

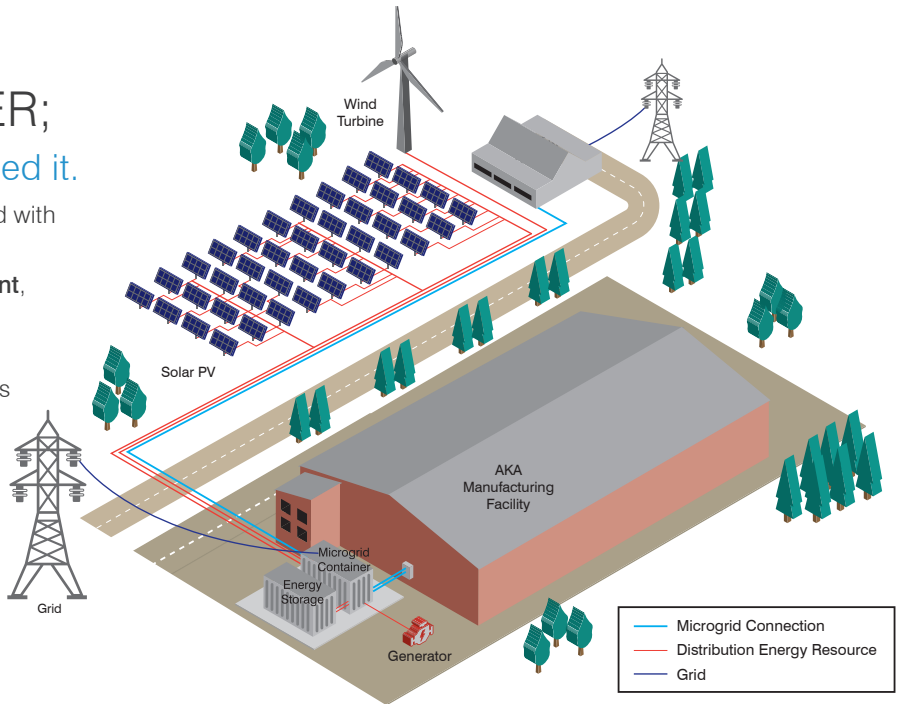


# POOLE'S CORNER SMART MICROGRID

Launch Date: First Quarter 2018

PROVIDING **GREENER**,  
**MORE RELIABLE POWER**;  
Where you need it - When you need it.

AKA's Poole's Corner Smart Microgrid is designed with a focus on **power system reliability**, **reduction of energy costs**, **power distribution management**, and **energy storage** to support the location that includes two facilities; manufacturing and AKA's START Centre engineering building. It incorporates a diesel generator, renewable energy and, energy storage for grid reliability, grid resilience and reduce energy cost.



