



Electrify & Optimize Every Last Mile

Introducing the Workhorse family
of zero-emission vehicles and
technology.

Installation Innovation Forum 11/07/23



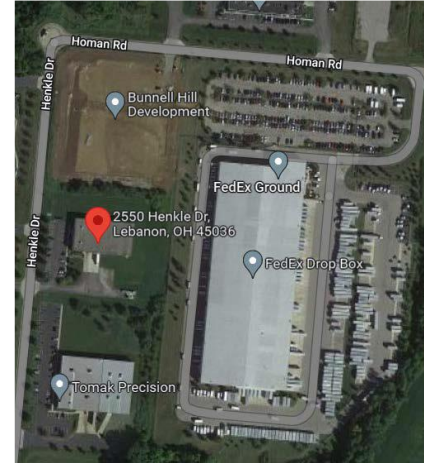
Stables by Workhorse

Fleet Electrification Operations

A software-driven EV platform for vehicles, service, charging, and driver management. Enables independent contractors, private, and public sector fleets to accelerate their transition to electric vehicles with an all-inclusive infrastructure offering across:

- Shared Service Locations
- Fast Charging
- Driver Profiles
- Fleet Data Integration
- Flex Offices (driver & manager lounge)
- CEV Rentals (OEM agnostic)
- Option for Public Charging Infrastructure
- Energy Resilience (solar rooftops, energy storage, and Workhorse Microgrid option)

The Solution: Workhorse can deploy the turn-key maintenance hub and electrification infrastructure.



First Fleet Operations Location in Lebanon, OH, Launched in Q4 2022

Preliminary data demonstrating greater than 60 percent cost reductions in operations across fueling and maintenance—Total Cost of Ownership White Paper for USG underway.



Medium-duty electric vehicles have a 2-3x advantage in energy efficiency for by comparison to their ICE equivalents on a miles per gallon of gasoline equivalent (MPGe) basis.



Step Up to Electric Delivery

	W4 CC Cab Chassis	W750 Step Van	W56 Step Van
	Available Now	Available Now	Available Now
Class/Range	Class 4 rated 150-mile range	Class 4 rated 150-mile range	Class 6 rated, 150-mile range Strip Chassis & Cab Chassis (2024)
Battery Size/Voltage	118 kWh LFP 576v	118 kWh LFP 576v	210 kWh LFP 690v
Payload Capacity (lb.)	7,000	5,000	Best in Class EV 10,000
Curb Weight/GVWR (lb.)	7,300/14,330	9,300/14,300	13,000/23,000
Cargo Capacity (cu. ft.)		750	1,000
Mileage/Efficiency	.77 kWh/mi 1.3 kWh/mi 48 MPGe	.77 kWh/mi 1.3 kWh/mi 48 MPGe	1.3-1.5 kWh/mi 26.4-30.8 MPGe
Charging	Level 2 at 11 kW/~11 hrs. Level 3 at 61 kW/3-4 hrs.	Level 2 at 11 kW/~11 hrs. Level 3 at 61 kW/3-4 hrs.	Level 2 at 20 kW/~12 hrs. Level 3 at 100 kW/3-4 hrs.



Contract manufacturing agreement signed with TROPOS for final assembly at the Workhorse Ranch



The 21st Century Motor Pool

Greater Performance & 60% Lower O&M Cost

Multimodal Power Capable

- 110/220V
- Multi-fuel source:
Low/No-Emission Solutions
- Solar with Battery Storage
- Contained Microgrid
- 24/7 Operations
- Charging Agnostic: All EVs

Always Ready!

Customizable Garrison Solutions

- Charging Agnostic: All EVs
- Facilities Maintenance
- Logistics & Delivery
- Personnel Movement
- Emergency Charge “E-Tanker”

Easy Mission Configuration

Fulfills U.S. Military Mission and Intent

- Supports Net Zero
- Reduce Parts, Fluid, Emissions waste
- Integrated Turnkey Approach
- Gathers Valuable Use Data
- Optimize Utilization, Sustainment, & Routing
- Customizable to support IMCOM: Readiness-
Training-Sustainment

Less Fuel, More Fight!

Benefits

- Universal Charging for EV Classes
- Longer “Up” Time
- 60% Reduction in Routine O&M Costs.
- Provides Real Time Telematic Data to optimize operations
- Redirects Surplus to Support other Garrison Needs.
- Can Receive External Feed and Generate Its Own Power.

Increasing Utilization Rates



Supporting the mission with lower operating cost and increased up-time.

