

AI-Enabled Smart Farm Mobility Platform

Airgreening (Canada) Inc.

Commercializing Proprietary PCB Stator Technology through Next-Generation Agricultural Robotics

PCB In-Wheel Motors • Autonomous Mobility • AI • Battery Swapping • Precision Agriculture



- Obstacle negotiation Height: 150mm
- Climbing Angle: 30°
- Ground Clearance: 200mm

The Problems

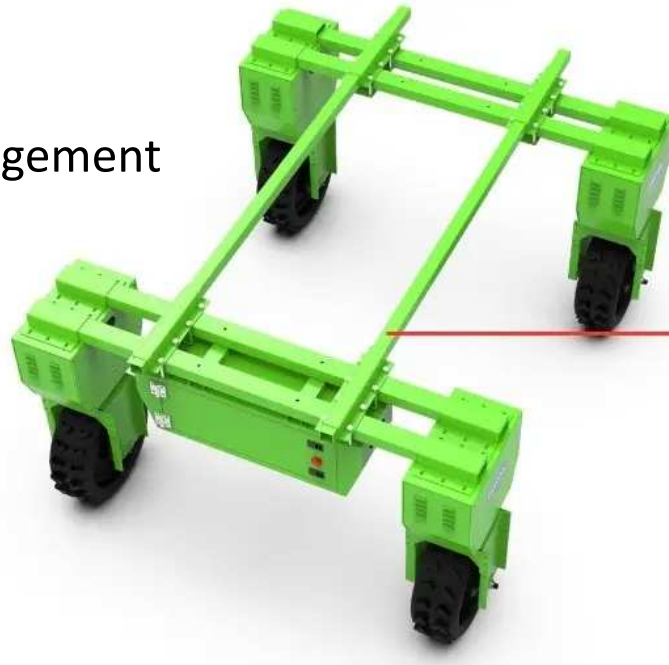
- Labour shortages on Canadian farms
- Rising operating costs
- Limited affordable agricultural automation
- Need for precision agriculture and real-time field data



Our Solution

Modular autonomous farm mobility platform:

- Electric agricultural chassis
- PCB in-wheel motors
- AI navigation
- Battery swapping
- Soil sensing
- Cloud-ready fleet management



○ Compatible with various agricultural implements including pesticide sprayers, fertilizer applicators, transport wagons, seeders, and weeders.

Platform Applications

One Platform – Multiple Applications:

- Crop transport
- Soil sampling & field data collection
- Seeding & spraying
- AI-enabled laser weeding
- Orchard inspection & harvest assistance
- Winter snow removal



Seedling transplanting robot



Soil collection robot



Soil growth detection robot



Automatic grass pulling robot



Seeder



Manual operation



Rotary tiller



Transporter

Why PCB In-Wheel Motors?

Conventional: Motor + Gearbox + Transmission

Our Innovation: Direct-Drive PCB In-Wheel Motor

Target Benefits:

- Lightweight axial-flux architecture
- Direct wheel-drive potential
- High-efficiency design
- High torque at low vehicle speeds
- Simplified drivetrain
- Independent wheel control
- Modular and scalable architecture
- Designed for high reliability and reduced maintenance



Business Model

Revenue Streams:

- Platform sales
- Platform lease
- Fruit picking and transportation labor contractin
- Technology service and licensing
- Custom modification and integration
- Fleet management software
- Precision agriculture data services



Market Opportunity

Target Customers:

- Ontario farms
- Greenhouses
- Orchards
- Precision agriculture service providers

Expansion: Canada → USA → Global



Competitive Advantages

- Modular multi-application platform
- Canadian-developed core technology
- Proprietary PCB stator motor IP
- Independent electric wheel-drive architecture
- Battery-swapping capability
- AI- and autonomy-ready system architecture
- Platform licensing and integration potential

Commercialization Roadmap

2026 — Prototype Integration

Agricultural platform + PCB motor engineering + control architecture

2026–27 — Engineering Validation

SmartTO collaboration submitted; drivetrain and laboratory validation

2027 — Ontario Farm Pilots

Transport, field data, autonomous operation and winter snow removal

2027–28 — Pre-Commercial Deployment

Pilot customers, manufacturing partnerships and fleet validation

2028+ — North American Scale-Up

Canada → U.S. → global precision-agriculture markets

Team & Ecosystem

Airgreening (Canada) Inc. — Founder-led Canadian deeptech company

Core capabilities — Electromechanical design, PCB stator motors, clean energy & smart mobility

International agricultural chassis partner — Development platform and manufacturing support

Ontario farm partners — Customer discovery and field validation

York University SmartTO — 2026/27 Capstone proposal submitted

Manufacturing & commercialization partners — Scale-up and market deployment

Technology & IP Moat

Canadian-Owned PCB Stator Electric Machine Platform

- Proprietary PCB stator axial-flux architecture
- U.S. and PCT patent applications
- High-current PCB / ceramic stator development
- Motor and generator applications
- Target markets: agricultural robotics, smart mobility, industrial motors and renewable energy
- Protection strategy: patents + engineering know-how + manufacturing processes + licensing

Our Vision

From Canadian Deeptech IP to Global Smart Mobility

Build a scalable Canadian PCB electric-machine technology platform and commercialize it through smart mobility, agricultural robotics and clean-energy applications.

Smart Agriculture | Electric Mobility | Clean Energy