## POOLE'S CORNER KEY SPECIFICATIONS

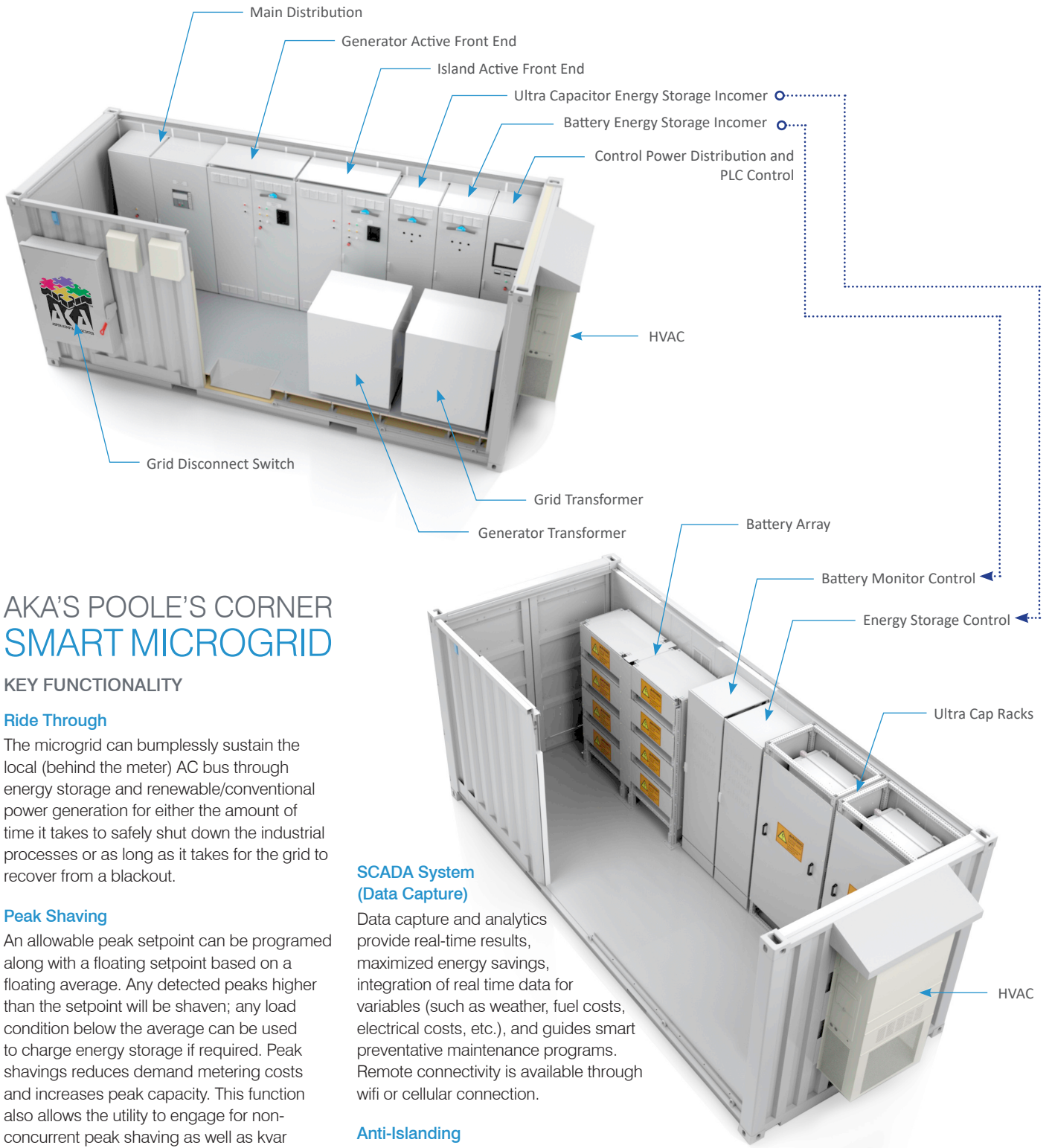
Renewable Energy	Power Generation
<ul style="list-style-type: none"> <li>· 200 kW Solar PV (40 strings of 15 panels)</li> <li>· 10 kW Wind Generation</li> </ul>	<ul style="list-style-type: none"> <li>· 250 kW Diesel Generator</li> <li>· Integrated from existing industrial standby generator</li> </ul>
Grid Connections	Peak Load Capacity
<ul style="list-style-type: none"> <li>· 2 x 7200 VAC</li> </ul>	<ul style="list-style-type: none"> <li>· Maximum 480 kVA</li> <li>· Nominal during day: 200 kW</li> <li>· Nominal during night: 40 kW</li> </ul>

## ENERGY STORAGE

Ultra-Capacitors	Lithium Ion Battery
<ul style="list-style-type: none"> <li>· Energy 5.25 MJ / 1.5 kWh</li> <li>· Power 850 kW</li> </ul>	<ul style="list-style-type: none"> <li>· Energy 125 kWh</li> <li>· Power 500kw</li> </ul>

Housed in separate 6M climate controlled containers.





# AKA'S POOLE'S CORNER SMART MICROGRID

## KEY FUNCTIONALITY

### Ride Through

The microgrid can bumplessly sustain the local (behind the meter) AC bus through energy storage and renewable/conventional power generation for either the amount of time it takes to safely shut down the industrial processes or as long as it takes for the grid to recover from a blackout.

### Peak Shaving

An allowable peak setpoint can be programmed along with a floating setpoint based on a floating average. Any detected peaks higher than the setpoint will be shaven; any load condition below the average can be used to charge energy storage if required. Peak shaving reduces demand metering costs and increases peak capacity. This function also allows the utility to engage for non-concurrent peak shaving as well as kvar power correction.

### Synchronization

The generator active front end (AFE) is capable of synchronizing to the grid allowing for the standby generator to run parallel to the utility indefinitely.

### SCADA System (Data Capture)

Data capture and analytics provide real-time results, maximized energy savings, integration of real time data for variables (such as weather, fuel costs, electrical costs, etc.), and guides smart preventative maintenance programs. Remote connectivity is available through wifi or cellular connection.

### Anti-Islanding

To ensure there is no back feeding when utility maintenance is required or when the utility is blacked out a transfer switch is provided as well as an anti-islanding automatic disconnect. The transfer switch is accessible from outside the container to permit electric personal to access it for safe maintenance.

### Generator Availability For High Peak Season

The generator can be made available to run and feed the grid upon request by the local utility provider to meet infrequent peak demands on the grid.

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**HEADQUARTERS**  
PO Box 577  
23 Brook Street  
Montague, PE  
Canada C0A 1R0

**LOCATIONS**  
North America - Canada  
Asia - Singapore  
Partnership - MAN, Germany

**SALES INFO**  
+1.902.620.4882  
sales@aka-group.com  
[www.aka-group.com](http://www.aka-group.com)

