ALBERTA INNOVATES

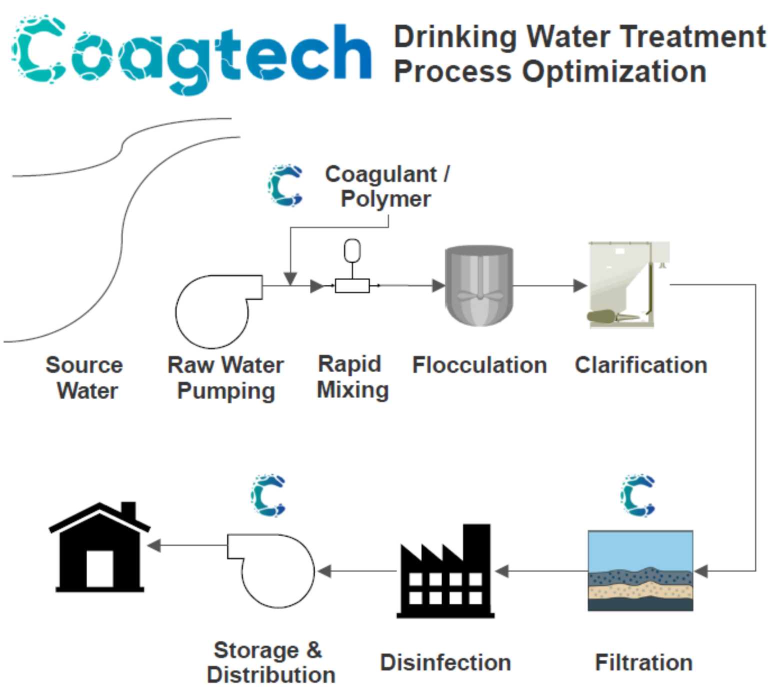
AGRICULTURE & ENVIRONMENT

ENVIRONMENTAL INNOVATION

WATER INNOVATION

Machine Learning and Advanced Numerical Methods for Drinking Water Treatment

Drinking water treatment is a critical process that safeguards public health and delivers a necessity of life, water. Within drinking water treatment there are several key processes that can be optimized through operational tools and control philosophies that leverage machine learning and other complex numerical methods. This project will focus on developing and deploying operational technologies that enhance coagulation, filtration, and distribution pumping operation to improve water treatment and distribution outcomes.



FUNDING DETAILS

RECIPIENT: Coagtech

PARTNERS: AB municipalities

TOTAL BUDGET: $845,000

AI FUNDING: $395,000

PROJECT DATES: JAN 2025 – DEC 2027

PROJECT TRL: Start: 4 End: 9

APPLICATION

The project will apply directly to drinking water treatment plants and include piloting of the technologies at several different types of drinking water treatment plants. The technologies developed may be transferable to other water treatment applications, including municipal wastewater and industrial water and wastewater treatment.

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PROJECT GOALS

The main goal of this project is to further develop and pilot all three optimization technologies such that benefits are quantified, and the products are commercialized. Quantification of technology adoption benefits, especially financial benefits from piloting of technologies, is an essential part of this project

BENEFITS TO ALBERTA

Where there is a strong demonstration of measurable benefits and return on investment municipalities are much more likely to adopt technologies, especially where the technology does not require construction of new infrastructure. This technology aims to:

- Reduce water treatment chemical usage and costs
- Improve water treatment and filtration performance
- Reduce pumping energy usage and water losses in public distribution systems

It is anticipated that work from this project will lead to commercial contracts for deployment of technologies with municipalities, further strengthening technology adoption among other drinking water treatment plants and expanding Coagtech's presence across Alberta, Canada, and globally.

5 Field Pilots

2 Students Trained

1 Patent

2 New Products/Services

Data Enabled Innovation

CURRENT STATUS

2025
Project recently kicked off