

AR EV TUK-TUK PLATFORM



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Modern, comfortable and buildable electric mobility for Ethiopia



Front bench + rear bench seating



Wide easy entry and exit



Side-swap battery modules



Rain drapes + insulated roof



Low-cost modular build



Built for Africa
Rugged. Reliable. Ready.



Efficient Electric
Lower operating cost



Easy Service
Simple. Accessible.



Passenger Comfort
Space. Shade. Safety.



Sustainable Mobility
Clean streets. Better future.

Thuanki Global Ventures concept platform

HUMAN-CENTERED CABIN LAYOUT

Comfortable entry, practical seating, and daily usability.



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Front bench seating

Spacious and comfortable for driver + passengers.



Low step-in access

Easy entry for all ages and everyday use.



Side-swap battery bay

Quick and convenient battery replacement from the side.



Roll-down rain drapes

Weather protection on demand.



Rear bench seating

Roomy and supportive for multiple passengers.



Wide side opening

Effortless entry, exit and better accessibility.



Flat floor

More legroom, easier movement inside.



PLATFORM MODULES

Common hard points. Fast assembly. Easy service.



QUICK BATTERY EXCHANGE

Side-swap modules
minimize downtime



LOW TOOLING COST

Simple, flat panels and
common hard points



MODULAR ASSEMBLY

Fewer parts. Fast build.
Scalable production.



EASY SERVICE

Accessible components
reduce service time



EXPORT-READY

Compact pack size.
Global logistics optimized.



DESIGN 01 – URBAN COMFORT



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A friendly, modern passenger design with easy ingress and clean surfacing.



Easy entry



Front + rear benches



Side-swap batteries



Rain drapes



Modular panels



DESIGN 02 — WEATHER GUARD

Enhanced all-weather comfort while keeping the platform simple and affordable.



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Insulated roof

Thermal comfort and rain protection in all seasons.



Roll-down clear drapes

Transparent, removable and easy to stow.



Side-swap battery access

Quick and convenient maintenance without cabin disruption.



Easy cleaning

Wipe-clean surfaces and simple flooring for fast turnaround.



Low-cost body panels

Durable, repairable and affordable for local manufacturing.



Built for Africa
Rugged. Reliable. Ready.



Efficient Electric
Lower operating cost



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DESIGN 03 — CITY CLEAN



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A more enclosed, refined urban appearance without losing simplicity.



Front + rear bench seating



Wide, easy side opening



Side-swap battery bay



Weather drapes for all conditions



Low maintenance body panels



Built for Africa
Rugged. Reliable. Ready.



Efficient Electric
Lower operating cost



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Simple. Accessible.



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DESIGN 04 – UTILITY FLEX



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Passenger transport with luggage-friendly practicality.



Luggage shelf

Neat space for bags and parcels.



Side-swap battery access

Fast, safe and service-friendly.



Rain drapes

Stay protected in all seasons.



Wide side access

Easy entry, exit and loading.



Same common platform

Built for scale. Easy to operate.



Spacious front bench



Luggage shelf by rear bench



Wide entry & comfortable circulation



Built for Africa
Rugged. Reliable. Ready.



Efficient Electric
Lower operating cost



Easy Service
Simple. Accessible.



Passenger Comfort
Space. Shade. Safety.



Sustainable Mobility
Clean streets. Better future.

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DESIGN 05 — PREMIUM MOBILITY

A sharper identity built on the same practical platform.



Premium appearance

Clean surfaces, elegant lighting, and refined detailing.



Flat-sheet construction

Buildable, repairable, and suited for local manufacturing.



Easy access

Wide entry, low floor, and open interior.



Shared service parts

Common components across the platform family.



Strong visual identity

Modern face, cohesive family design language.



Built for Africa
Rugged. Reliable. Ready.



Efficient Electric
Lower operating cost



Easy Service
Simple. Accessible.



Passenger Comfort
Space. Shade. Safety.



Sustainable Mobility
Clean streets. Better future.

EVERYDAY FUNCTION, SIMPLIFIED



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Fast turnaround, easy operation, and dependable real-world usability.



Simple steering and controls

Intuitive layout for any driver to operate with confidence.



Front steering head / front suspension

Stable handling, precise control, and comfortable ride on any road.



Low-maintenance body

Durable panels and corrosion-resistant structure built for years of service.



Insulated roof

Built-in insulation keeps cabin cooler and quieter all day.



Roll-down rain drapes

Weather protection when needed, open airflow when not.



