

CLEAN RESOURCES

ENVIRONMENTAL INNOVATION

WATER INNOVATION PROGRAM

FUNDING DETAILS

On-site rapid testing of water samples for E. coli and Total Coliform

Regular testing of drinking water for E. coli / Total Coliform as an indicator for the presence of harmful microbes, is a widespread best practice globally.

Standard laboratory methods have known drawbacks, including slow turnaround time and sample integrity issues during sample transportation. VeloCens™, Roshan Water™ Solutions' rapid, inexpensive, on-demand and on-site device for testing E. coli and Total Coliform in water samples offers several advantages, including:

- Portable Reader
- Consumables and recyclable water sample test kit
- Test results in 1 hour – no water sample shipment
- Data logging in central, user-controlled Cloud database
- Easy to use with step by step instructions



RECIPIENT:

**Roshan Water™
Solutions**



PARTNERS:

**NRC-IRAP, NAIT,
Mitacs, Canarie
DAIR, BVLabs**



TOTAL BUDGET:

\$484,735



AI FUNDING:

\$193,250



PROJECT DATES:

**APRIL 2019 –
MARCH 2021**



PROJECT TRL:

**Start: 5
End: 8-9**

APPLICATION

VeloCens™ can be used globally. Its portability and ease of use, without any need for expert operators, allows tests to be done anywhere by anyone. Based on internal and external (WaterNEXT, 2018) market assessments, main segments in North America are: Water & Wastewater Treatment, Food & Beverage, Agriculture and Military. Roshan Water™'s first target market is municipal drinking water operators who have the most pressing needs and are tightly regulated.



ALBERTA INNOVATES CLEAN RESOURCES

ENVIRONMENTAL INNOVATION

WATER INNOVATION PROGRAM

PROJECT GOALS

The key goals of the project include the following:

- Advance through further R&D, re-design and testing to a manufactured VeloCens™ product and cloud-based data platform.
- Obtain test cartridge performance characteristics (based on ISO 13843) for detection of E.coli and Total Coliform, doing side by side testing with Bureau Veritas Labs.
- Follow US EPA Microbiological ATP protocol, including obtaining approval for study design to do a large-scale field test, and submit the study report for regulatory approval.
- Develop IP strategy and formally protect IP including patents and trademark protection.

BENEFITS TO ALBERTA

- Owners/operators of regulated waterworks, recreational water bodies, and unregulated (private) water sources can test water samples more frequently.
- Increase citizen confidence in drinking water and recreational water.
- Enable prompt and efficient communication of test results to all necessary authorities.
- E.coli / Total Coliform tests can be performed on-demand and reported in near real time for less cost than current lab testing.
- Powerful tool to address rural municipality and indigenous community water security issues, and significantly improve response time on setting and lifting boil water advisories.
- 12x reduction in time for pathogen test results.
- Establishment of Roshan Water™'s advanced manufacturing, assembly and distribution facility in Alberta
- Reduce GHG emissions from 1) fuel consumption associated with transporting samples to local health units 2) Paper-less acquisition forms and 3) reuse/recycle of sampling bottles



3 Publications



3 Project Jobs



7-10 Future Jobs



4 New Products/
Services



1 Patent
2 Trademarks

CURRENT STATUS

APRIL 2020

- Obtained important alternative method performance characteristics such as sensitivity, selectivity and false negative rate according to ISO 13843.
- Development of VeloCens™ V3.0 deployable product is underway with the unit metallic housing fully designed.
- Five meetings conducted with interested early adopters for VeloCens™ usability pilot program.