

AI SOLUTION TO ACCELERATE SUSTAINABLE DEPLOYMENT OF TRAFFIC EQUIPMENT

TEAM:LUMINESCENT

Problem Statement

- Ineffective equipment utilisation and degradation
 - Degradation of battery failure → Premature replacement and downtime.
- Inaccurate logistics management
 - Idle assets → Underutilisation, delayed ROI (1–2 years per unit).
- Limited staff visibility and tracking
 - imprecise decision-making
- Absence of carbon footprint monitoring (environmental compliance)
 - Excessive distance (KM) travelled → higher fuel cost, driver hours, emissions.

Solution

An AI driven Workspace Platform with Analytics capabilities of configuration items and work items recommendation:

- 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.

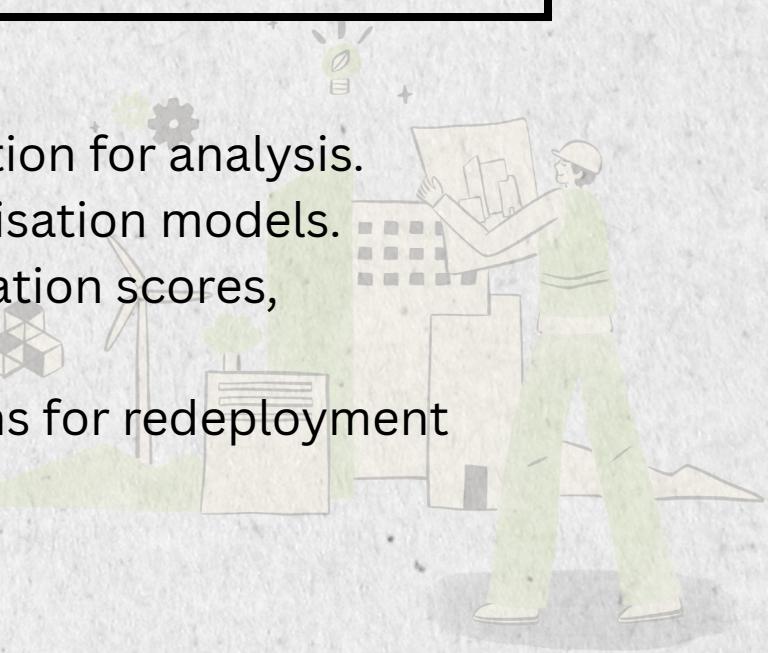


TECH & PROGRESS

Tech Stack	Tools	Current Status
Captures real-time data from vehicles and equipment, including GPS location, speed, routing, and fuel consumption	IoT (Telematics)	Dashboards in place showing live equipment movement and usage patterns
Allows staff to input equipment data into a unified platform, integrating all information into a centralised system	Staff Digitalisation Panel, Power BI, MySQL Database	Each asset is stored with real-time status, installation date, and expiration date, forming foundation for lifecycle analysis and predictive maintenance
ML algorithm processes lifecycle and telematics data to generate health and utilisation scores (Recommender System)	ML Scoring System, AI Agent	Initial scoring model under development; framework ready to support predictive maintenance and redeployment recommendations

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.



OUR MOCKUPS

