

How Alpine Improved Small Parts Picking Productivity by 25% Through Facility Layout and Zoning Optimization



1 Introduction

A leading provider of molecular imaging and nuclear medicine technology supports healthcare organizations across the United States by supplying new and refurbished imaging equipment, replacement parts, and a nationwide technician network for installation and repair services. With a complex operating model that includes both large-scale imaging systems and high-velocity service parts, the company plays a critical role in enabling healthcare providers to maintain uptime and deliver patient care. Rapid growth and evolving customer demand placed increased

pressure on warehouse and service operations, especially as the organization approached multiple lease expirations across its existing footprint. Operating out of three separate buildings created inefficiencies in storage, picking, staging, and internal movement, limiting scalability and increasing operational cost. To improve workflow, expand capacity, and protect business continuity during consolidation, the organization partnered with Alpine Supply Chain Solutions for facility layout optimization and move planning support.

2 Challenge

The company's distribution footprint reflected an earlier stage of growth, where processes had been added onto available space rather than intentionally designed into the facility. Over time, operating across three separate buildings created unnecessary travel, additional handling touches, and inefficiencies in picking and staging—especially as demand increased and lease deadlines approached. The operation also relied on a mezzanine configuration that introduced complexity into replenishment and picking flows, creating friction in material movement and increasing labor effort.

Staging space was limited around critical value-added activities such as painting and refurbishment, resulting in congestion and reduced throughput. Additionally, the organization needed a facility strategy that could effectively support both careful handling of large imaging equipment and fast fulfillment of high-volume small parts without compromising safety, quality, or service performance.



3 Solutions

Alpine partnered with the organization to design a consolidated facility layout that improved operational flow, expanded capacity in key work areas, and created a scalable foundation for continued growth. Alpine's approach was driven by a detailed review of rolling 12 months of order history, ensuring that storage strategies, pick paths, and zoning decisions reflected actual demand patterns rather than assumptions. The solution focused on creating clearly defined operational zones based on product characteristics and process requirements, reducing cross-traffic and unnecessary internal movement.

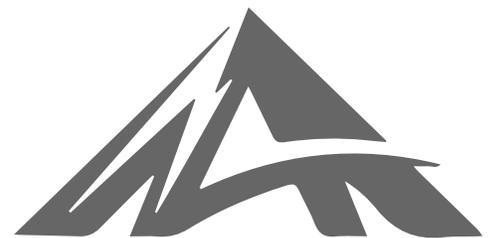
Large imaging equipment was assigned to appropriately sized floor storage to support safe handling and efficient movement, while small and medium items were placed into racking for denser storage and faster access. A major emphasis was placed on optimizing the small-parts picking area, as it represented the highest-frequency activity in the facility and a key opportunity for measurable productivity improvement.



4 Implementation

Over an eight-week engagement, Alpine combined on-site observation with data-driven analysis to validate constraints, identify opportunities, and develop a layout solution that was both efficient and executable. Alpine conducted site visits to document congestion points, staging behavior, replenishment triggers, and the real-world impact of mezzanine operations on labor productivity. Using these findings, Alpine developed three iterative facility layouts in AutoCAD, pressure-testing each version against tradeoffs in capacity, staging placement, adjacency needs, and travel distance.

The final layout increased throughput potential by expanding refurbishment and paint-related zones while also improving the relationship between forward pick locations, reserve storage, and expected demand. In parallel, Alpine created a structured three-wave move plan to transition operations into a single 46,000-square-foot building while maintaining continuity for customers and field technicians. To reduce schedule risk and avoid delays caused by racking teardown and installation timelines, Alpine also supported vendor coordination and planning to ensure local code requirements and project deadlines could be met.



5 Results

By the end of the engagement, the organization had a complete and executable blueprint to consolidate three facilities into one without disrupting customer service. The final design increased refurbishment capacity by doubling test/refurbishment bays from three to as many as six, while also increasing paint booth capacity by 30%. Staging capacity outside the paint booth was expanded by 100% for newly painted panels, reducing congestion and improving workflow through value-added processes. The redesigned layout also created additional 3PL storage capacity to hold customer equipment, improving flexibility in service project timing.

Most notably, Alpine estimated a 25% productivity improvement in small-parts picking due to improved zoning, reduced travel, and optimized racking placement. With the AutoCAD layouts and phased move plan in place, leadership gained alignment and confidence in the facility strategy, enabling faster decision-making and ensuring the consolidated site was positioned for long-term growth.

