

# Automated transfer of electric buses during conversion.

Ecotuned converts diesel school buses into fully electric vehicles. Mid-process, the bus can no longer move under its own power, so INOSEC configured the Platform Series AGV that lifts and transfers it between bays.

## CASE STUDY



### CLIENT

Microbird ·  
Ecotuned

### SERIES

Platform Series

### SITE

Drummondville,  
QC

## THE CHALLENGE

**An ultra-low Platform Series AGV with integrated lifting, 360° LIDAR safety, and crab motion.**

**A bus without an engine, on a tight factory floor.**

After the diesel powertrain is removed and before the electric system is installed, the bus has no propulsion, power steering, or functional brakes. Parallel bays leave very little maneuvering room.

## FACTORY-FLOOR CONSTRAINTS

- Complex maneuvers in restricted aisles
- Higher risk for operators close to the bus
- Transfer time creating a bottleneck
- Wide aisles consuming floor space

## CLIENT

Microbird · Ecotuned

## INDUSTRY

Bus conversion · EV

## APPLICATION

Inter-station transfer

## SERIES

Platform Series

## YEAR

2024

## SITE

Drummondville, QC

## THE OBJECTIVES

01

Make every transfer safer than a manual push

02

Reduce indexing time between stations

03

Eliminate forklift-only aisles

04

Increase assembly-layout density

05

Standardize the process across every shift

## THE SOLUTION

# A Platform Series AGV configured underneath the bus.

The Microbird solution used a project-specific Platform Series configuration adapted for the approximately 12,000 lb (5.44 t) bus. The vehicle was configured around the bus chassis. Three subsystems form one integrated solution.

01

## Specialized mechanical design

An ultra-low platform slides underneath the bus, centers automatically, and lifts at its designated points.

02

## Advanced 360° safety

LIDAR sensors create a complete protective field and feed the safety controller in real time.

03

## Omnidirectional crab motion

The bus travels directly to the next bay without rotating or performing complex maneuvers.

— RESULTS

# Faster, safer, denser.



## INDEXING TIME

Cycle between stations significantly reduced

0

## INCIDENTS

Operators no longer stand against the bus



## OPERATOR SAFETY

No contact with the load during transfer



## FLOOR SPACE

Narrower inter-bay aisles through crab motion