Workhorse Aero

Purpose-built sUAS

- Safe, reliable, all-electric, mission customizable quadcopter
- Carries 6 pounds up to 10 miles with a winch or servo
- Capable of flying ISR for 45 minutes at 20 knots
- Eight granted patents, 16 pending
- Awarded three USDA LiDAR programs and state-level UTM grant in Michigan
- AUVSI Green UAS certification in progress; Started FAA type certification in 2020
- Metron Air (patent pending), Software-as-a-Service (SAAS), supports
- Beyond Visual Line of Sight (BVLOS) operations
- Simultaneous Multi sUAS operations

Blue UAS compliant / AUVSI Green UAS certification in final stages



WA4-100 Horsefly Aircraft

WA4-100 aircraft in process to be on UPS Flight Forward's FAA Part 135 "drone airline" certificate—anticipate approval for operations by the end of 2023.



WA4-200 Falcon Aircraft

Humanitarian Aid and Logistics Operations (HALO)

- Safe, Reliable
- >10 lbs. payload, 10-mile range
- Ruggedized construction for austere conditions





Academic Training
Aero Instructor PJ Moore (white shirt)



Flight-Line Training
Aero Instructor Mike Scott (blue shirt, 2nd from left)



Aircraft Delivery Flown by UPS Personnel

UPS Flight Forward (UPSFF)

- Delivered the 1st aircraft and started training that day; “Our team really likes your aircraft.”
- UPSFF’s Director of Operations, Eric Bergesen
- Pilots delighted with the systems, their accuracy, and the ease of operations; winch is performing well

300+ flights
by UPS crews
1 malfunction, attributed to
operator error in the field

Workhorse Aero trained UPSFF personnel to operate and maintain the drones and UPSFF’s professionals have flown hundreds of successful missions with Workhorse Aero aircraft



Aero Product Highlights

Building to Aerospace Standards

The ultimate multi-mission electric vehicle

- Security – Intelligence, Surveillance, Reconnaissance
- Humanitarian Assistance Logistics Operations (HALO)
- Engineered for Critical Missions
- Critical medical supply delivery to the war fighters
- Natural Disasters
- Search and Rescue
- Dynamic data collection
- Multispectral Cameras
- LiDAR Sensors
- Delivery Ship to Shore
- Precision location marking
- Landscape scanning for engineering, crops, ranches
- Blue UAS Compliant in final stages of certification
- Beyond Visual Line of Sight (BVLOS) operations

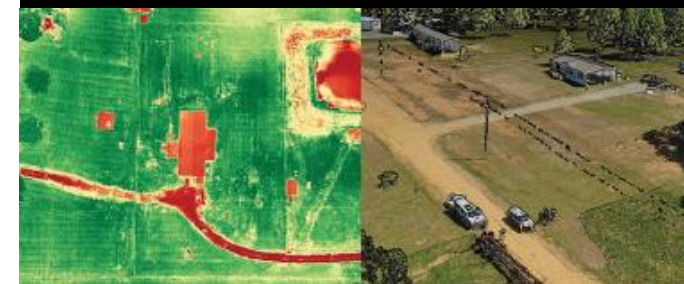
Package Delivery: Changing How the World Delivers



Truck Integration

Precise Delivery System

Dynamic Data Collection: Make Informed, Rapid Decisions



Multispectral Cameras

LiDAR Sensors

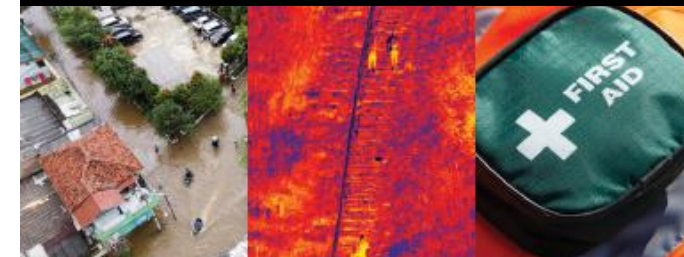
Flight Control: Simple, Scalable Flight Control



User-friendly flight planning

Define safety-compliant no-fly and recovery zones

Disaster Relief: Humanitarian Assistance Logistics Operations (HALO)



Natural Disasters • Search & Rescue • Medical



\$2 million awarded in 2023 with the U.S. Department of Agriculture for LiDAR scanning to increase yields for underserved farmers and ranchers.





Questions?

100% Electric

A photograph showing a person's arm and hand plugging a black charging cable into a charging station. The station is mounted on a dark grey wall and has the text '100% Electric' printed on it in white. The person is wearing a black t-shirt. The background is slightly blurred, showing a window and a light-colored wall.