



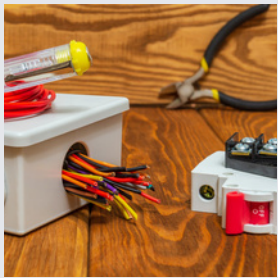
AI-Led Network Optimization

For a Leading Electrical Equipment Manufacturer

Document Type
Case Study Report

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1.0



Top Indian Electrical Equipment Company

DOCUMENT TYPE
Manufacturing & Distribution

CLIENT TYPE
40 Branches | 17 Warehouses | 12 Plants

LOCATION
India

Sector Focus: Electrical manufacturing with large-scale B2B distribution requiring efficient plant-to-customer routing and cost-optimized logistics.



Executive Summary

Translytics worked with one of India's top electrical equipment manufacturers to optimize its logistics network. Rising operational costs and misaligned warehouse-routing structures prompted the need for AI-powered distribution planning. Translytics deployed its Network Optimization engine, using Center-of-Gravity simulations and route modeling to design a leaner, more cost-effective logistics network.

₹5.4L

Monthly Savings

18%

Truck Utilization

320

Auto-Dispatches/Mon

4 CoG

Simulations Executed



Challenge

The company's expanding distribution network caused significant inefficiencies:



High Logistics Costs & Route Inefficiency

- Misaligned plant-to-warehouse-to-customer flows
- High fuel, freight, and labor expenses
- Suboptimal truckloads leading to frequent empty or partial transfers



Manual, Non-Automated Dispatch Planning

- Heavy coordination effort
- No AI-driven triggers for inventory-based dispatches

Business Impact

\$ Rising cost-per-ton-km

🕒 Delays in customer fulfillment

👥 High working capital due to poor stock movement

Solution



Translytics Network Optimization Engine

An AI-driven tool to model network efficiency and design better plant-to-branch-to-customer flows.



Center-of-Gravity (CoG) Simulation & Network Redesign

- ✓ Regional CoG modeling for optimized routing
- ✓ Multiple scenario variants tested for best cost, time, & fill rate outcomes



Primary & Secondary Flow Optimization

- ✓ Modeled plant-to-branch and branch-to-customer flows
- ✓ Evaluated alternate routes to cut logistics cost and transit time



Automated Dispatch Logic

- ✓ Inventory-based triggers for dispatch scheduling
- ✓ Reduced manual coordination and improved truck utilization

Impact & Results

Qualitative Improvements

- ✓ Better truck utilization and route consolidation
- ✓ Inventory moved closer to demand centers
- ✓ Streamlined dispatches with AI logic
- ✓ Faster response to distribution bottlenecks

Annual Impact Projection

₹65L+

Annual Savings

600+

Hours Saved/Month

15-20%

Fewer Empty Returns

100%

AI-Simulated Design

Technology & AI Implementation



AI & Simulation Features

- CoG logic engine
- Logistics cost predictor
- Route optimizer
- Load balancing predictor



Integration & Platform Features

- ERP-connected logistics planning module
- Multi-node dispatch simulator
- Scenario testing dashboard

Future Enhancement Roadmap



Phase 2: Multi-Echelon Flow Modeling

Include dealer and retailer routing for deeper distribution optimization.



Phase 3: Dynamic Load Planning

Enable real-time truck-fill and smarter dispatch allocation.



Phase 4: Sustainability Metrics

Track CO₂ impact and optimize routes for lower emissions.