

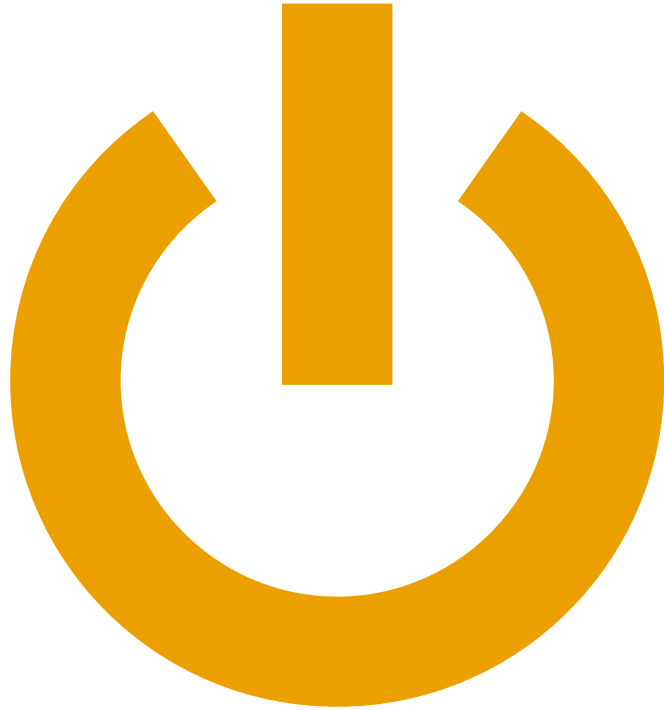
Project Overview

Project Overview

- Problem in equipment rentals
- Our Smart Rental Tracking solution
- Tech stack (FastAPI, PostgreSQL, Redis, React PWA)



Anomaly Detection



-
- Detect fuel spikes, excess idle, telemetry gaps
 - Prevent theft/misuse
 - Example: “*Fuel spike of 18L at 3AM on E112.*”

Usage Tracking

- Runtime vs Idle monitoring
- Fuel consumption tracking
- GPS-based location updates
- Example insight: *“E105 idled 62% yesterday at Metro Depot.”*

Demand Forecast



Predict equipment demand
14 days ahead



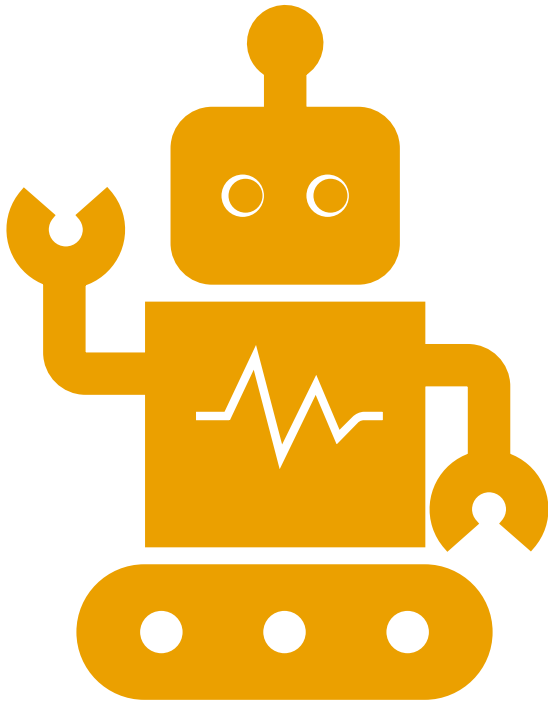
Branch-wise demand &
supply gap



Example: “Demand for
Excavators in Mumbai+18%,
move 2 units from Pune.”



