

Drinking Water Solutions for First Nations

WaterInsight™



Drinking Water Challenges in First Nations

Canada is one of the most water-rich countries in the world. Access to safe, clean and reliable drinking water should be a fundamental right for all Canadians, *not a privilege*. Regrettably, for many First Nations and small communities across the country this is simply not the case. Efforts have been made by the Federal Government to address this issue, but progress has been slow and not always effective. Challenges include complex water treatment processes, shortage of skilled operators, and remoteness of communities. One of the key findings in a report published by the C.D. Howe Institute 10 years after the Walkerton water crisis concluded that small communities should develop a water safety plan that helps operators fully understand the nature of the challenge and **better equip them with appropriate, effective support systems** to deliver on their responsibility. In other words, a drinking water safety plan that revolves around “Know Your Water System”.

Introducing WaterInsight™

WaterInsight is a comprehensive support system for measuring and managing water treatment system operations. It leverages data analytics to provide actionable information for operators to achieve sustainable performance. The solution consists of 3 main components:

1. The Information Factory™ (powered by OPSgrok)
 - *Incoming Data Logistics* – checks and balances on data flows, data volumes and data quality
 - *Data Management & Administration* – data processing, archiving, backup, networking, change management, security, authorization and access
 - *Production Execution System* – remote monitoring services, end user administration, alerts, notifications, and escalation procedures
2. WaterInsight Analytics Engine – converts data into actionable information by:
 - Encoding rules of operation;
 - Understanding key performance indicators (KPI's);
 - Managing maintenance schedules and activities;
 - Evaluating threshold violations and abnormalities;
 - Comparing historical trends;
 - Developing predictions for fault or failure conditions.
3. Visualization & Reporting – (powered by e.RIS):
 - Dashboards, Reports,
 - Manual data entry
 - Electronic log books
 - Mobile applications (phones & tablets)

First Nations Helping First Nations

A unique component of the Drinking Water Solutions for First Nations is our vision for creating Regional Innovation Hubs and Technical Support Centres, staffed and operated by First Nations personnel. These Centres would provide guidance and support to operators in partner communities, helping with troubleshooting problems and developing best practices for water treatment operations. They would have access to the same operations data as provided to the community operators, allowing them to clearly understand the factors that could be affecting operations and provide expert opinions and guidance in problem solving exercises.

