

GRE&T Centre Report 2024

Where great minds collaborate
to power a better tomorrow



Accelerating the Energy Transition

The year 2024 marked a significant milestone for the Alectra Green Energy and Technology (GRE&T) Centre as we celebrated five years of driving innovation, advancing clean energy solutions, and delivering meaningful impact for our customers.

This pivotal year also saw artificial intelligence (AI) become deeply embedded in our solutions, as we actively explored the possibilities it presents for transforming the energy sector. As an innovation hub dedicated to evaluating, developing, and accelerating, sustainable, and customer-centric energy solutions, AI has become instrumental in our efforts to enhance customer experiences, optimize grid resilience, and support Alectra’s vision of becoming the utility of the future.

We recognize that enduring transformation also necessitates new business models, progressive regulatory frameworks, and evolving customer expectations. From integration of Distributed Energy Resources (DERs) to AI-powered intelligent forecasting to new local distribution system markets, we are piloting new technology to revolutionize how we deliver reliable and cost-effective power on demand. Through strategic partnerships and a steadfast commitment to sector leadership, we learn and disseminate best practices. We continue to push the boundaries of what is possible, shaping a more resilient, affordable and sustainable energy future.

Guided by the Best in the Industry

The GRE&T Centre Advisory Committee, established in May 2019, brings together professionals from diverse fields to provide fresh, outside-in perspectives. These exceptional individuals play a crucial role in guiding innovation and shaping strategic initiatives:

[Bios of the GRE&T Centre Advisory Committee](#)

Dr. Pina D’Agostino – Chair
Chantel Broten – Member
Lorelei Graham – Member
Dr. Janusz Kozinski – Member
Dr. Brian Mergelas – Member
Nicholas Parker – Member
Brian Bentz – President and CEO, Ex-Officio Member
Julia Zhu – EVP and CDIO, Ex-Officio Member
Geri Yin – VP, GRE&T Centre, Ex-Officio Member

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The GRE&T Centre’s mission is twofold—enabling Alectra to stay ahead of the change, while also shaping the future of energy. It’s where bold ideas become real-world impact, powered by exploration, deep listening to our customers, and partnerships that reach beyond the grid to serve our communities.”

— Julia Zhu, EVP and Chief Digital & Innovation Officer, Alectra Inc.

Adapting to Change: Our Three Strategic Focus Areas

In 2024, we redefined our strategic focus areas to better align with the evolving needs of Alectra and our customers and to ensure that we remain at the forefront of innovation.



Emerging Technology

We harness emerging trends and technologies to identify solutions that align with our strategic goals and future vision of the utility. Our focus is on creating real-world scenarios to evaluate new technologies and developing pilots, helping business leaders integrate these innovative solutions into existing workflows.



Grid Edge Solutions

We leverage grid edge technology and innovative market approaches to support the development of a more resilient, cost-effective, and customer-centric grid. Our focus is on developing scalable customer-facing programs, enabling eMobility and non-wires solutions, and supporting DER integration.



Partnership & Total Experience

We identify and implement solutions that elevate the user experience for employees, customers, partners, and key stakeholders. Our focus is on optimizing experience through data-driven insights, digital analytics and technology, and strategic partnerships. These efforts enhance customer satisfaction and accelerate innovation.

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By integrating AI and leveraging intellectual property (IP) strategically, the GRE&T Centre is rethinking traditional approaches, adapting strategies, and fostering collaboration to ensure we remain agile and responsive in an ever-changing world.”

— Dr. Pina D’Agostino, Chair, GRE&T Centre Advisory Committee

Five Years of Impact – A Retrospective (2019–2024)

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From a bold vision in 2019 to a transformative force today, Alectra GRE&T Centre leads in innovation, sustainability, and collaboration. We have been empowering the communities we serve to actively join the energy transition through impactful, award-winning initiatives.”
— Brian Bentz, President and CEO, Alectra Inc.

The GRE&T Centre’s influence extends well beyond individual projects, grounded in a philosophy of collaboration and visionary leadership. By bringing together a diverse network of industry leaders, government agencies, regulatory bodies, and forward-thinking stakeholders, the Centre has proven that when great minds come together, remarkable achievements ensue.

