

Trade Mission Canada-Brazil: Digital Transformation

Bringing Digitalization Innovation to Life

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Alectra at a Glance



Alectra is the **Second largest municipally-owned** integrated energy solutions company in **North America**

Over **C\$4.8 billion** in assets and **1,500 employees**

Serving over **1 million customers** in **17 communities**

Two subsidiaries:

- **Alectra Utilities:** responsible for distributing electricity to residents and businesses
- **Alectra Energy Solutions and Services:** provides innovative energy solutions, such as microgrids, energy storage, solar PV, sub-metering, and streetlighting

Alectra: By the numbers

7,000 kilometres
of overhead lines



1,921 square-kilometre
service territory



14,000 kilometres
of underground cables



11
offices and service centres



120,000
distribution transformers



600
fleet vehicles



Bringing Energy Innovation to Life



**Where great minds collaborate,
to power a better tomorrow**

The Alectra GRE&T Centre makes energy innovations come to life by identifying, evaluating, developing and accelerating emerging, clean, and customer-friendly energy solutions.

Strategic Areas of Focus



Smart Cities

Powering homes, buildings and transportation with smart, clean technologies

Focus on e-mobility



Grid Innovation

Leveraging grid modernization technologies to enable a more sustainable grid

Focus on Distributed Energy Resource (DER) integration, a Distribution System Operator (DSO) model, and a Transactive Energy Platform



Advanced Planning

Harnessing emerging technologies and cross-industry solutions to enable a digitalized utility of the future

Focus on market intelligence, advanced data analytics, integrated end-to-end solution design and deployment, and decentralized data governance

Digitalization Disruption in the Utility Sector

2019:

6 million EVs worldwide



2030:

