

# Think Vertical for High-Efficiency Part Storage > ENGINEERING.com

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Automotive dealership parts departments and manufacturers share a common problem: major cost challenges in storing, distributing and selling parts.

To meet these challenges, many dealers are taking advantage of automated vertical storage systems to substantially improve customer satisfaction and achieve higher overall profit margins from both their parts and service departments.

Automotive dealerships that have implemented automated vertical storage systems (vertical lift modules or vertical carousels) within their parts departments are enjoying several advantages, including:

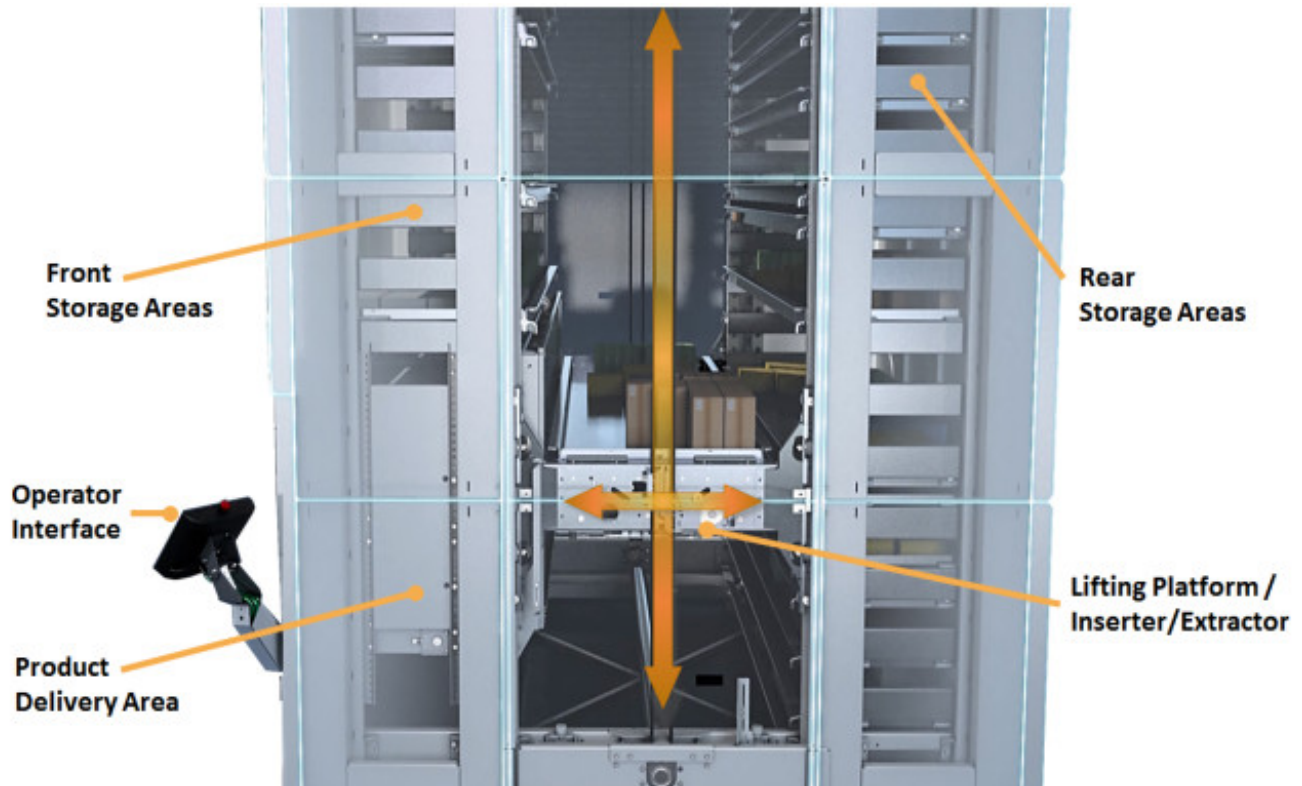
- increased storage capacity of parts (approximately 85% less floor space compared to traditional static storage methods),
- better inventory control,
- improved picking accuracy and
- speed getting parts to sales persons and service technicians.

The result is more service jobs per day and greater customer satisfaction. It can do the same in industrial operations.

