

# Network Optimization at a Leading Paints Performance Coatings & Specialty Chemicals Company Facilitates Annual Reduction of INR 50 million in Supply Chain Costs



## SITUATION

The customer did not have a sophisticated tool for optimization and it was done only on the basis of transportation cost. They had a multi echelon supply chain with high logistics costs and their operations involved complex tradeoffs between logistics cost, service and inventory holding. With the introduction of GST the customer was faced with a new challenge apart from dealing with changes in business model from retailers to super stockists.

## IMPACT

The customer had a multi echelon supply chain with high logistics costs and this affected their profitability. The supply chain was sub-optimal and the different means available to reduce cost, like sourcing cost, were left out of optimization scope.

## RESOLUTION

ITC Infotech prepared the product flow optimization for a shorter horizon of 3 months. The large scope of optimization to identify changes to the distribution and sourcing network considered various operational constraints before arriving at the optimal solution.

## The Customer

The customer is a leading paints, performance coatings and specialty chemicals company based in Europe and has operations in more than 80 countries. It creates paints and performance coatings and produces specialty chemicals for both industry and consumers worldwide and its range of products include basic and industrial chemicals, decorative paints, industrial refinishing products and coatings.



## The Need

The India business of the customer wanted to optimize its existing supply chain that presented the following challenges:

- A multi echelon supply chain with high logistics costs impacting profitability
- Complex tradeoffs between logistics cost, service and inventory holding
- Introduction of GST
- Change in business model from retailers to super-stockists

To overcome these, the customer needed to undertake product flow optimization to determine the potential of optimization in existing supply chain network without structural changes. They also wanted a strategic network design that would consider the long term demand and changed business scenario.

## The Solution

ITC Infotech prepared the product flow optimization for a shorter horizon of 3 months, with no options for structural changes to the network. The large scope of optimization was to identify changes to the distribution and sourcing network from a total landed cost point of view. Various operational constraints like minimum truck load between a source and a destination, bundling of different product families, warehouse space availability, etc were considered before arriving at the optimal solution.

**Following the analysis three types of changes in the network were made, namely:**

1. Direct movement from plants to DC (distribution centre), bypassing the RDCs (regional distribution centre) to save on logistics cost
2. Insourcing of some products, which were earlier outsourced, as it was cheaper to manufacture in house and availability of capacity
3. Servicing of customers from the optimum DC, though not in the same state due to effect of GST. This reduced the role of RDCs and thereby the overall inventory in the system as well.

**The network design involved a more strategic exercise for the long term planning with the following elements:**

The potential list of 42 locations was identified after the Greenfield analysis considering different service criteria and discussion with the planning team.

The optimum number and location of distribution centers were decided after fixed and variable operating costs were considered for different locations and with different customer service levels. Multiple scenarios were tried out with differing customer service constraints and each scenario was carefully evaluated for its impact on total cost, inventory holding and distance to customers before making the final recommendations for the supply chain structure. Other factors like logistics infrastructure, proposed highways, smart cities, etc were also considered.

## Business Benefits

- Reduction of INR 50 million per year in supply chain costs through product flow optimization
- Reduction of warehousing cost and inventory following reduced role of RDCs and co-locating plants and DCs
- Clearer visibility of total cost across different service levels for long term planning which helped the business in negotiating with their customers on price and service level

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Our expertise spans Consumer Goods, Retail, Process Industry, Logistics & Transportation, across key business functions such as product development, production, supply chain management, sales and marketing management, field force management, and customer relationship management.

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