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CANADA'S WATER INDUSTRY WATER QUALITY MONITORING TECHNOLOGIES

Rapid advances in sensors and monitoring equipment have not only lowered the cost of production and made these technologies more broadly available and affordable, they have changed the way the world manages water and potential risks.

Furthermore, collecting and transmitting this data in “real-time” allows operators to track water system health, detect problems, and make evidence-based – and often proactive – decisions to fix them. Acting on results in timely manner can save money, as well as preserve reputations. Most importantly, it can protect human and environmental health.

Several Canadian firms have developed disruptive water technologies that leverage these advances to deliver cost-effective, real-time results. They are helping clients to comply with strict standards, supporting government efforts to reduce pollution, and detecting problems before they become crises.

UP TO
323 million



PEOPLE ON THREE CONTINENTS
are at risk of infection from diseases
caused by pathogens in water.¹



REAL TECH INC. > realtechwater.com

In 2014, India's Central Pollution Control Board (CPCB) decided to implement regulations to reduce pollution of waterways and created new legislation requiring real-time water quality monitoring of industrial wastewater effluent discharge. The new regulations require 17 of the highest polluting industries to monitor their effluent wastewater discharge in real time. Furthermore, the data must be streamed to servers housed with the CPCB so it can store and monitor it.

With a large and growing base of customers, as well as a partnership with a publicly traded water and wastewater company, **Real Tech Inc. (Ontario)** is part of the solution in India. The company provides a suite of portable and real-time water quality monitoring solutions that have been sold in more 50 countries. Importantly, Real Tech's solutions are helping to reduce pollution, improve environmental and human health, and help industrial plants optimize their internal resources.

¹(UN Environment, 2016)

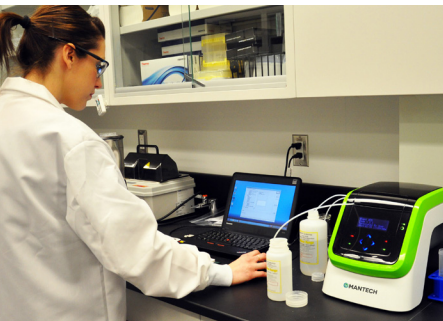
Bringing leadership and innovative solutions to the world.

WATER
INDUSTRY

TRADE COMMISSIONER SERVICE (TCS)

CANADIAN COMPANIES WORKING GLOBALLY

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



MANTECH INC. > mantech-inc.com

At pulp and paper mills, the impact of dissolved organics, as measured by chemical oxygen demand (COD), can have a large influence on cost and performance. At the same time, environmental regulations for COD discharge are tightening worldwide. Additionally, in September 2017, the European Chemicals Agency will ban the use of potassium dichromate, which is traditionally used in COD tests. **MANTECH Inc.**'s (Ontario) PeCOD® Analyzer technology is safe, fast, and green – it eliminates the use of mercury, dichromate and concentrated acid, and results are generated within 15 minutes. In a full-scale application, a mill laboratory in Chile used the PeCOD method to provide results to process engineers 2.5 hours faster than the dichromate COD method. The results helped the mill reduce its dependence on hypochlorite, resulting in lower levels of organics in the wastewater plant and further reductions in chemicals and energy used for treatment. The total savings over 12 months netted USD \$3 million.



LUMINULTRA > luminultra.com

After reports of *Naegleria fowleri* amoeba in some municipal drinking water systems in Louisiana, USA, regulators mandated that free chlorine residual be maintained at a minimum of 0.5 mg/L throughout distribution networks in the state. To establish baseline numbers and detect and address hot spots, a local firm conducted an extensive sanitary survey in a small municipality. In addition to Total Chlorine tests, the firm used **LuminUltra**'s (New Brunswick) second-generation adenosine triphosphate (ATP) test kit to quantify the total microbiological population in the water. These numbers identified the hot spots, the municipality took remedial action, and addressed the issue. Using rapid microbiological testing, the client conclusively identified the source of the problem, saved time and money, and reduced the risk of pathogens.



TECTA-PDS > ecolidetected.com

Water quality monitoring can be very challenging in dense urban regions. In the Philippines, Metro Manila is home to about 24 million people in a total land area of just 613.94 km². The Ministry of Health water microbiology lab runs an average of 800 water samples per month. With limited staff resources, sudden increases in sample loads can quickly overwhelm operations. With millions of lives at stake, the main challenge is to provide the most accurate sample results in the shortest time possible. After approving the Tecta B16 from **TECTA-PDS** (Ontario) as a standard method, the Ministry is now deploying systems across the Philippines. The system is the only United States EPA automated method approved for testing *E. coli* and coliforms. Using this solution significantly reduces operational costs, particularly when samples need to be shipped, and provides quick and accurate non-subjective results.

**MORE FIRMS
OFFERING WATER
QUALITY MONITORING
SOLUTIONS:**

- > A.U.G. Signals
- > Cancoppas
- > ecolnsight
- > FREDsense
- > Genemis
- > Global Spatial Technology Solutions Inc.
- > Heron Instruments
- > Measuremax
- > Rapid BioDetection Inc.

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