

**PLAN4DEMAND**

**SUCCESS!**



**Most companies manage product returns as an after-thought, but this client, which spends over \$30M transporting spent batteries for recycling, took a proactive approach to reverse logistics—streamlining delivery lanes, improving carrier utilization, and saving millions.**

**SS070:**

Network Analysis:  
Transportation Management  
LogicNet Plus XE (LogicTools)

## **FORTUNE 100 FIRM SAVES \$8M IN REVERSE LOGISTICS**

This client expects to sell about 70 million automotive, marine, and industrial batteries in 2008, and for almost every unit sold, one worn out battery will be returned for proper recycling at the end of its useful life.

As a leading global manufacturer of lead-acid batteries, the company relies on a dedicated trucking fleet, deployed throughout 10 North American distribution centers, to distribute batteries and return spent ones for recycling. The company also relies on common carriers to service full truckload needs.

Managing fleet delivery routes is challenging enough, but planners here are further burdened by coordinating the pickup of returns along their regular routes, as well as deciding whether to allocate fleet equipment or common carriers to handle such shipments.

And when you consider that the average battery weighs 36 pounds, that roughly 1,100 are enough to weigh out an eighteen-wheel tractor trailer rig, and the company expects to haul 46,000 truckloads of “junk” batteries to lead smelters each year, it’s easy to appreciate why company executives called on Plan4Demand to help improve their reverse logistics operations.

**Common carrier costs *alone* for reverse logistics were nearly \$30 million!**

### **NETWORK OPTIMIZATION YIELDS DRAMATIC SAVINGS**

Driven also by a 500% spike in the cost of lead over 18 months, company managers enlisted Plan4Demand’s global supply chain specialists to develop a network optimization model that would help them derive the most value from their reverse logistics resources, both fleet and common carriers.

In reverse logistics, with products cycling backward through the supply chain, traditional roles are reversed. Thus traditional customers became the suppliers of spent batteries, which were delivered via distribution centers (DCs), warehouses, and cross-dock facilities, to various lead smelting facilities—the customers in this scenario.

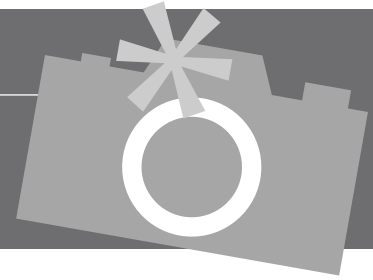
Plan4Demand’s consultants first defined a network model based on transport nodes and shipping lanes. All combinations of lanes that could possibly interconnect the various nodes were modeled, based on either historic rates or negotiated rates (whenever possible), or else mileage costs developed by regression analysis.

*Plan4Demand is a client advocate and is in no way sponsored by any software vendor.*

## Solution Snapshot

**Problem:** With transportation costs for reverse logistics topping \$30 million, and raw material prices on the rise, managers at this company were challenged to improve their process.

**Solution:** Plan4Demand transport specialists modeled a network optimization plan that showed how new lane assignments and improved routing practices could save up to \$8 million a year.



By applying these costs in conjunction with variables including:

- Transportation lane costs, by best mode available
- Smelter processing costs and capacities
- Warehouse handling costs and storage capacities
- Starting and ending inventories

Plan4Demand consultants developed and validated a model for transporting returns along optimal lanes to the best smelter destination identified for each source, and then using least-cost carriers within those lanes. **Net savings projected for the fiscal year topped \$4.1 million.**

### PROCESS EXPERTISE PAYS BONUS SAVINGS

In the midst of their network optimization effort, Plan4Demand's consultants (former hands-on transportation managers themselves) observed opportunity for planners to improve their private fleet routes as well.

Drivers were picking up spent batteries with every delivery, then returning them to their DCs or warehouses. Plan4Demand showed how rerouting drivers to deliver spent batteries directly to the smelters, after making their last deliveries, **would save an additional \$3.2 million annually.**

**We also revealed a way to save \$1 million a year by creating three-legged continuous moves for common carrier shipments:**

- First, deliver new batteries from the plant or its DC to the customer
- Then transport spent pickups from customers to smelters
- Finally, deliver lead from the smelters to the manufacturing plants.

Our consultants recommended developing a centralized load control center, within the transportation management system, to plan continuous moves.

Working side-by-side with client stakeholders, our specialists defined 10 quick-hit, medium-, and long-term projects necessary to realize these savings. We defined the necessary resources, technologies, project plans, and reporting tools. Now company planners and their third-party logistics partners are moving forward in phases that best fit their businesses.

### BENEFITS TO BE HAD IN MANY INDUSTRIES

**Consumer goods... High tech... Apparel...** The potential to reap savings from reverse logistics spans many vertical markets, but most manufacturers neglect the returns process when designing their transport networks, losing out on the efficiencies inherent in continuous moves that keep trucks returning to domiciles/depots daily. Instead, return shipments are planned in isolation—from the customer, back to the plant, then to other facilities for repair, rework, or recycling, often via separate shipments.

Many manufacturers struggle with high return rates of damaged/incorrect shipments, or outdated/obsolete/unsold merchandise. Companies that actively recycle spent products into new ones are less common, but this Plan4Demand client illustrates the big benefits of network optimization.

**Plan4Demand** is a consulting services firm that helps Global 500 corporations and mid-market companies increase profitability and reduce operating costs by maximizing efficiencies across their supply chains.

#### People—Process—Technology

By first collaborating with your **people**, we jointly determine the best ways to optimize your **process** requirements. Only then do we move forward with the right **technology** to help you achieve your bottom-line goals.

**plan4demand**  
Global Supply Chain Specialists

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