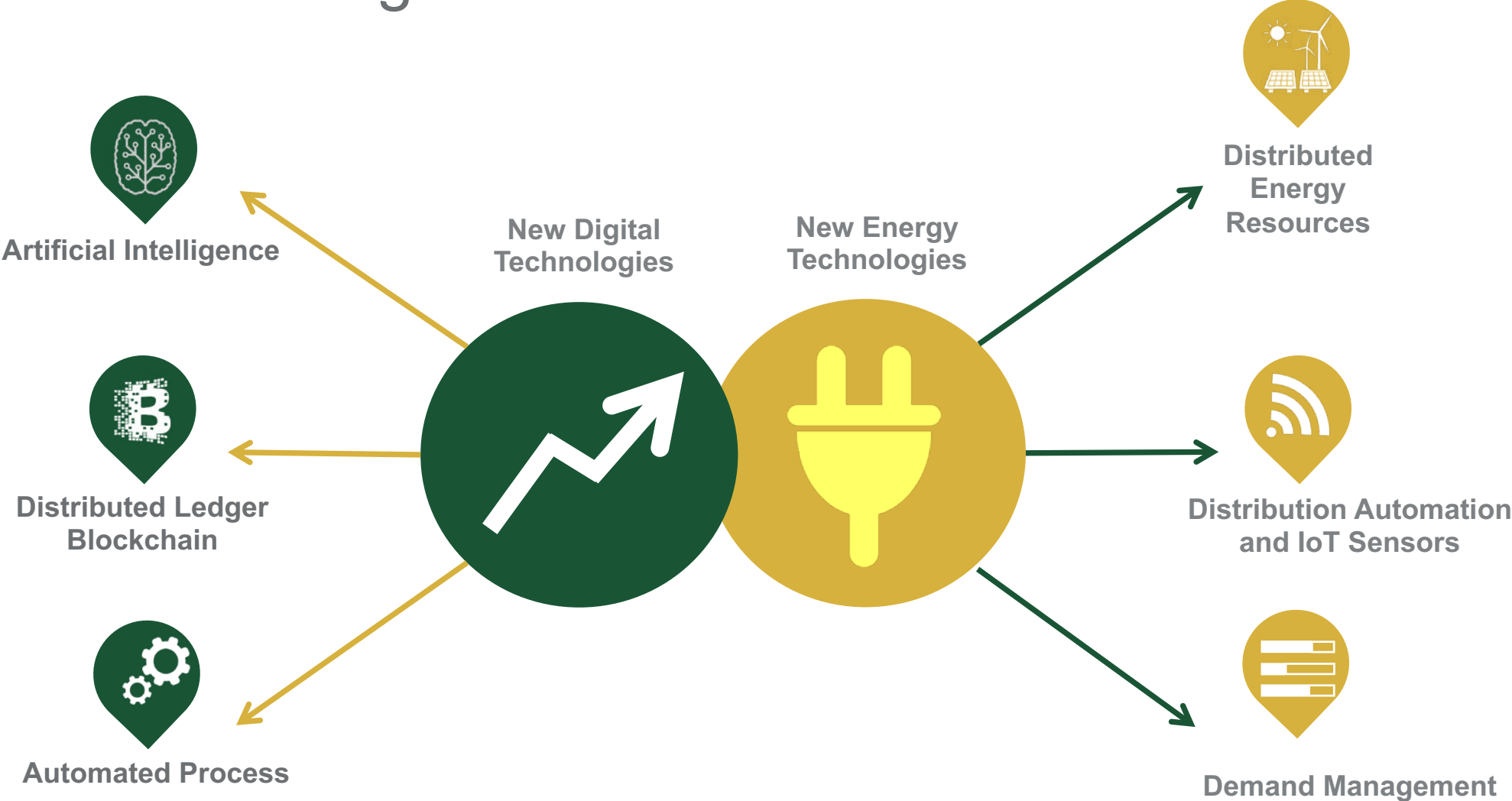
125 million EVs worldwide



4 Mega Trends Disrupting the Utility Sector



Utilities Digital Reinvention



Change is
also an
Opportunity



Sustainable Homes: POWER.HOUSE Project

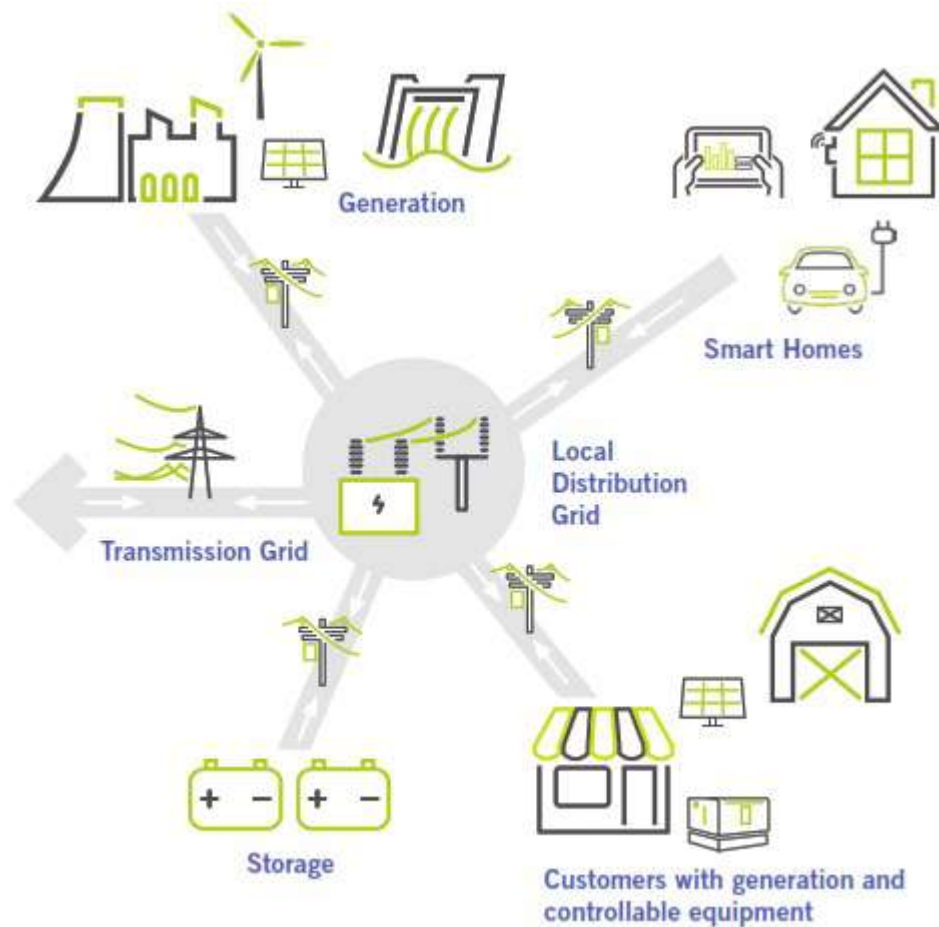


A fully integrated, digitally controlled residential solar+storage solution that:

- Gives customers (22+ homes) an active role in managing their homes' energy consumption and generation
- Provide bill savings and back-up power
- Provide ancillary services to the grid, controlled by the grid operators

The pilot evaluates the economic and grid benefits of residential solar storage for consumers and Ontario's electricity system.

Sustainable Province: IESO York Region Non-Wires Alternative



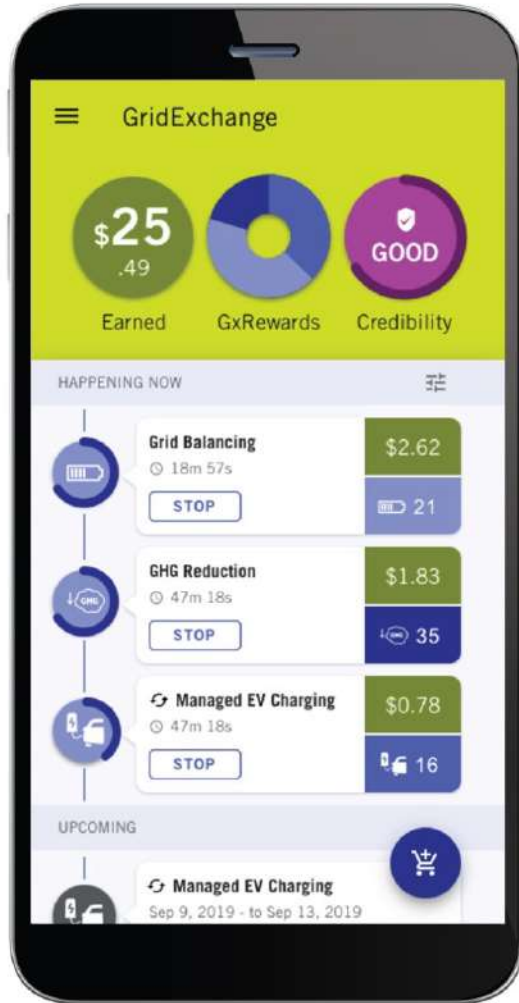
Canada's first local energy and capacity market in southern York Region, Ontario.

Demonstrates potential for non-wires alternatives to meet local, regional, and province-wide electricity needs.

10 MW energy market running May to Oct 2021

30 MW energy market to run in 2022

Enabling Green Choices: GridExchange



A transactive, blockchain-backed energy platform and app.

Offers customers the ability to participate in an energy marketplace featuring a secure, real-time energy exchange, and a settlement process with compensation and rewards.



Advanced Data Analytics on Utility Data

- Application of Advanced Data Analytics on utility data that can lead to process enhancement, time saving, resource and process optimization, and to make data-driven business decision.
- Data analytics solutions to be implemented in four areas:
 - Vegetation Management,
 - Asset Utilization,
 - Predictive Maintenance,
 - Asset Life Cycle

Data Analytics Pathway

Diagnostic Analytics

Short-term:

- To gain insights into the past and current performance of the process
- To make data-driven business decisions in the future
 - Where/how is money being spent?
 - Is it effective?
 - Tracking progress

Proactive Analytics

Medium-term:

- Move from time-based cyclical to needs-based, proactive risk score-based process

Predictive Analytics

Long term:

- Model to predict when issues happen
- Precise targeting for enhancements



Thank you for your time!