



Getting ready for electric mobility



A lectradrive@work is a multi-year pilot to demonstrate the value of a smart electric vehicle (EV) charging system that balances the electricity needed to serve buildings and on-site EV charging stations, while mitigating potential cost increases and enabling the adoption of EV technology. The project provides businesses and their employees with a turnkey smart charging solution that integrates commercial building and EV load management with solar generation and/or battery storage technology. The goal of the pilot is to identify how smart charging can serve workplaces, EV drivers, and the electricity system to support the shift to a smarter, cleaner, and more affordable energy system.

Innovating & Collaborating together to:

- Demonstrate how EV smart charging can help manage peak demand while meeting the needs of EV drivers
- Offer a smart solution that makes it easy for workplaces to offer EV charging by managing energy costs and offering a convenient amenity for employees, supporting the anticipated growth in EV adoption

The Challenge

Workplaces are the second most common charging location for EVs, after homes. By 2030, the number of EVs on the road is expected to grow to 125 million worldwide. Because workplace charging typically takes place during peak hours for the electricity grid, it is critical to understand the impact of EV charging at workplaces, to investigate opportunities for managing peak demand on the grid, and to apply key learnings to future electricity infrastructure investment decisions.

The Solution

The alectradrive@work solution will strategically charge EVs to balance the energy needs of the facility and the drivers, scheduling EV charging for times when electricity costs are lower. An EV vehicle data logging device tracks the vehicle's charge to ensure optimal charge by the time the driver leaves the office. The solution is supported by virtual power plant technology that takes into account the driver's planned departure time, the state of the EV battery charge, the facility's electricity demand, provincial electricity prices, and electricity market signals (i.e., demand response) provided to the system in near real-time.



PHASE I (2017–2018)

Alectra launched its first workplace site at the Markham Civic Centre in Markham, Ontario. The pilot includes 17 EV charging stations, battery storage and integration to the building's automation system.

PHASE II (2018–2019)

Alectra launched its second workplace site at Alectra's corporate office in Mississauga, Ontario. The pilot includes 7 charging stations, battery storage, solar carport and integration to the building's automation system.

PHASE III (2019–2020)

Alectra will introduce "smart charging" at both pilot sites to balance the real-time energy needs of buildings, EV drivers, and the grid.

Benefits



Reduced EV charging costs

In Collaboration With



alectra

GRE&T Centre

Green Energy & Technology



Better management of a

building's overall energy





Canada



enbala



Enhanced employee and customer satisfaction

fleetcarma



Significantly reduced GHG emissions



Life Is On Schneider





