

AI SOLUTION TO ACCELERATE SUSTAINABLE DEPLOYMENT OF TRAFFIC EQUIPMENT

TEAM:LUMINESCENT

Problem Statement

- Battery failures → downtime & cost
- Idle assets → delayed ROI (1–2 years)
- Poor logistics → high fuel cost & emissions
- No visibility → poor decisions

Solution

Our solution can cut redeployment costs by up to 20% and extend asset ROI.
Supports sustainability compliance, helping win tenders.

- Predicts asset demand from quotes & historical patterns.
- Optimises redeployment & driver routing using GPS data.
- Applies predictive maintenance models (e.g. battery health) to extend asset lifespan.
- Provides operations team with a dashboard of insights to reduce waste, cost, and emissions.

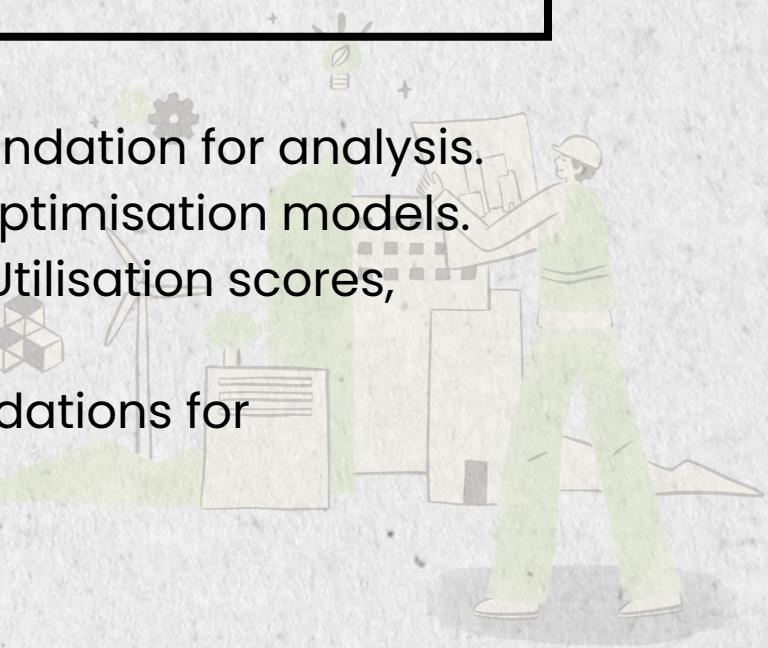
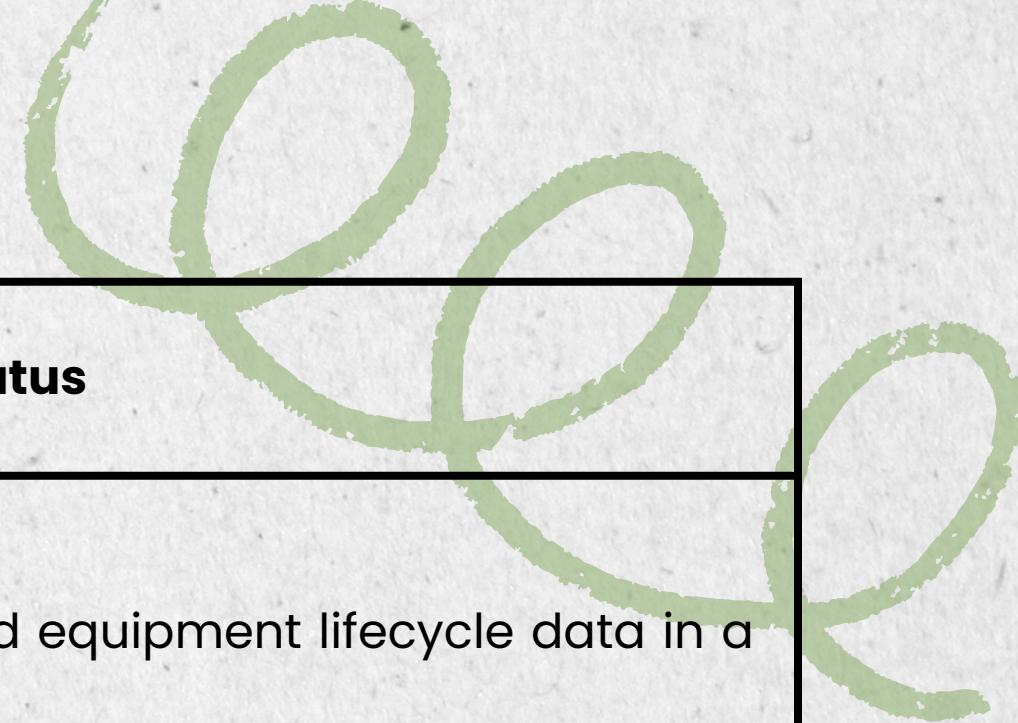


TECH & PROGRESS

Layer	Tools	Current Status
Data Layer	IoT Telematics, Centralised MySQL Database	Capture real-time GPS, speed, fuel, and equipment lifecycle data in a unified repository
AI Layer	ML Scoring System, Recommender Engine	Analyse lifecycle & telematics data to generate Health & Utilisation scores; predict maintenance and optimise redeployment
UI Layer	Staff Panel, Power BI Dashboard	Provide live asset visibility, highlight AI-driven recommendations for redeployment & maintenance, support decision-making

MVP Plan:

- Centralised Equipment Database:** Unified repository storing asset status, installation, and expiration data as the foundation for analysis.
- Telematics Integration:** Real-time GPS, speed, and fuel data captured from IoT devices to feed into AI scoring and optimisation models.
- AI Scoring Prototype:** A customised ML model that processes lifecycle and telematics data to generate Health and Utilisation scores, enabling predictive maintenance.
- AI-Enhanced Dashboard:** Visual interface that not only displays asset data but also highlights AI-driven recommendations for redeployment and maintenance actions.
- Actionable Timeline:** Proof of Concept → Optimisation → Scale



OUR MOCKUPS