Wide passenger access

Low step-in height and open entry for easy boarding and comfort.



Side-swap battery access

Quick, tool-free battery swap for minimal downtime.



Rear drive module

Efficient, quiet, and reliable power delivery with low maintenance.



Built for Africa
Rugged. Reliable. Ready.



Efficient Electric
Lower operating cost



Easy Service
Simple. Accessible.



Passenger Comfort
Space. Shade. Safety.



Sustainable Mobility
Clean streets. Better future.

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Built for Safety. Designed to Scale.

A practical Indian-made electric mobility platform for Ethiopia.



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Low Tooling, High Efficiency

Designed for minimal tooling and cost-effective manufacturing.



Export-Ready Kit

Knock-down (KD) architecture optimized for cost-effective shipping.



Rugged for Daily Use

Built tough for real-world conditions and long service life.



Easy Local Assembly

Simple processes, fewer parts, faster ramp-up.



Scalable Value

One platform. Multiple body and use-case configurations.



SAFETY FIRST

Engineered for occupant safety with strong crash structure and stable handling in all conditions.



BUILT TO SCALE

Modular architecture enables rapid variants, volume production, and cost leadership.



LOCAL IMPACT

Creates jobs, builds skills, and strengthens local supply chains across Ethiopia.



ONE PLATFORM. MANY FUTURES.

Passenger, cargo, and specialist variants—one proven, adaptable EV foundation.

AR EV CONVERSION KIT

Practical electric retrofit for existing passenger tuk-tuks in Ethiopia



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✓ KEEP WHAT WORKS.

Original body, chassis & structure retained.

- Retains existing body & chassis
- Low-tooling workshop installation
- Compact rear e-drive replacement
- Export-ready modular kit

COMPLETE MODULAR KIT

Everything needed for a practical, cost-effective electric conversion.

1 LFP BATTERY MODULE (Under-seat fitment)



2 REAR E-DRIVE UNIT (Engine replacement)



3 CONTROLLER / INVERTER



4 DC-DC CONVERTER (12V system power)



5 ON-BOARD CHARGER (AC to DC)



6 VEHICLE CONTROL UNIT (VCU)



7 WIRING HARNESS (Vehicle integration)



8 CHARGE INLET (AC charging port)



9 MOUNTING BRACKETS (Vehicle fitment)



10 HARDWARE KIT (Bolts, nuts, fasteners)



BUILT FOR DAILY USE

Rugged components designed for Ethiopian road conditions.



LOWER OPERATING COST

Save up to 70% on fuel & maintenance.



EASY TO SERVICE

Modular design for quick diagnosis & part replacement.



FAST DEPLOYMENT

Low-tool installation enables rapid fleet conversion.



CLEANER MOBILITY

Zero tailpipe emissions. Better air. Better cities.

PRACTICAL KIT CONTENTS & FITMENT LOGIC

Cost-effective electric retrofit package for common Bajaj-style passenger tuk-tuks in Ethiopia.



BOX BATTERY UNDER DRIVER SEAT

Rugged LFP battery fits under seat for balance and protection.



COMPACT REAR E-DRIVE REPLACEMENT

Direct replacement of engine + CVT for simple integration.



MINIMAL CHASSIS MODIFICATION

Uses existing mounts and frame points where possible.



WORKSHOP-FRIENDLY INSTALLATION

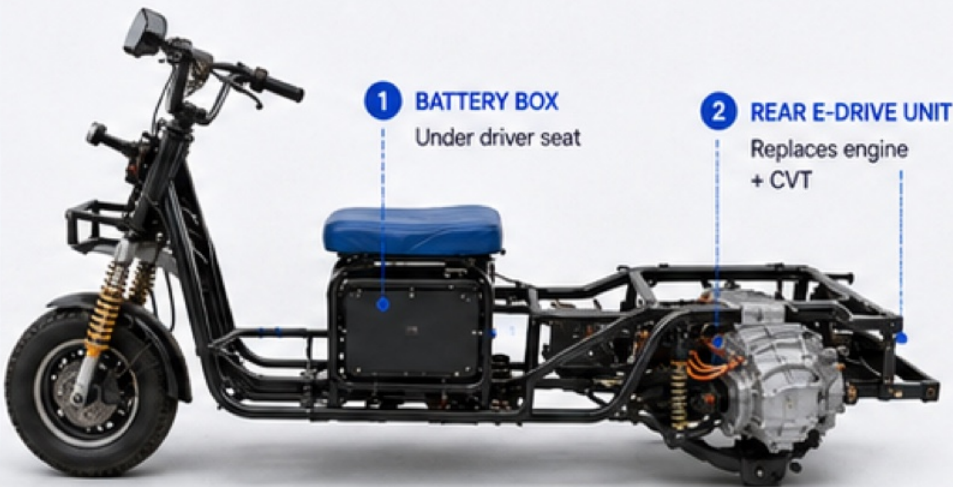
Designed for local workshops with basic tools and training.



