

CLEAN RESOURCES

CLEAN TECHNOLOGY

RENEWABLE AND ALTERNATIVE ENERGY – GRID MODERNIZATION

FUNDING DETAILS

NAIT Centre for Grid Innovation

Alberta’s transition to a low-carbon electricity grid necessitates the need for a facility that develops and validates of new technologies, trains and develops highly-qualified and skilled personnel (HQSP), and accelerates the deployment of innovation throughout Alberta and the world. This is core to supporting Alberta’s transition to a low carbon electricity grid. Industry needs access to applied research services to support acceleration of innovations from concepts to market ready solutions.

NAIT is establishing an industry-driven Centre for Grid Innovation (CGI). CGI is a "plug-and-play" microgrid laboratory staffed with a professional research team. CGI will provide independent evaluation and services for the development and validation of solutions designed to modernize electricity grids.



RECIPIENT:

**Northern Alberta
Institute of
Technology (NAIT)**



PARTNERS:

**Schneider Electric,
Unico Power,
PrairiesCan,
Government of
Alberta, Siemens,
ATCO**



TOTAL BUDGET:

\$8,540,493



AI FUNDING:

\$822,000



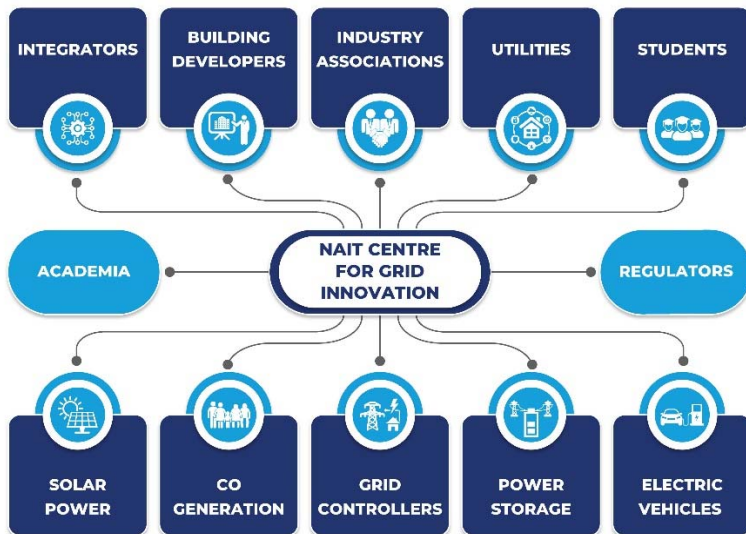
PROJECT DATES:

**MAR 2019 - DEC
2023**



PROJECT TRL:

**Start: 3-5
End: 4-7**



APPLICATION

Through collaborative applied research projects with industry partners, CGI expects to develop new technologies to help with increased market penetration of electric vehicle charging systems, development and implementation of new energy management systems, system modelling and simulations for microgrid configurations, and testing and validation of new energy storage systems. CGI’s efforts to support local Alberta businesses in the testing and validation of renewable and new smart-grid technologies will help stimulate technology innovation in Alberta and remove key risks related to product innovation.

ALBERTA INNOVATES CLEAN RESOURCES

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PROJECT GOALS

- Design and construct sustainable applied research centre that is staffed with industry-experienced technical experts.
- Test and validate grid modernization solutions to accelerate technology commercialization and adoption.
- Increase collaboration between industry, university researchers and government.
- Train students to deploy grid modernization technologies, products and services across Alberta and globally.
- Alleviate remote community reliance on isolated diesel generation by supporting the transition to microgrids and renewable energy technologies.

BENEFITS TO ALBERTA

- Support provincial economic growth and diversification initiatives by enabling entrepreneurs and established companies in the development of new innovations and testing of existing products for deployment in Alberta and export to global markets.
- Reduce GHG emissions through faster adoption of new grid modernization solutions. By 2055, CGI-supported technologies will help generate 39,782,850 MWh of electricity annually and remove 37,144 MtCO_{2e} cumulatively.
- Contribute 0.6% of the 30% renewable electricity target for the 2030 grid through CGI supported growth.
- Directly employ 7 full time staff.



**2 Students
Trained**



7 Project Jobs



5 Future Jobs



**1 New
Product/year**



**1.9 kt/yr Project
GHGs Reduced**



**2,320 Mt GHGs
Reduced by 2030**

CURRENT STATUS

APR 2022

Design and construction of the lab is complete. Commissioning activities are underway with expectations that the lab will be commissioned and fully operational by July 2022. Centre staff have been engaged by various industry partners and are currently exploring a handful of future project opportunities. Such opportunities include testing and validation of new technologies in the CGI lab, EV outreach and engagement, and research and development into solar panel re-use.