firms at work around the world.



## **AQUATIC INFORMATICS INC.** > [aquaticinformatics.com](http://aquaticinformatics.com)

In 2014, the Bay of Plenty Regional Council (BOPRC), which was formed by the New Zealand government to oversee the country's use of freshwater, land, air, and coastal water, needed a commercial, off-the-shelf solution to upgrade its aging environmental data management system. The BOPRC chose **Aquatic Informatics Inc.** (*British Columbia*) for its AQUARIUS Time-Series technology – a robust data platform that collects, manages, and processes large volumes of water data. The council was also impressed with the company's impressive client base, which includes the United States Geological Service and the National Institute of Water and Atmospheric Research. Today, the AQUARIUS Time-Series supports the BOPRC in managing risks posed by eight major rivers, including the region's major flood control schemes; issuing resource consent for people to use water resources; monitoring potential pollution scenarios; and helping residents care for and use resources sustainably.



## **WATRHub INC.** > [watrhub.com](http://watrhub.com)

The U.S. water industry has been constrained by missed sales opportunities, and limited growth. To solve these market challenges, **WatrHub Inc.** (*Ontario*) has built the industry's largest and fastest-growing data warehouse of over 500 million municipal documents and web pages to uncover predictive indicators for water and wastewater utility needs. Water industry leaders such as Suez, Evoqua, Xylem, and Mueller, use WatrHub to gain advantage on their most promising opportunities in U.S. water and wastewater utilities market. As a result of adopting WatrHub, clients see up to a 300% increase in sales pipeline conversion, 50% reduction in sales cycles, and 233% increase in market visibility. WatrHub uses a combination of water data experts and machine learning to aggregate, clean, layer, and analyze previously fragmented and unstructured data using proprietary tools to generate custom-tailored reports and high-value datasets.



## **INFIELD SOLUTIONS INC.** > [infieldsolutionsinc.com](http://infieldsolutionsinc.com)

The average residential water damage claim in North America is more than \$8,000. **inField Solutions Inc.** (*Ontario*) is working to help customers save on these often preventable expenditures. The company offers an integrated workforce automation platform that is digitally transforming the plumbing industry to meet the emerging demands of smart cities. Its inField Water iQ is a smart water monitoring and management platform that provides alerts about leaks, floods, pressure spikes, fluctuations in temperature, and consumption thresholds. As a proven solution that minimizes the expense associated with water damage and consumption in buildings, adopting this IoT technology can reduce property insurance premiums and claims by as much as 15%. In emergency situations, the platform can also remotely shut off water and dispatch certified plumbers to resolve the issue accordingly. inField Solutions is now export ready, having set up its initial pilots in the United States and is exploring opportunities in Mexico.

**MORE CANADIAN  
FIRMS OFFERING AI,  
BIG DATA, and IoT  
SOLUTIONS**

- > Alert Labs Inc.
- > Carl Data Solutions Inc.
- > eleven-x Inc.
- > Envirosim Associates Ltd.
- > inCTRL Solutions Inc.
- > Klir, Nanolytix Inc.
- > Waterlix

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