EXPORT-READY MODULAR PACK

Modular, testable sub-assemblies for easy shipping.

FITMENT LOGIC – SIMPLE & PRACTICAL



1 BATTERY BOX
Under driver seat

2 REAR E-DRIVE UNIT
Replaces engine + CVT



BATTERY POSITION

Space-optimized under driver seat for protection and balance.



REAR DRIVE MOUNTING

Utilizes existing frame points with mounting brackets for secure fitment.

1 LFP BATTERY MODULE
(Under-seat fitment)



2 REAR E-DRIVE UNIT
(Engine replacement)



3 CONTROLLER / INVERTER



4 ON-BOARD CHARGER
(AC to DC)



5 DC-DC CONVERTER
(12V system power)



6 VEHICLE CONTROL UNIT
(VCU)



7 WIRING HARNESS
(Vehicle integration)



8 CHARGE INLET
(AC charging port)



9 MOUNTING BRACKETS
(Vehicle fitment)



10 FUSE / ISOLATION BOX
(Protection)



11 HARDWARE KIT
(Bolts, nuts, washers)



RUGGED FOR DAILY USE

Proven components built for Ethiopian road conditions.



EASY TO SERVICE

Workshop-friendly design for quick diagnosis & replacement.



LOWER OPERATING COST

Save up to 70% on fuel & maintenance.



FAST DEPLOYMENT

Low-tool installation enables rapid fleet conversion.



CLEANER MOBILITY

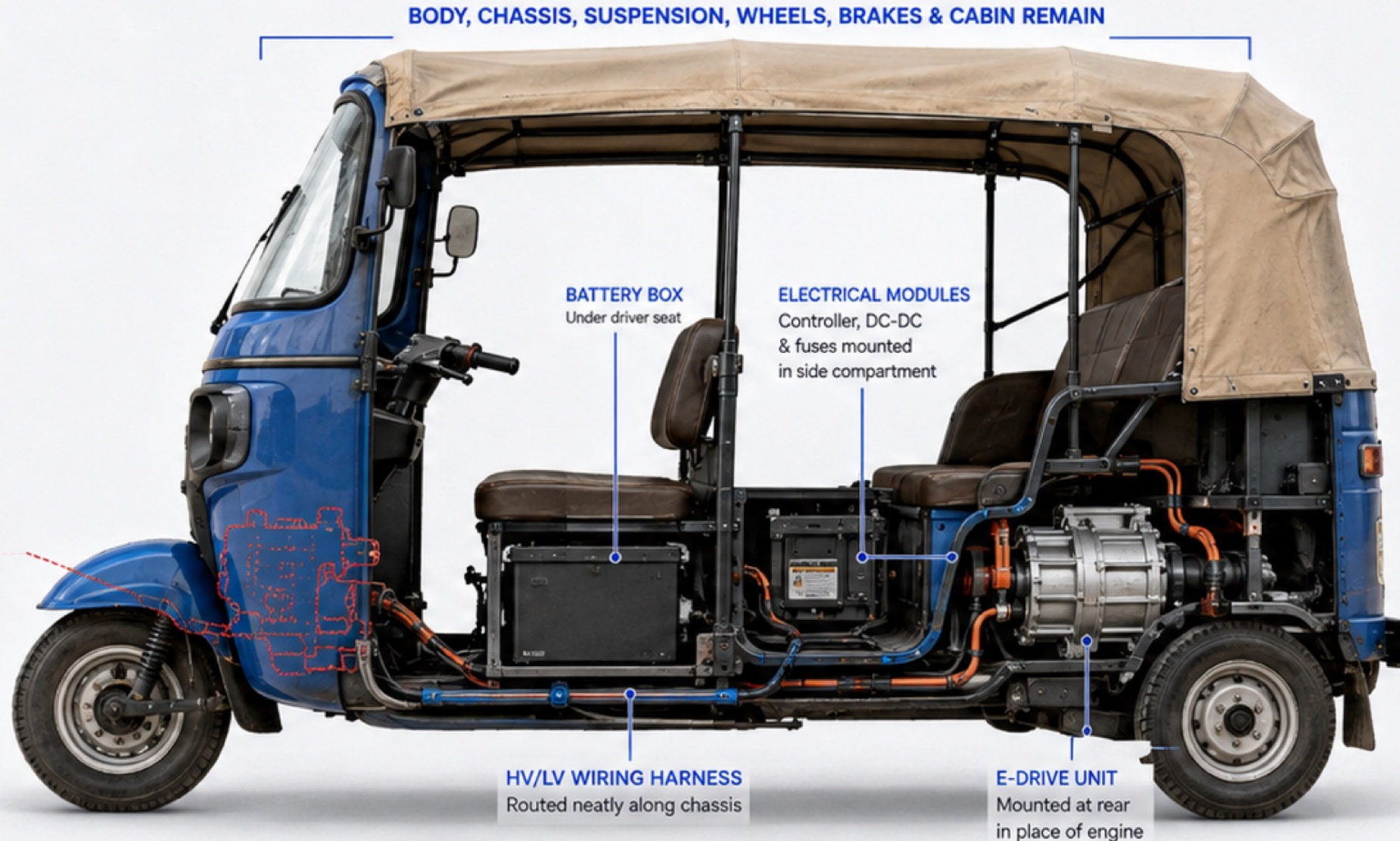
Zero tailpipe emissions. Better air. Better cities.