Timeline of achievements

January 1: Launch of the Alectra GRE&T Centre	Professional Engineers of Ontario Project of the Year Award AlectraDrive @Work Pilot	AESP Energy Award: IESO York Region Non- Wires Alternatives	Alectra filed its first patent for GridExchange	Power House Hybrid 2022 PEO Project of the Year Silver Award	CS Week Conference 47 Innovator of the Year - eMobility	Alectra's first Zero Carbon Building Certification	GRE&T Centre helps shape Alectra's AI Policy	Renewed GRE&T Centre Strategy
2019	2020	2021	2022	2023	2024			
Smart Cities Smart 50 Award Advantage Power Pricing (APP)	2019 CEA Awards of Excellence Advantage Power Pricing Pilot	Public Power Utility of the Year, Alectra Utilities SEPA Power Player Awards	Tom Mitchell— Electric Vehicle Leadership Award	OEA Innovation Award (Ontario Energy Association)	Announcement of new ultra-low overnight TOU pricing option (based on GRE&T Centre APP pilot)	IESO NWA Demonstration recognized in Electricity Canada's Centre of Excellence for Innovation Excellence in Distribution	Redefined strategic areas of focus	

In November 2024, Alectra commemorated the GRE&T Centre’s fifth anniversary with a special event at its Guelph office. The celebration brought together industry partners, community leaders, and special guests to honour the Centre’s accomplishments and its five-year legacy of driving innovation in clean energy solutions.

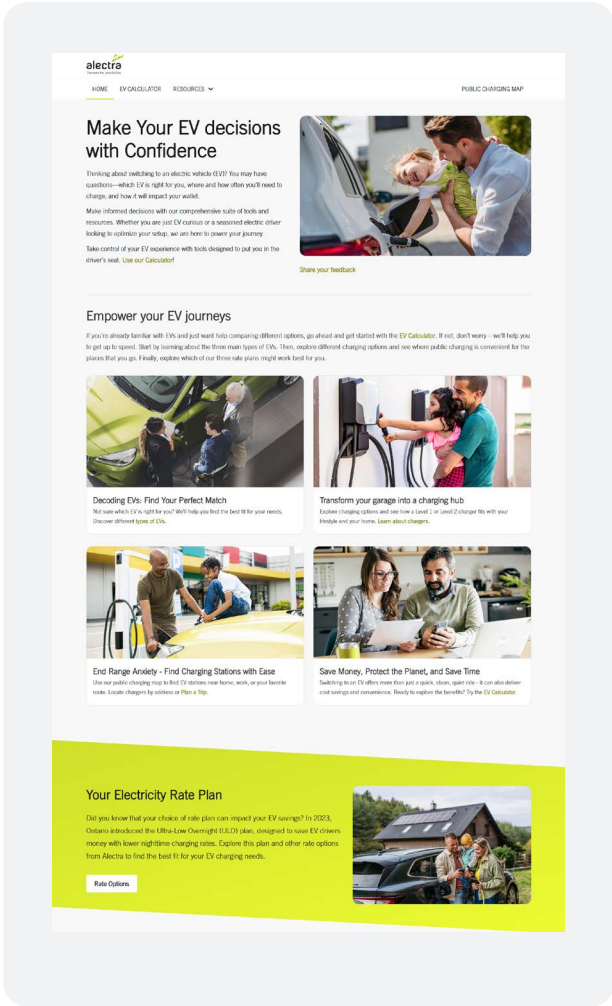


Julia Zhu, EVP and Chief Digital & Innovation Officer, Alectra Inc.,
Brian Bentz, President and CEO, Alectra Inc.,
Dr. Pina D’Agostino, Chair, GRE&T Centre Advisory Committee,
Norm Loberg, Alectra Board Chair,
Geri Yin, VP, GRE&T Centre,
Cam Guthrie, Mayor, Guelph

Eldrich Rebello, Science & Technology Advisor, NRCAN,
Geri Yin, VP, GRE&T Centre,
Cam Guthrie, Mayor, Guelph,
Brennan Louw, Senior Manager System & Sector Development, IESO



Powering Progress Through Customer-Focused Innovation



In 2024, we upheld our commitment to developing solutions that directly benefit our customers while advancing grid – customer convergence and sustainability. By aligning emerging technologies with customer needs, the GRE&T Centre continues to serve as the bridge between Alectra’s operational excellence today and our vision for tomorrow’s energy ecosystem.

Empowering Customers

eMobility customer engagement platform¹: This flagship customer experience initiative is designed to empower individuals as they navigate their electric mobility journey. This platform equips users with the tools and information needed to make informed decisions that align with their financial goals and support the broader energy grid.

Whether evaluating which EV best suits their lifestyle, assessing the financial implications of switching from a gas-powered vehicle, selecting the right home charger, or locating public charging stations, customers will find clear and practical guidance every step of the way.

[Visit the eMobility platform.](#)

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Alectra’s new eMobility customer engagement platform is designed to support and educate customers through their EV transition. Alectra’s goal as a trusted energy partner is to help educate consumers on their investment options, identify savings opportunities and contribute to grid reliability and safety during the customer’s electric mobility journey.”

— James Douglas, EVP, Customer Experience, Alectra Inc.

