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TELECOM INFRASTRUCTURE · DIESEL LOGISTICS & FIELD EXECUTION

How India's Largest Tower Network Cut Route Kilometres by 30%, Accelerated Beat Planning by 80%, and Achieved 98%+ On-Time Site Execution

Intelligent Diesel Logistics, Fuel Governance and Field Execution Control for a National Telecom Infrastructure Operator

INDUSTRY	NETWORK	SITES	OPERATIONS	FOOTPRINT
Telecom Infrastructure	Largest tower operator in India	Hundreds of thousands, DG-dependent	Beat-based diesel field logistics	Legacy Systems and Manual Processes.

ENMOVIL · INTELLIGENT LOGISTICS

IMPACT AT A GLANCE

>30%	>80%	98%+
Reduction in Kilometres Run, Direct impact of route optimisation	Faster Beat Planning Cycles, From days of manual effort to minutes	On-Time Site Execution Rate, Previously unpredictable, manual-schedule-driven

BACKGROUND & SITUATION

The Operating Environment

Continuous tower uptime depends on a reliable diesel supply across a distributed national network. Every site runs on a diesel generator, and a missed refuelling visit is not an operational inconvenience; it creates tower downtime, SLA penalties, and regulatory exposure. At this scale, fuel logistics is not a support function. It is core to network reliability. Managing diesel supply across hundreds of thousands of geographically dispersed sites requires precise planning, controlled execution, and strong governance. Manual beat planning could not keep pace with the scale of the network. Fuel requirements were estimated without live tank or runtime data. Routes were not optimised.

TRIGGER FOR CHANGE

The Governance Crisis

Reconciliation between planned and actual consumption was either delayed or absent. Governance was weak across thousands of field touchpoints.

> *Shared access credentials meant there was no reliable way to trace who did what. Pilferage risk was high and largely invisible. The operation had grown beyond what manual coordination could manage accountably.*

THE CHALLENGE

Key Barriers to Reliable Field Execution

Manual coordination and governance gaps created systemic reliability and cost risks across the national diesel logistics operation.

Manual Beat Planning

Fuel requirements estimated without tank balance, runtime, or consumption data — leading to inaccurate schedules and missed visits.

Unoptimised Routes

Routes were not optimised: vehicles ran excess kilometres, inflating cost without improving coverage or site visit reliability.

No Automated Reconciliation

Discrepancies between planned and actual fuel took days to surface, allowing losses to accumulate undetected.

Structurally Invisible Pilferage

No real-time comparison of expected versus actual consumption made pilferage invisible and unaccountable.

No Geofenced Site Validation

Field visits were self-reported and task completion unverifiable, removing accountability across the field workforce.

Shared Credentials, No Accountability

Shared credentials removed individual accountability across the national field workforce, making audit trails impossible.

THE SOLUTION

Intelligent Diesel Logistics & Field Execution Platform

Enmovil replaced manual estimation with data-driven beat planning. Fuel requirements were calculated automatically from tank balance, generator runtime, and site-level consumption rates. GIS-based route optimisation with dynamic site sequencing brought planning time from days to minutes, and improved coverage without adding vehicle kilometres.

Fuel card transactions were integrated for real-time capture of every fuel event. Automated variance detection flagged discrepancies above threshold immediately, and reconciliation between expected and actual consumption became continuous rather than periodic. Pilferage became visible and traceable rather than absorbed into operational cost.

In the field, geofenced site check-ins replaced shared access credentials. Every site visit was validated against location, not self-reported. A mobile application gave field teams task checklists with offline capability. Role-based access ensured every action was attributed to an individual and fully auditable across the entire national network.

CAPABILITIES DELIVERED

1 Data-Driven Beat Planning

- Tank balance, runtime and consumption-based fuel planning
- GIS-based route optimisation with dynamic site sequencing
- Fuel card transaction integration for real-time capture

2 Fuel Governance & Reconciliation

- Automated variance detection above threshold
- Expected vs actual fuel reconciliation
- Continuous reconciliation replacing periodic manual checks

3 Field Execution & Validation

- Geofenced site check-in and visit validation
- Mobile app with offline capability for field teams
- Task checklists for structured site execution

4 Accountability & Audit Trail

- Role-based access and individual action attribution
- Full audit trail across all field activity
- Individual accountability established across national workforce

KEY VALUE DRIVERS

Cost & Efficiency

- 30%+ reduction in total kilometres run across the route network
- Beat planning reduced from days to minutes per cycle
- Fuel cost structurally lowered through optimised route coverage
- Excess vehicle kilometres eliminated through dynamic site sequencing

Operational Performance

- 98%+ on-time site execution rate achieved across the network
- Missed and late refuelling visits materially reduced
- Reliable diesel supply sustained across hundreds of thousands of sites
- Field team productivity improved through structured task checklists

Control & Governance

- Automated fuel reconciliation replaced manual variance tracking
- Pilferage made visible and traceable through variance detection
- Shared credentials eliminated; individual field accountability established
- Full audit trail across all site visits and fuel transactions

STRATEGIC IMPACT

Diesel logistics for a national tower network now runs with the rigour of a financial control system. Fuel waste is lower, pilferage is visible, governance is built into every field touchpoint, and reliable uptime is no longer dependent on manual coordination at scale.