WHAT WE REPLACE IN THE DONOR VEHICLE

Retain the body, chassis and passenger cabin — replace the combustion powertrain with a practical electric retrofit.

REMOVED

-  Petrol engine
-  Exhaust system & muffler
-  Fuel tank
-  Fuel lines
-  Intake system / Carburetor
-  Starter motor / Alternator
-  ECU & related engine-control parts



INSTALLED

-  Compact rear e-drive unit (Motor + Reduction)
-  Under-driver-seat battery box
-  Controller / Inverter
-  On-board charger
-  DC-DC converter (12V system)
-  Main HV/LV harness & connectors
-  Charge port (Outside body)
-  Updated driver display (SoC, speed, range)



RETAINS FAMILIAR VEHICLE

Same look, feel and passenger experience. Easy for drivers to transition.



CLEANER DRIVELINE

Zero tailpipe emissions. Quieter, smoother and better for cities.



SIMPLIFIED SERVICE

Fewer moving parts. Lower maintenance time and cost.



MINIMAL BODY MODIFICATION

No major cutting or structural changes. Reversible, practical and cost-effective.

HOW THE KIT FITS INTO EXISTING TUK-TUKS

Designed for clean integration into common Bajaj-style passenger three-wheelers operating in Ethiopia.

- ✓ **Fits common donor layouts**
Designed for Bajaj RE and similar passenger tuk-tuks.
- ✓ **Low-floor access retained**
Battery under driver seat keeps passenger space and step-in height unchanged.
- ✓ **Side service access**
Battery and electronics accessible from side panels for fast service.
- ✓ **Minimal chassis changes**
Uses existing mounting points and structure.
- ✓ **Workshop-friendly installation**
Modular components with plug-and-play connections and clear routing.



CLEAN INTEGRATION

Designed for a factory-like fit using existing structure.



PASSENGER COMFORT

Original cabin layout and low step-in height preserved.



LOWER COST, HIGH IMPACT

Single battery pack + compact e-drive reduce complexity and cost.



FAST INSTALLATION

Standardized kit enables installation in 1–2 days per vehicle.



BUILT FOR ETHIOPIA

Rugged, serviceable, and designed for local workshop conditions.

BEFORE & AFTER TRANSFORMATION

From fuel-powered daily transport to cleaner, lower-maintenance electric mobility.



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BEFORE

Conventional Petrol Tuk-Tuk

-  **Petrol engine**
Internal combustion engine
-  **Fuel tank**
Petrol storage and refueling
-  **Exhaust emissions**
Tailpipe emissions harm air quality
-  **Higher maintenance**
More moving parts, more frequent repairs
-  **Noise and vibration**
Louder operation, less driving comfort



AFTER

AR EV Conversion Tuk-Tuk

Powered by Thuanki AR EV Conversion Kit

-  **Clean electric drive**
Efficient, reliable electric motor
-  **Under-seat battery box**
Space-efficient, safe & secured
-  **No tailpipe emissions**
Zero tailpipe emissions for cleaner cities
-  **Quieter operation**
Less noise, smoother ride experience
-  **Fewer moving parts**
Simpler system, less maintenance
-  **Easier fleet transition**
Modular kit for quick retrofit at scale



KEEP THE FAMILIAR VEHICLE

Retain proven body, chassis and driver experience.



