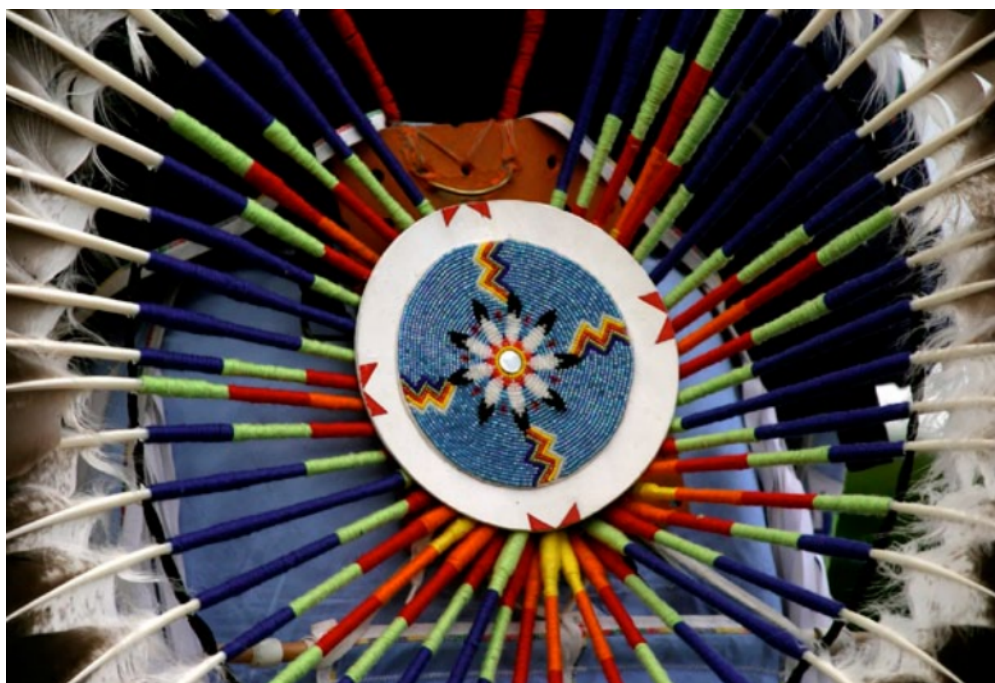


First Nation communities in Canada remotely monitor the quality of their drinking water

Qsenz's event detection system remotely monitors the drinking water quality of sixty small water systems in the First Nation communities of Alberta, Canada.



Background

Over the past few years, the small communities in Canada have been struggling with managing the quality of their water systems and incidents of contamination have led to a number of accidents.

The Government of Canada has started a large project to provide safe potable water in First Nations communities by improving the infrastructure and training water & wastewater operators as part of the First Nations Water Management Strategy. The Government has also decided to install remote water quality monitoring in the First Nations communities in order to ensure that plant operators can be alerted in case of an anomaly in the water quality. This is particularly important to assure the necessary standards, especially as there is a high turnover of plant operators.

s::can's solution

The water quality of the small communities is being monitored by s::can's micro::station which combines several s::can probes and the con::cube, a state of the art controller. The micro::station is designed for online monitoring of water quality parameters in clean media and is a complete, compact and versatile solution. Each monitoring station consists of a con::cube with four s::can sensors (spectro::lyser, ammo::lyser, chlori::lyser and pH::lyser). A total of ten parameters are measured at each station, including TSS, COD, BOD, EC, pH, Temperature, NH₄, DO, Chloride, NO₃-N, Chlorine and free Chlorine. The system was installed in combination with a decentralized event detection system based on s::can's moni::tool, that continuously analyses spectral alarm parameters to detect changes resulting from untypical, possibly harmful, water quality events. Real time data is then automatically transferred to an information network that links all First Nation water treatment plants to the Alberta SuperNet. moni::tool is a revolutionary new platform for the management of measuring stations, online probes and analysers. Whether it is installed in a large monitoring network or as a standalone station, moni::tool's intuitive software and state of the art features are an essential backbone for sensor and station management.



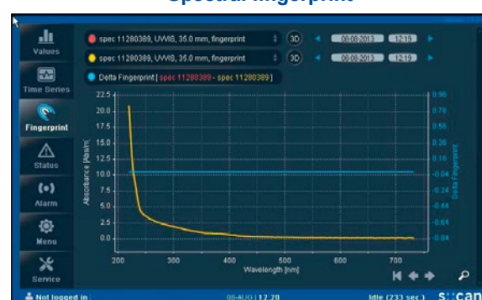
The fully modular micro::station combines several s::can instruments to a compact and versatile system. The s::can micro::station is designed for online monitoring of water quality parameters in clean media, such as drinking water. The components are factory assembled with all required flow cells, mounting fittings and pipework on a compact panel.

Total chlorine measurements



When drinking water is disinfected through chlorination it is necessary to continuously control the actual chlorine level. This figure shows the total chlorine measurements of one of the monitoring stations in Alberta.

Spectral fingerprint



Using the information contained in the fingerprint it is possible to monitor multiple water quality parameters simultaneously and at the same time compensate these parameters for possible cross-sensitivities.