

WASSER RESOURCES TECHNOLOGY SOLUTIONS FOR NORTHERN & FIRST NATION COMMUNITIES

Northern First Nations & resource-based communities face unique challenges due to the following:

- Intense winter cold and snow makes thermal conservation a very high priority
- Frequent reliance on diesel fuel which needs to be trucked in or even flown in at high cost
- Short summer season available for construction of facilities and infrastructure
- Restricted sunlight during long winter season, offset by very long summer daylight periods
- Long supply lines increase inventory supply costs
- Very high cost of transporting heavy building materials and construction materials
- Shortages of maintenance staff for specific technologies increases importance of reliability
- Poor stay of building and infrastructure due to inadequate maintenance and capital funding
- Rapid growth of population, and potential rapid development of mines and natural resources

Due to these factors, these northern communities have unique facility and infrastructure needs. The following products have been selected for these markets due to their robust and durable construction, their low maintenance requirements, and their ability to address the special needs of Canada's north. For these communities, system durability, reliability, ease of construction and energy efficiency are of paramount importance. The following products have been highlighted because of their particular relevance to these specific challenges:

[Autani Wireless Retrofit Building Automation and Control Systems](#)

- Reduce power consumption for lighting, HVAC & plug loads and major equipment
- Monitor and automatically turn off and on electrical devices including lights, electrical
- Managers can easily create and modify on/off schedules for numerous devices
- Monitor and control all electrical devices from your own local Autani Control Centre
- Can incorporate thermostats, light meters, humidity meters to help monitor operations
- Provides you with round-the clock 365 year per year monitoring, control and security
- Each individual device monitor and controller is inexpensive and easy to install
- System is fully modular to enable you to gradually build your system
- Once installed Autani devices and system need almost no maintenance.
- You maintain control over your system, but Autani is available to help with a 24 support line

[Eagle Technology Proteus Computerized Maintenance Management Systems \(CMMS\)](#)

- PC and cloud based software program to help manage all assets
- Systems used globally to manage buildings, vehicles, equipment and infrastructure
- Proteus help you to manage your assets all through their product life cycle
- Proteus records the purchase of equipment, supplies and the contact services.
- Proteus is used to plan, schedule, undertake and record all anticipates maintenance work
- Proteus is also used to manage, respond to and document unplanned emergency repairs
- Use Proteus to manage part supplies to ensure you have inventory when and where needed
- Use Proteus to schedule contractor and maintenance staff work and travel including costs
- Proteus generates a wide range of reports based on any criteria or time period you need
- Proteus is used by Kasabonika Lake First Nation (ON) and Hartley Bay First Nation (BC)
- Proteus is used by Agriculture & AgriFoods Canada, CSA and Woodbine Casino & Race Track

[eTime HeatShield Nanotechnology Insulating Window Coating](#)

- Unique Canadian developed product dramatically reduces winter window heat loss
- ETime is a transparent coating that is "painted" directly onto existing window surfaces
- Reduces thermal loss without loss of essential window transparency and desired day light
- HeatShield reduces heating costs and makes rooms far more comfortable for occupants
- HeatShield also blocks almost 97% of dangerous UltraViolet (UV) radiation from the sun

[Illumiant Off Grid Solar Photovoltaic \(PV\) and Wind Turbine Powered Street Lights](#)

- Canadian developed technology for remote off-grid locations to provide light year round
- Ideal for remote communities, roads, air strips, communities, construction sites and camps
- Illuminant incorporate high efficiency super bright LED floodlights
- Illuminant includes all equipment pre-mounted on full height street poles
- Installation only required a hole drilled by a standard auger for installation
- Power provided by pre-mounted solar PV panel and vertical axis mini-wind turbine.
- Illuminant supplies the night time illumination to help make any remote site safer
- [Elspec Power Quality Meters and Customized Power Quality Remediation Systems](#)
- Elspec power quality systems identify and fix many types of power quality problems
- Elspec systems resolve phase imbalances, broadband harmonics, surge, sag and spikes
- Elspec systems are used in wind turbines and diesel generators to clean power produced
- Elspec cleans power corrupted by heavy equipment used in drilling, mining and forestry
- Elspec protects vulnerable controls, computers and telecommunication equipment
- Elspec conserves valuable power by converting dirty power" into usable clean power

[HanitaTek SafetyZone Security and Privacy Window Films](#)

- Protect windows against damage from hail and wind storms and other environmental risks
- Protect windows against vandalism, accidental explosion and break and entry.
- Reduce risk of window breakage which can result in rapid loss of building heat
- Addresses challenge of window repair and replacement in remote north especially in winter

[Heat Saving Systems Protective Entrance Door Air Curtains](#)

- Wide range of electrically heated, hot water heated and unheated (ambient models)
- Full line of options for pedestrian and freight entrance doors
- Conserve precious heat all year long
- Prevent the rapid loss of building heat each time an exterior door is opened
- Keeps out insects, dust, rain and snow
- Specially designed and built for cold northern conditions

[Hybride On Board Hydrogen Fuel Cells for Vehicles and Stationary Generators](#)

- Easy to install retrofit hydrogen fuel cell kits can be added to any vehicle
- Designed to dramatically increase fuel efficiency of both diesel or gasoline fueled vehicles
- Process uses a simple electrolysis process to split the water into oxygen and hydrogen
- Hydrogen is then immediately injected into a fuel line to safely accelerate combustion

[Kajotec Portable Solar Photovoltaic Charging Panels](#)

- Kajotec is a young and innovative Canadian technology development company
- Kajotec portable solar pv panel can become an essential tool for northern residents
- Charge any electrical device including cell phones, computers, and car batteries
- Operate at any temperature as long as there is a minimal supply of sunlight available

[Kroll Multi-Fuel Robust High Efficiency Emergency and Stationary Generators](#)

- These German built generators have the highest efficiencies currently on the market
- Conserve precious and expensive trucked-in and flown in diesel fuel
- Unique multi-fuel generators designed to operate on a wide range of common waste oils
- Designed to burn cooking, fish, animal, vehicles and other waste oils as well as diesel

[Solar Shingles Canada Solar Photovoltaic \(PV\) Solar Shingle System](#)

- Canadian designed modular steel roof shingles roofing system
- Shingle units including wiring connect together easily like Lego®
- Provides a highly durable roof that will last for 25 years (double typical life asphalt shingles).
- Generates large amounts of electricity throughout the long northern summer
- Low voltage shingle wiring can be installed by any qualified by roofer
- Electrician only needed for final system connection to building inverter at end of installation
- Systems are shipped as a complete kit with all components including shingles and wiring
- Can help reduce reliance on diesel power all summer long.