LOWER RUNNING COST

Electric drive reduces energy use and operating complexity.



LESS MAINTENANCE

Fewer moving parts mean fewer breakdowns.



CLEANER OPERATION

Zero tailpipe emissions for better air quality.



FASTER FLEET TRANSITION

Modular retrofit enables quick deployment at scale.

EXPORT-READY KIT & FIELD CONVERSION MODEL

Designed for shipment from India and practical installation in Ethiopia.



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COMPACT. MODULAR. CONTAINER-FRIENDLY.

All modules are palletized, protected and labeled for efficient export.



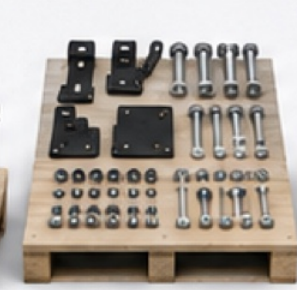
1 BATTERY BOX
1100 x 750 x 520 mm
~120 kg



2 REAR E-DRIVE UNIT
850 x 650 x 550 mm
~110 kg



3 ELECTRONICS BOX
850 x 520 x 250 mm
~35 kg



4 HARDWARE KIT
600 x 400 x 160 mm
~35 kg



5 WIRING HARNESS SET
600 x 400 x 200 mm
~15 kg



Up to 80 kits
per 20ft container



Shock-secured
& moisture protected



Export-ready
docs & packing



CONTAINER-FRIENDLY SHIPMENT

Compact, palletized modules.
Up to 80 kits per 20ft container.



STANDARDIZED MODULE SET

Five core modules for every kit.
Interchangeable and field-proven.



LOW-TOOLING INSTALLATION

Designed for basic tools.
No welding or frame cutting.



SERVICE TRAINING READINESS

Train-the-trainer program
and manuals included.



SCALABLE DEPLOYMENT

Modular supply chain enables
rapid scale across regions.

PRACTICAL 5-STEP CONVERSION WORKFLOW

1 DONOR INSPECTION



Check chassis, brakes, suspension,
and electrical system.

2 REMOVE ICE COMPONENTS



Remove engine, fuel tank, exhaust,
cooling system and related parts.

3 INSTALL BRACKETS & REAR E-DRIVE



Fit mounting brackets and install
rear e-drive unit. Secure and align.

4 FIT BATTERY BOX & CONNECT WIRING



Place battery box under driver seat.
Connect wiring harness and systems.

5 TEST & COMMISSION



Power on, run diagnostics, road test
and handover with training.

INDIA TO ETHIOPIA RELIABLE. PROVEN. COST-EFFECTIVE.



India
Manufacturing & Export

Ethiopia
Local Installation
& Service Network



BUILT FOR REAL-WORLD ROADS

Rugged components and proven
in-field performance.



LOWER OPERATING COST

Save up to 70% on fuel &
maintenance.



EASY TO INSTALL & SERVICE

Modular design for quick
installation and part replacement.



FAST CONVERSION TIME

5-7 hours with a trained
2-person team.



CLEANER MOBILITY

Zero tailpipe emissions.
Better air. Better cities.

AR EV BATTERY SWAP MODULE



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Commercial energy and battery exchange platform for electric three-wheel fleets



Modular swap cabinet

8–12 swappable LFP battery slots
Compact, rugged and weather-ready



Safe LFP battery system

Thermal management, fire protection
and real-time monitoring



Fast exchange workflow

Tool-less tray swap in under 60 seconds
Designed for high-utilization fleets



Built to scale with FlexPower

Seamless integration with Thuanki
FlexPower energy systems



Commercial fleet uptime

Maximize vehicle availability
Minimize downtime and operating cost



High Uptime

Keep fleets on the road
with fast, reliable swaps.



Engineered Safety

LFP cells with multi-layer
protection and monitoring.



Lower Operating Cost

Reduce charging time,
downtime and OPEX.



Serviceable Design

Modular components for
easy maintenance.



Scalable Deployment

Expand across sites and fleets
with FlexPower integration.

BATTERY SWAP MODULE ARCHITECTURE



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Modular. Serviceable. Shippable. Built for Africa.

