

# Energy Efficient Autonomous Greenhouse

## Grid Innovation Fund Project Details

**Lead Proponent:** Great Lakes Greenhouses Inc.

**Partners:** Koidra Tech, Agriculture and Agri-Food Canada

Strategic Area(s):	Electrification/Decarbonization, Enabling Non-Wires Alternatives
Project Total Cost:	\$1,067,400
Year Contracted:	2019
Status:	Active
Location:	Leamington and Kingsville, Ontario
Economic Development:	N/A



Inside the intelligent, autonomous greenhouse

# Project Objectives

Develop an AI-powered autonomous virtual grower that is applicable to large-scale commercial greenhouses to increase the energy efficiency of a greenhouse while maintaining/increasing its yield

## Expected Outcomes

If successful, this project will demonstrate the application of an intelligent autonomous agent controlling a greenhouse with the objective of reducing the energy footprint of the facility without negatively impacting crop yield.

Using an AI-based controller, the project aims to alleviate barriers specific to technology adoption to improve energy efficiency and crop yield. The project-specific outputs will include:

- Software that interfaces with greenhouse control infrastructure
- Reports on performance and evaluation of the system over time
- Results that compare a grower's expertise to an autonomous agent over time
- Detailed lessons learned that records challenges experienced during implementation
- Final project and M&V report including results