ALPINE
Supply Chain Solutions

Building the Future:

How Alpine Reshaped a Distribution Network for Success

1 Introduction

An esteemed global leader in industrial equipment manufacturing, boasting a history of nearly 150 years in business and a workforce of over 100,000 employees, sought to enhance its network design. The company's operations encompass the distribution, installation, and servicing of diverse industrial health and safety systems worldwide. With an extensive network of small storefronts throughout the United States, each equipped with a storage space, the company faced the complexity of managing a dispersed network while ensuring the swift supply of essential units and parts to sustain critical institutions such as hospitals, schools, and data centers.

2 The Challenge

The company's expansive presence in major cities, established to deliver services at a moment's notice, resulted from rapid growth. However, this decentralized approach revealed the challenges that expansion can bring, including delayed shipping times, the high cost of real estate, and elevated overhead associated with managing multiple urban locations. Furthermore, the requirement for specific products at each location led to an overstock of parts across the network, with identical stock often located less than 15 miles away in another branch.

To address these issues, the company engaged Alpine Supply Chain Solutions to perform a Distribution Network Analysis and develop a comprehensive business case. They sought a solution that would optimize transportation, real estate, labor, inventory, one-time transition costs, risk, and service levels. The transition from a decentralized to a centralized model was seen as the key to realizing cost savings and improvements across all these areas.

3 The Solution

Alpine initiated the process by leveraging cutting-edge tools to conduct a Distribution Network Analysis (DNA), which determined the ideal size, location, and number of distribution centers required to meet service levels and order delivery cycle times. Their data-driven approach also:

- Determined optimal transportation modes and carriers
- Explored how the network design would impact sourcing and inventory levels
- Investigated the benefits of consolidating different business units/branches within distribution centers and storefronts

Alpine meticulously analyzed customer density, origin/destination pairs, and various factors to create a visual representation of strategically positioning proposed facilities for cost optimization and nationwide service coverage. Utilizing historical data, forecasted growth, labor market insights, customer needs, and close collaboration with the company, they arrived at a 6-distribution center network solution. Alpine provided a business case to support the transition to this new model and offered guidance for making informed decisions in today's competitive and complex supply chain landscape.

To support a Return-on-Investment Analysis, Alpine examined:

- Real estate costs per square foot in each proposed location down to the zip code
- Resource allocation by location to determine facility sizing
- Labor reduction options associated with location consolidation
- Average wages for warehouse employees in each location
- Potential inventory-carrying cost reductions
- Savings from converting parcel shipping to less-than-truckload (LTL)
- Shipping cost reductions based on DNA results
- One-time costs, including inventory relocation, material handling equipment (MHE) expenses, warehouse management system (WMS) and enterprise resource planning (ERP) installations, and redundant labor
- Risk assessment for natural disasters and labor shortages in each location
- Inventory balancing risks
- Solution implementation effort concerning network complexity

4 The Results

Alpine's Distribution Network Analysis yielded a range of recommendations capable of generating annual savings exceeding $24 million. Even the most modest changes promised an annual savings of approximately $2 million, offering the swiftest return on investment. Providing a strategic roadmap for future network design allows the company to systematically transition to a more efficient network, aligning with its resource availability.

This partnership has been mutually beneficial. As the company continues to expand, Alpine's data-driven proposals will assist in navigating the challenges of growth, furthering market penetration, and reducing overhead expenses.