The AR EV Battery Swap Module is a modular, rapidly deployable system that enables 24/7 battery swapping for electric tuk-tuks. Engineered for reliability, ease of service, and cost-effective operation.



HOW IT WORKS



BATTERY IN

Depleted battery docked and locked into the module.



AUTOMATED SWAP

System verifies, unlocks, and swaps with a fully charged module in < 60 seconds.



CHARGED BATTERY OUT

Depleted battery sent for charging. Fully charged battery ready for next trip.



MODULAR DESIGN
Built for easy assembly, upgrade and scaling.



EASY SERVICEABILITY
Field-replaceable components minimize downtime.



SHIPPABLE & LOCAL ASSEMBLY
Flat-pack design fits in standard containers for low-cost shipping and local assembly.



SAFE & RELIABLE
Multi-layer safety, isolation and monitoring for peace of mind.



COST-EFFECTIVE
Engineered for high utilization and low total cost of ownership.



Powering clean mobility.
Built for African streets.

COMMERCIAL SWAP HUB WITH FLEXPPOWER



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Smart energy. Charged batteries. Non-stop mobility.



Rapid turnaround

Minimise downtime. Maximise trips.



Shared energy backbone

One FlexPower, Many vehicles.



Modular deployment

Scale as your fleet grows.



Suited for depots, taxi ranks and city hubs

Built for real-world operations.



Battery inventory control

Track, manage and optimise every module.



HOW IT WORKS



Solar / Grid
Power Input



FlexPower
Energy System



Charges
Battery Bank



Charged Modules
to Swap Cabinet



EV Fleets
Swap & Depart



Return Depleted
Modules



Recharge &
Repeat



Built for Africa
Rugged. Reliable. Ready.



Efficient Electric
Lower operating cost



Easy Service
Simple. Accessible.



Passenger Comfort
Space. Shade. Safety.



Sustainable Mobility
Clean streets. Better future.

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SAFE SWAP WORKFLOW & STATION OPERATIONS



Smart, safe and seamless battery swapping for maximum uptime.

1 DRIVER AUTHENTICATION

QR / RFID access



Driver authenticates via QR code or RFID to start the swap session.

2 CABINET UNLOCK

Battery release



System performs safety checks and unlocks the cabinet. Battery tray releases for extraction.

3 DEPLETED BATTERY RETURN

Insert & secure



Driver slides out depleted battery and inserts into the return slot.

4 CHARGED BATTERY ISSUE

Ready-to-go



Charged battery is dispensed automatically and ready for installation.

5 BATTERY HEALTH VERIFICATION

System diagnostics



System verifies battery health, SOC, temperature and safety status.

6 TRIP RESUMED

Back on the road



Battery locked in place. Driver resumes journey with confidence.

BUILT FOR FLEETS. DESIGNED FOR RELIABILITY.



High uptime for commercial operations



Fast swaps. Minimal downtime.



Safe for drivers, assets and cities.



Scalable for depots, hubs and on-street stations.



MODULAR & SCALABLE



RUGGED & WEATHER-RESISTANT



CLOUD CONNECTED



24/7 REMOTE MONITORING



BUILT-IN SAFETY BY DESIGN



Electrical Interlock
Prevents access under load or unsafe conditions.



Insulated Connectors
Fully insulated, touch-safe high-current connectors.



Lockable Doors
Secured access with tamper-resistant locks.



Thermal Monitoring
Real-time temperature sensing and protection.



Charging Isolation
Electrical isolation during swap for operator safety.



Fire-Safe Cabinet Zoning
Zoned compartments and heat containment design.



SOC Tracking
Accurate state-of-charge tracking for every battery.



Fault Alerts
Instant alerts and remote monitoring for rapid response.

IDEAL FOR DIVERSE DEPLOYMENTS



ECO FLEETS



LAST-MILE DELIVERY



PASSENGER SERVICES



MUNICIPAL OPERATIONS

FLEET MANAGEMENT & BATTERY INTELLIGENCE



One platform to manage your fleet, batteries and energy ecosystem



Vehicle Status

Live location, availability, and health.



Battery SOC

Real-time SOC, range and health insights.



Swap History

Track all swaps, times, durations and locations.



Route Energy Use

Energy per km, route analysis, and insights.



Asset Utilization

Fleet usage, idle time and productivity.



Alerts

Real-time critical and warning alerts.



Maintenance Due

Service schedules and due reminders.



