

10 Signs It's Time To Rethink Your Intralogistics

White Paper

Uncovering one or more of these symptoms might indicate it's time to consider a new methodology for handling inventory, components, goods and/or spare parts inside your operation.



Introduction

Intralogistics—or the methods used to handle, store, track, locate and manage the inventory, parts, goods and items within the four walls of an operation—can have a significant impact on productivity. In facilities that rely on traditional static shelving for storage of non-palletized items, the inherent limitations of the storage method itself can hamper associates’ ability to find the right item quickly and in its expected condition.

This white paper outlines the ten signs your shelf-based intralogistics practices might be negatively impacting your operation. It also offers alternative solutions to improving a facility’s intralogistics without requiring a major remodel.

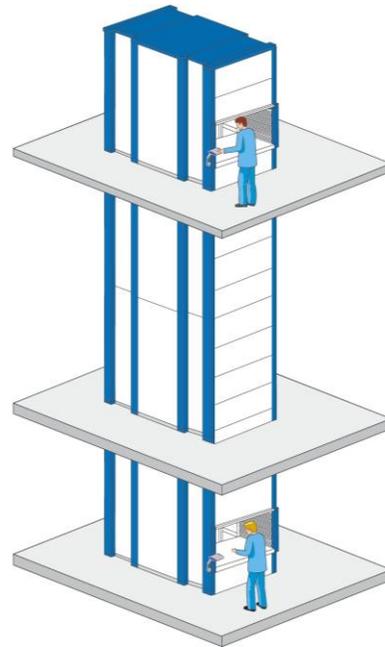
Ten Signs It’s Time To Rethink Your Intralogistics

1. Excessive Replenishment

If reserve inventory of fast- and medium-moving items is stored in static shelving, time can be wasted waiting for replenishment of picks.

Solution to Consider:

Consider automated storage and retrieval systems that offer fast, easy accessibility to stored inventory, quickly presenting items for picking at the point of operator access or for replenishment of nearby pick zones. Facilities with multiple floor levels or mezzanines can optimize replenishment of a [vertical carousel](#) or [vertical lift module \(VLM\)](#) by adding a second access opening at a different elevation. This allows one opening to be dedicated to replenishment of the machine and the other dedicated to picking.



Vertical Carousels and VLMs offer multiple access openings

2. Extensive Pick Travel

Use a pedometer to estimate picker travel times. Often workers are traveling for miles during a shift; walking that translates into wasted time. In a manual operation—where workers must travel to the items—associates frequently spend as much as 60-65% of their shifts walking.

Solution to Consider:

Consider automated storage and retrieval technologies that deliver a required item directly to the operator via the “goods to person” concept, dramatically reducing pick travel time. Simply by stationing a single operator to pick from a pod (or group) of automated storage and retrieval machines, picking speed and accuracy will increase dramatically with significantly lower labor requirements.



3. Wasted Search Time

Upon arrival at a picking destination, a worker must visually search the shelves, looking for the correct item and matching up part numbers, a process that can take several minutes or more.

Solutions to Consider:

Consider a [light-directed item locating system](#), such as a light pointer device used with VLMs, to identify the precise location of the item to be picked or replenished and eliminate search time. This system deploys an LED or laser light mounted on a slider moving horizontally on a guiding system within the access opening of the storage and retrieval unit. Software-driven, the light pointer also swivels to project the light beam in the depth direction of the machine to illuminate any position within the storage tray.



VLM with pick-to-light technology

4. Pick Errors

Picking involves more than grabbing an item off a shelf. Operators follow a paper pick list, travel to a location, find the item, check the list to determine the number of items required, pick the items, confirm the pick by marking the paper, then deliver the items for packing. Each step is an opportunity for human error, compounded by fatigue from travel and less-than-optimal lighting found in most facilities.

Solutions To Consider:

Consider a combination of [light-directed picking technologies](#) and [integrated message centers](#) that communicate pick information to the operator. Together, these systems indicate the precise area within the carrier of the item to be picked, display the part number or description, pinpoint the exact location, direct picking (or storage for replenishment) and indicate the required quantity. These visual picking aids reduce processing errors and increase accuracy up to 99.9%.



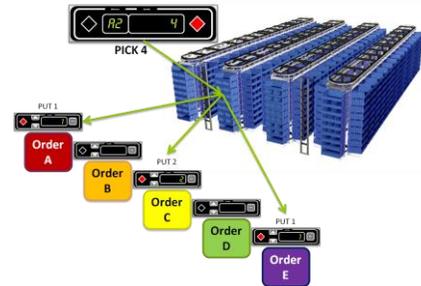
VLM with pick-to-light technology

5. Low Throughput

In a manual operation, pickers often fill just one order at a time, translating into pick rates of approximately 50 lines per hour.

Solutions to Consider:

Consider speeding up picking to maximize associates' available time for other revenue generating activities. Using batch picking—a process that groups together orders with a common item or items—integrated inventory management software sequences the picks for completion in a single rotation (or cycle) of the unit. Multiples of the same items are picked then delivered to a nearby workstation for sorting into appropriate orders. Because multiple orders can be filled at the same time, batch picking can increase throughput by as much as 200%—up to 600 lines per hour.



Batch picking improves throughput

6. Damaged Items

Goods stored on shelves, whether in or out of containers, are exposed to dirt and dust common to warehousing and manufacturing operations. This shortens their useful life and renders them unsuitable for sale or internal use.