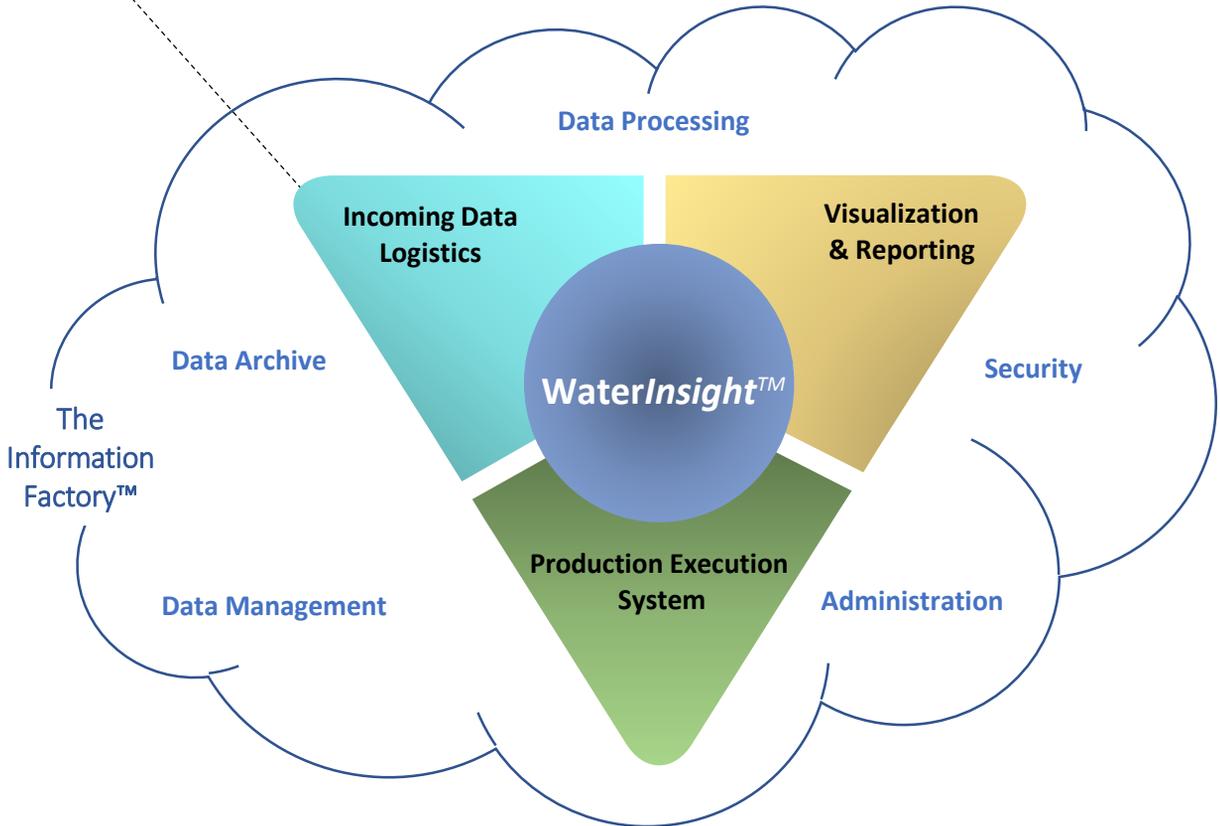
SCADA,
Automation &
Controls



Water Treatment Facility



Community Operations
Personnel



Data Quality Checks

Data Flow Checks

Change Management

Backups

Testing

End-user Access Management

Incident Management

Notifications

Alerts

Escalation Procedures



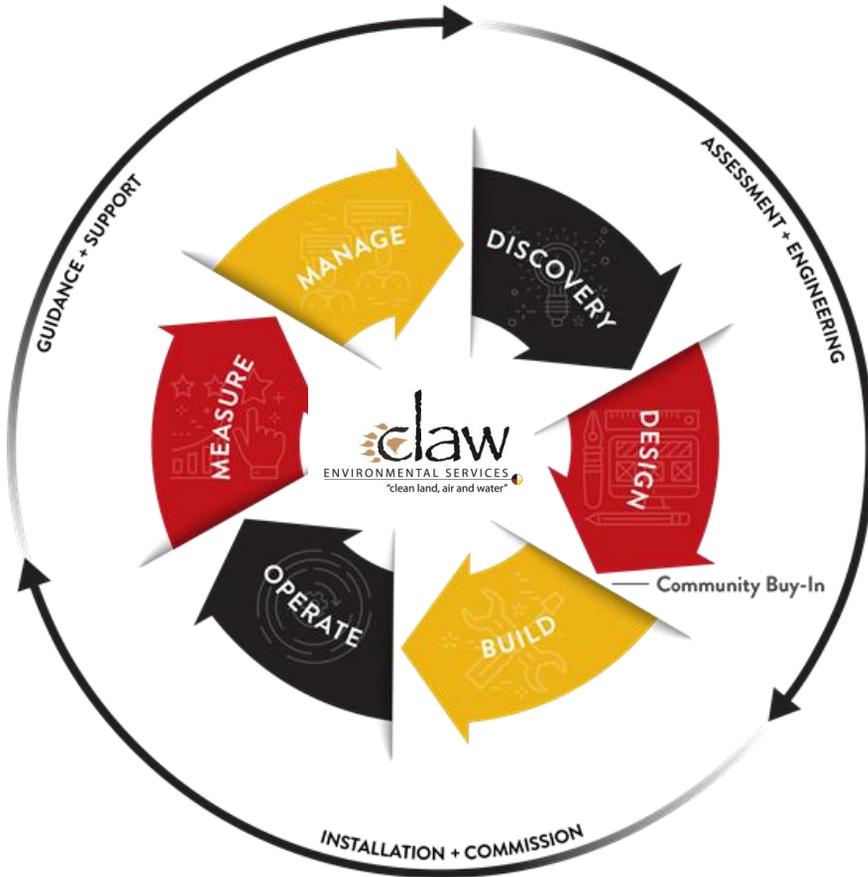
Remote Monitoring Service
24 x 7 Support



First Nations Regional Innovation Hub
&
Technical Support Centre



The CLAW Team provides simple, **reliable**, **sustainable** world class drinking water solutions that address First Nation needs and values.



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