Inventory Status

Batteries, parts and consumables.



Charger Status

Charge points health, usage and faults.



Depot Overview

All depots at a glance with key metrics.



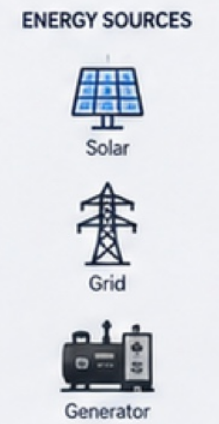
Driver / Operator IDs

Driver profiles, activity and performance.



Uptime Metrics

Vehicle, battery and system uptime KPIs.



Built for Africa
Local. Scalable. Reliable.



Full-Stack Control
Fleet, batteries, energy
and operations.



Real-Time Visibility
Live data. Smarter
decisions.



Lower Total Cost
Optimize energy, swaps
and uptime.



Partner in Growth
Built for your business
success.

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FULL-STACK SOFTWARE & PARTNER OPERATIONS PLATFORM

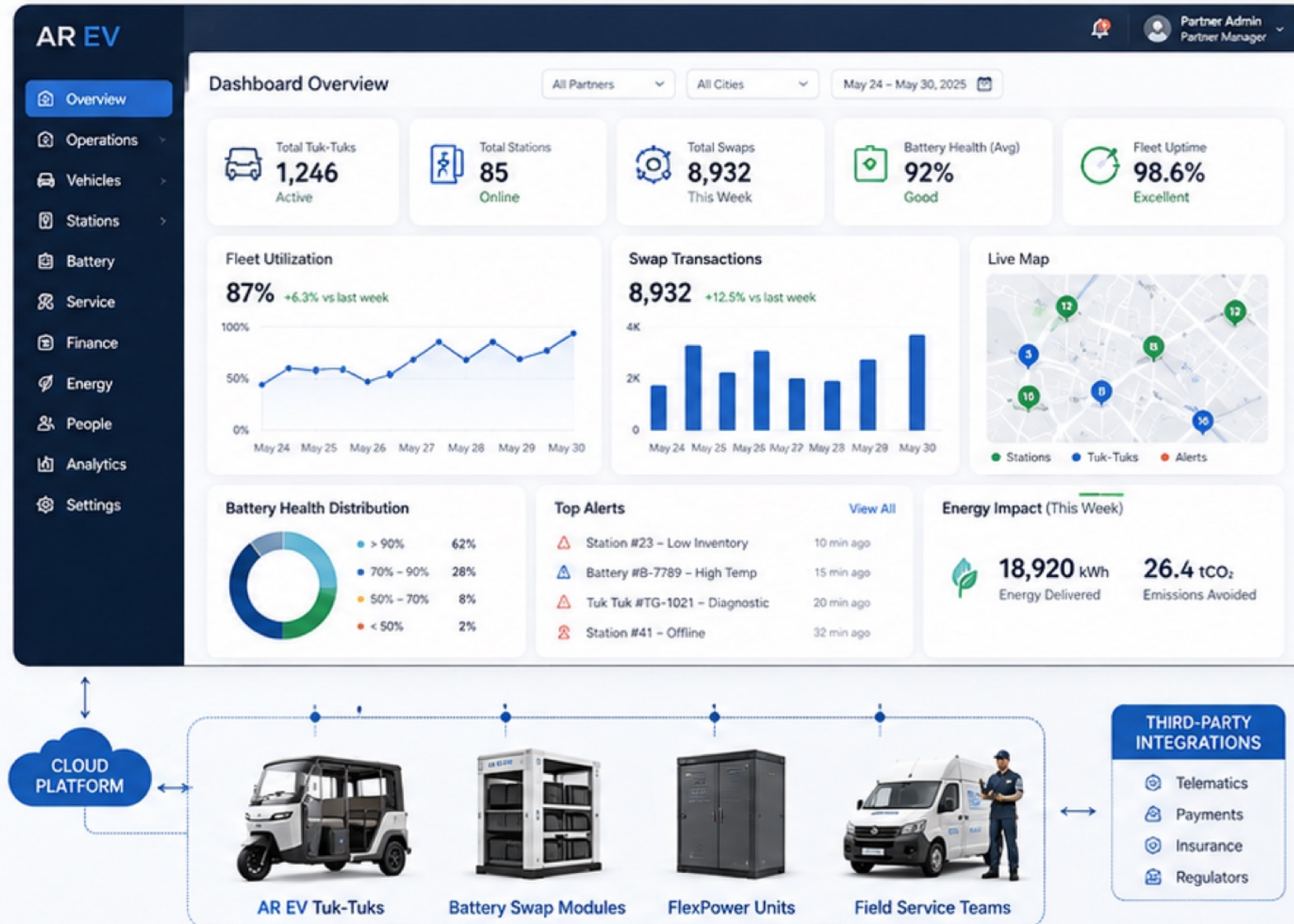
One integrated platform to run, optimize and scale electric mobility operations with partners.