Solutions to Consider:

Consider a fully-enclosed solution to keep items clean and protected from exposure to dirt, dust and other environmental contaminants. Not only does this extend their useful life, but also reduces the number of products or components that must be scrapped due to damage. Further, integrated inventory management software can manage FIFO (first in, first out) or LIFO (last in, first out) picking for better inventory turn.



Inventory management software supports FIFO and LIFO picking strategies

7. Missing Inventory

In open shelving spread across hundreds or thousands of square feet, items can simply get lost. It can be a challenge to know how many items are in stock, and their precise location. Regular cycle counts can help account for items, but are time-consuming and not up-to-the-minute current.

Solutions to Consider:

Consider [inventory management software](#) to manage the items within the storage unit. The software also interfaces with a facility's warehouse management system (WMS) and enterprise resource planning (ERP) systems. This function allows managers to closely monitor stock levels in real time—and potentially eliminate physical counts—to reduce the amount of inventory they must have on hand.



Safe, secure and clean storage

8. Pilfered Product

Open shelving is unsecured storage allowing anyone who passes by the opportunity for theft.

Solutions to Consider:

Consider a secure storage system that permits only authorized operators to access contents after first keying in a software-traceable personal login and password. This allows missing or misplaced goods to be tracked back to an individual. The enhanced level of accountability and security eliminates inventory shrink and its negative impact on the bottom line.



Easily manage inventory on hand

9. Wasted Storage Space

Traditional, static shelving not only requires a tremendous amount of floor space, it also does not make use of empty overhead (or vertical) space. Further, the distance between shelves must be altered manually to maximize storage density within the unit, a time-consuming process most operations don't bother to undertake.

Solutions to Consider:

Consider high-density storage solutions that significantly reduce the amount of square footage required to store inventory. For example, the equivalent amount of inventory held in 120 bays of static shelving can be condensed into two [horizontal carousels](#) (66% space savings), two [vertical carousels](#) (75% space savings) or a single [VLM](#) (85% space savings).



Maximize wasted overhead and aisle space

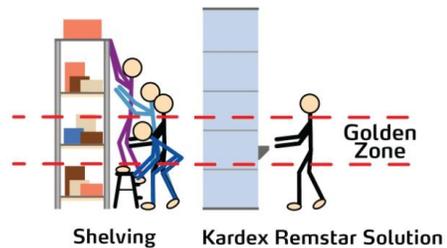
Further, to maximize density, VLMs allocate trays dynamically by measuring the height profile of each tray's contents and determining the best storage location in the unit based on the least amount of space used. This permits storage trays to be placed within 1-inch of each other, yielding maximum storage capacity within the unit.

10. Improper Ergonomics

Shelf-based storage forces workers to bend or stretch to reach inventory, or even use ladders to access the highest items. All of these activities can increase the chances of injury.

Solutions to Consider:

Consider storage solutions that deliver stored items to the "Golden Zone" (between a user's shoulder and knees). These solutions minimize unnecessary or excessive motions such as lifting, reaching, walking, stretching, bending, pushing, pulling, twisting, spinning or stooping. Likewise, ladders and climbing are no longer necessary. Because the chance of worker injury is substantially lessened, absenteeism, insurance premiums and claims for worker's compensation will be reduced.



Automated Storage & Retrieval Systems

Self-contained automated storage and retrieval equipment options are available as alternative solutions to improving a facility's intralogistics without requiring a major remodel. Four primary types include:



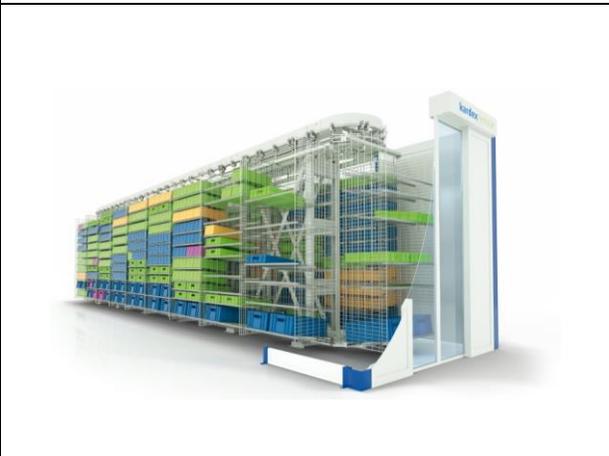
Vertical Carousels – Comprised of a series of shelves that rotate around a track—similar to a Ferris wheel—these systems deliver a specific shelf of stored items to a work counter.



Vertical Lift Modules (VLMs) – An enclosed system with two columns of trays and a central inserter/extractor that automatically finds and pulls trays from both columns, then presents them to the operator.



Vertical Buffer Modules (VBMs) –In the middle of a multi-segment shelving system is an aisle, where a moveable mast with a telescopic gripper operates. The control unit sets the gripper in motion picking a bin and transporting it to a picking station.



Horizontal Carousels – Consist of bins mounted on an oval track that rotate horizontally to deliver storage locations to an operator.

To learn more about how automated storage and retrieval technologies can help your facility achieve optimized intralogistics practices, contact your Kardex Remstar representative today.

About Kardex Remstar

Kardex Remstar, LLC, a company of the Kardex Group, is a leading provider of automated storage and retrieval systems for manufacturing, distribution, warehousing, offices and institutions. For information about the company's dynamic storage solutions visit www.kardexremstar.com.