Dealer Digest (Daily Summary)



-
- 24-hour summary on WhatsApp/Email
 - KPIs: runtime, fuel, anomalies
 - Example: “*Bengaluru runtime +22% vsyesterday.*”

RENTAL SUMMARY



TOTAL RENTAL HOURS
ACROSS ALL EQUIPMENT



BREAKDOWN: RUNTIME,
IDLE TIME, BREAKDOWN
HOURS



UTILIZATION % (HOW
EFFECTIVELY MACHINES
WERE USED IN LAST 14
DAYS)

Overdue Rentals & Late Fees



-
- Auto-calculates late hours and charges
 - Dealer notifications for overdue rentals
 - Example: “*Rental R-A12B3C overdue by 36h, Fee \$18,000.*”

Geo-Fencing

- Equipment restricted to site boundaries
- Alerts if machine moves outside allowed area
- Prevents theft & unauthorized usage



Security System



REAL-TIME ANOMALY +
GEOFENCE ALERTS



DEALER NOTIFICATIONS
VIA WHATSAPP/EMAIL



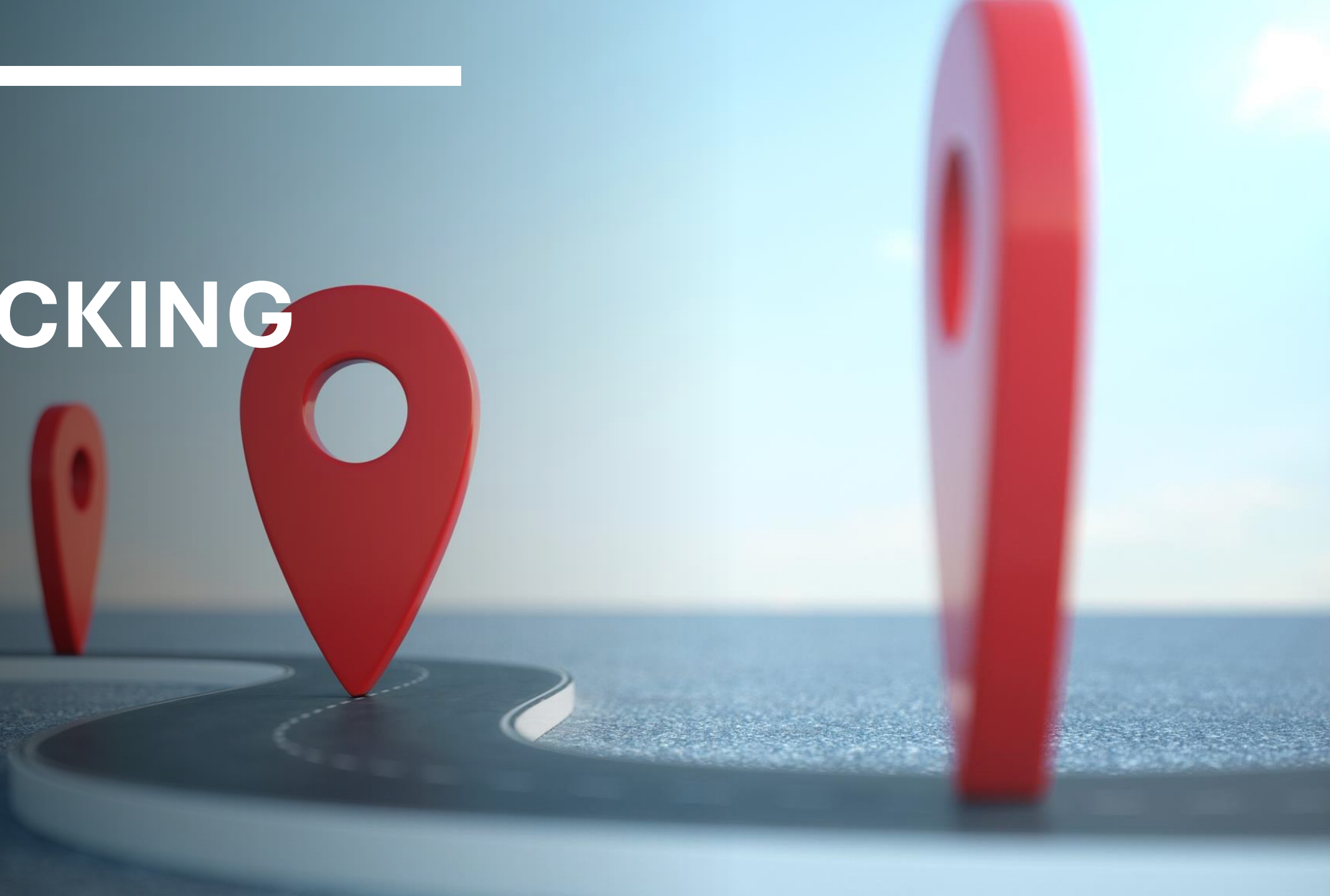
DATA SECURED WITH
ROLE-BASED ACCESS

Advanced Analytics

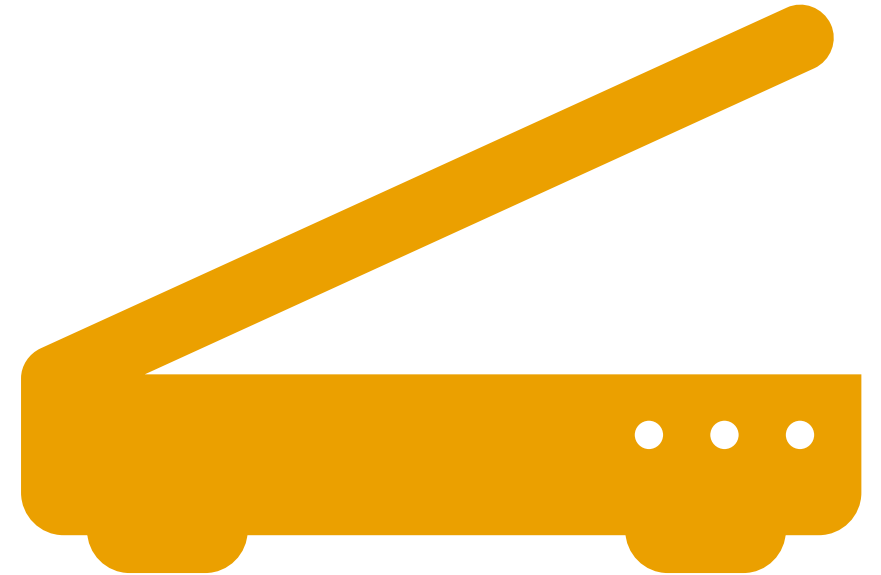


-
- Utilization trends (14-day snapshot)
 - Heatmaps: demand vs equipment availability
 - Predictive insights for decision making

QR TRACKING



-
- . Each equipment has a unique QR code scanned at start and return to update status in a centralized database.





RECORDS FUEL LEVEL AND ODOMETER
READING AT THE START TO ENSURE ACCURATE
BILLING, MAINTENANCE, AND PREVENT MISUSE.

QR TRACKING

Sends alerts for
upcoming return
deadlines
and analyzes usage
patterns to predict
demand.

Reduces errors,
improves transparency,
and makes the rental
process efficient and
reliable

FUTURE SCOPE & IDEAS

Key Direction

- Transition from a static dashboard to a self-thinking system using Agentic AI
- Agentic AI enables not only insights but also intelligent actions

Applications

- Predict demand increase in Site A and suggest reallocation of machines from Site B
- Trigger automated reminders to customers when rentals are overdue

Technical Approach

- Connect backend data streams to an AI agent
- Apply a combination of rule-based logic and machine learning models
- Execute actions through APIs and automated notifications

Vision

Transform the system from a dashboard into a decision-making assistant for dealers

- **Conclusion & Benefits**



SAVES DEALER
MONEY (LATE FEES,
FUEL MISUSE)



IMPROVES
PLANNING & FLEET
UTILIZATION



INCREASES
OPERATIONAL
EFFICIENCY



DEALER-FRIENDLY
INSIGHTS



POWER HOUSE