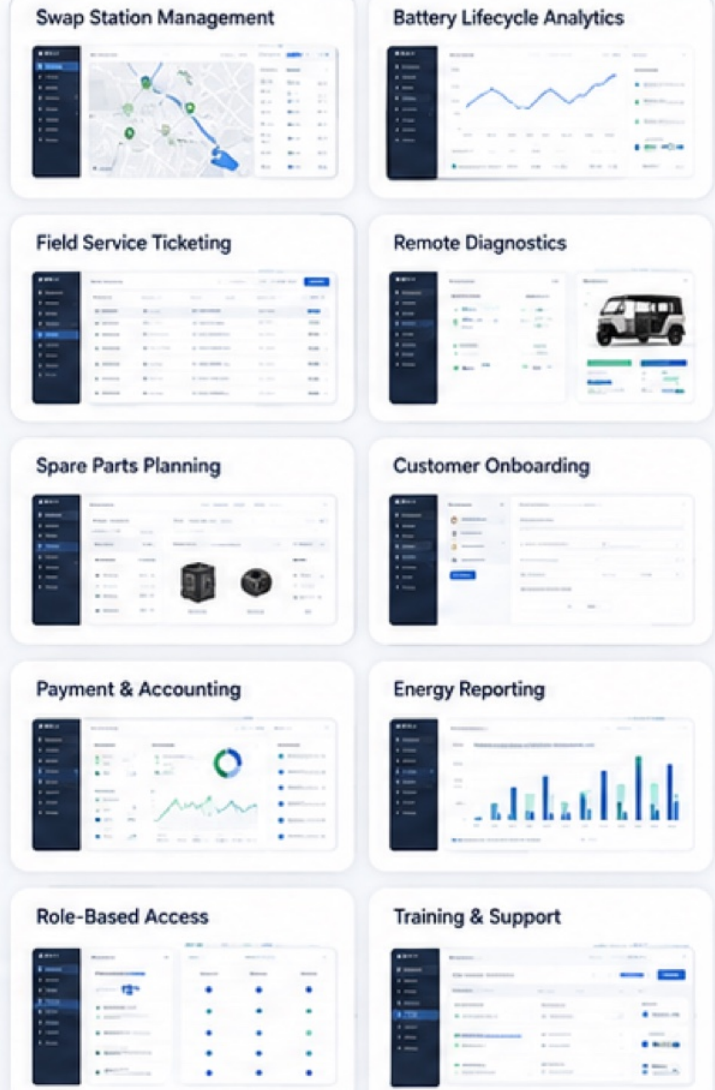
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OPERATIONS MODULES

- Swap Station Management**
Monitor stations, slots, inventory and utilization in real time.
- Battery Lifecycle Analytics**
Track health, cycles, performance and warranty insights.
- Field Service Ticketing**
Create, assign and resolve service tickets with SLA tracking.
- Remote Diagnostics**
Live vehicle & battery telemetry, alerts and issue resolution.
- Spare Parts Planning**
Inventory visibility, demand forecasting and replenishment.
- Customer & Driver Onboarding**
KYC, licensing, training, documents and activation workflow.
- Payment & Accounting**
Wallets, invoices, settlements and partner payouts.
- Energy Reporting**
Energy usage, savings, emissions and cost analytics.
- Role-Based Access**
Granular roles, permissions and audit logs.
- Training & Support Workflow**
Knowledge base, courses, tickets and feedback.
- Business Intelligence**
Dashboards, KPIs and partner performance insights.



SYSTEM INTERFACES



OPERATIONAL CONTROL
Real-time visibility and control over every asset and process.



SCALABLE DEPLOYMENT
Modular, cloud-native platform built to scale across geographies.



PARTNER ENABLEMENT
Empower local partners with tools, training and transparent operations.



DATA-DRIVEN MOBILITY OPERATIONS
Smarter decisions with real-time data, analytics and actionable insights.

Thuanki Global Ventures platform ecosystem