Empowering Communities

York Region IESO NWA Demonstration Project²: The York Region IESO NWA Demonstration Project marks a significant milestone in the evolution of Ontario’s energy landscape. The initiative successfully demonstrated the viability of DERs in deferring traditional infrastructure investments. More importantly, it sparked meaningful momentum in provincial efforts on the future role of DERs in a decarbonized, customer-driven grid.

As final project evaluation was delivered in collaboration with IESO and ICF in mid-2024. The outcomes were clear: the project delivered strong performance rates of 81% to 91% across a diverse group of participants. The project also expanded opportunities for customers and communities to contribute to local grid services.

AlectraDrive @Home³

This project tested several business models to encourage residential customers to charge their electric vehicles at times that were complementary to the electricity system. In 2024, the project concluded with several presentations to funders and interested stakeholders. New OEB guidelines now explicitly permit the use of managed EV charging as a way of meeting distribution system needs.

Empowering Industry

Alectra’s work with the Transmission-Distribution Working Group (TDWG) has significantly advanced provincial efforts around DER integration and the operational systems, processes, and resources needed to improve coordination between key market system actors across transmission and distribution grids.

The GRE&T Centre’s leadership positions us as subject matter experts in this area, with our work serving as an important input to local flexibility market and Distribution System Operator evolution in the sector, laying the foundation for regulatory change and new utility business model in the years to come.

- ¹ This project was made possible through financial support provided by the Ontario Energy Board under the Innovation Sandbox Challenge. The Innovation Sandbox Challenge was a one-time funding opportunity for innovators in Ontario to submit proposals for solutions that advance the energy sector’s understanding of how innovation can benefit consumers.
- ² This project was developed by the IESO and Alectra Utilities Corporation and supported by funding from the IESO Grid Innovation Fund and the Natural Resources Canada Smart Grid Program. Alectra is the delivery partner for this demonstration with contributions from EPRI and Util-Assist.
- ³ AlectraDrive @Home pilot (2019–2023) is made possible through the financial support of the Independent Electricity System Operator’s Grid Innovation Fund and by Natural Resources Canada’s EV Infrastructure Demonstration Program. Partners include Generac Grid Services, Geotab, Flo, Plug’N Drive, Guidehouse, BracerEV, Robertson Bright Inc., and Smith & Long.

We are Future-Forward: Innovation with Intention



At Alectra GRE&T Centre, innovation transcends technological pursuits—it serves as a catalyst for operational excellence and drives a cleaner, smarter energy future. By embedding innovation across our value chain, we are delivering meaningful, measurable benefits to our customers. As we chart our course for the future, we are committed to innovating with clear purpose and direction.

In 2024, Alectra GRE&T Centre spearheaded the development of an enterprise-wide AI framework in collaboration with a cross-functional AI Task Force. This task force was established to ensure a forward-looking implementation strategy that addresses both immediate operational needs and long-term strategic objectives. A major milestone of this initiative was the formulation and approval of **Alectra’s Responsible AI Policy**.

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Our commitment is to innovate with both purpose and responsibility—ensuring that our customers and communities remain at the heart of every decision we make.”

— Geri Yin, VP, GRE&T Centre

Our Path Forward

Technology Assessment & Implementation

We will systematically evaluate emerging technologies with a focus on solutions that address specific business challenges. By maintaining a disciplined approach to technology adoption, we ensure that each implementation delivers measurable value and integrates effectively with our existing systems.

Operational Excellence

Our innovation efforts will continuously enhance our operational capabilities through data-driven insights, process optimization, and predictive modeling. This commitment to operational excellence enables us to create sustainable efficiencies that power new opportunities while maintaining the highest standards of performance.

Customer-Centric Innovation

We recognize that meaningful innovation must ultimately serve our customers’ evolving needs. By developing intuitive, responsive solutions that empower our customers with greater control and insight, we strengthen relationships and create lasting value in every interaction.

System Reliability & Resilience

The foundation of our service promise rests on building and maintaining resilient systems that perform consistently under varying conditions. Our innovations in predictive maintenance, demand management, and system optimization are designed to enhance reliability while effectively managing resources.

By innovating with intent across these four dimensions, we position ourselves to meet the challenges of today while building the capabilities needed for tomorrow. This balanced approach ensures that our technological advancements serve our broader organizational purpose and deliver lasting value to all stakeholders.

Alectra’s vision is to be your trusted energy partner empowering a sustainable and brighter future

Alectra’s mission is to provide innovative and reliable energy solutions which deliver lasting value for all

Alectra’s GRE&T Centre is where great minds collaborate to power a better tomorrow



Please contact us for more information about Alectra and our efforts to create sustainable value in the energy sector.

Alectra GRE&T Centre
395 Southgate Drive
Guelph, ON N1G 4Y1