## What Are Automated Vertical Storage Systems?

Vertical lift modules are fully enclosed automated high density storage units containing trays that are accessed by a lifting platform with an inserter/extractor. The trays are stored in the front and rear storage areas of the units and parts are stored within trays. Trays containing parts are retrieved and delivered to operators at an ergonomic height for easy access.

Vertical tray movement is accomplished by a steel-reinforced toothed belt drive system and self-braking gear motor. Lifting guidance and stability are provided by sixteen (16) guidance rollers located on the lifting platform.



Vertical lift modules are perfect for storing items of different sizes, heights or weights. Product heights and tray weights are automatically measured by the vertical lift's on-board sensors and controller each time a tray is returned to the system.

The tray is then instantly assigned to the optimal storage location based on its product's height. Tray storage is adjustable in 1" increments, providing maximum storage utilization within units. The trays within vertical lift modules can also be easily divided into individual compartments to create various sizes of part location slots.



Vertical carousels are another type of enclosed, automated high density storage unit with bi-directional vertically rotating carriers. Totes or boxes with front-to-rear dividers of various widths are stored on each carrier of the vertical carousel to contain parts in specific storage locations.

Both of these systems deliver the parts to the user at an ergonomic height, minimizing bending, reaching and climbing to access items.

A key advantage of vertical lift modules is that only the specific tray containing the parts required is moved and delivered to the operator. All other parts remain safely stored in place on other trays, which can be important for sensitive electronic parts and high-cost items.

Other advantages of vertical lift modules include faster picking times, increased product visibility and the ability to store a wide range of product heights which often change based on product type or stock levels, maximizing storage space within units.

It's common for a parts department to gain an additional 60% or more storage capacity using minimal floor space with automated vertical storage systems. It is not uncommon for a 20 ft. tall vertical lift module, requiring only approximately 140 square feet of floor space, match the storage capacity of 80-85 industrial/automotive type shelving bays.

This typically recovers 1,500 to 2,000 square feet of floor space within a parts department (depending on shelving layout). This additional, reclaimed floor space can be used for production or additional storage.

In the automotive case, dealerships have been able to gain additional service bays because the parts department requires a smaller footprint when automated vertical storage systems are utilized. Also, units can be placed closer to service or parts counter areas, further reducing part picking time.

## Improved Inventory Accuracy With Direct DMS Integration

In addition to floor space savings, inventory accuracy can be greatly improved with automated vertical storage systems. Manual order entry inputting from invoices can be nearly eliminated.

Automated vertical storage systems feature a graphical, color touchscreen controller that has the ability to interface to most Document Management Systems (DMS), allowing orders to be sent from the DMS to the storage unit automatically.

The unit's color touchscreen controller graphically indicates item picking and stocking locations and other valuable information to reduce operator errors.

Data is clearly presented to the operator displaying all required information such as order number, item number, description and quantities to be picked or replenished. This means there is no confusion on what is to be picked or restocked.



Another advantage of automated vertical storage systems is that the parts are placed “out of sight.” With parts stored in automated storage units, personnel only need to know that the parts they need are inside the automated vertical storage units.

Picking information is displayed for operators based on the name of the specific bin location shown on

sales order pick tickets, without having to look up the part number on the DMS.

As an additional security safe guard, user access passwords can be used to restrict access to either entire units or certain storage locations within automated vertical storage systems. It's even possible for expensive components such as processor boards, navigation head units, ECM's, etc. to be accessed only by designated individuals.

## Better Productivity, Fewer Injuries

Operator productivity also increases using automated vertical storage systems. Vertical lift modules automatically deliver parts to the picker at an ergonomic height, rather than having the picker go and locate the parts within long aisles of shelving and cabinets. Walking time for parts retrieval is reduced up to 70% compared to static shelving.

Furthermore, common safety issues involving slips and falls, repetitive strain or soft tissue injuries are easier to manage when there's no reaching, ladders or stairs. A single worker using automated vertical storage systems can be as productive as three workers picking from static shelving.

As one Fixed Operations Manager stated, *"Gone are the days of my parts personnel having to go on an Easter egg hunt when retrieving and replenishing parts now that I've implemented automated vertical storage systems."*



Optimal systems work well with semi-skilled and minimally trained employees as well as experts. This can be further optimized with a full width alphanumeric LED bar, located within the picking area opening.

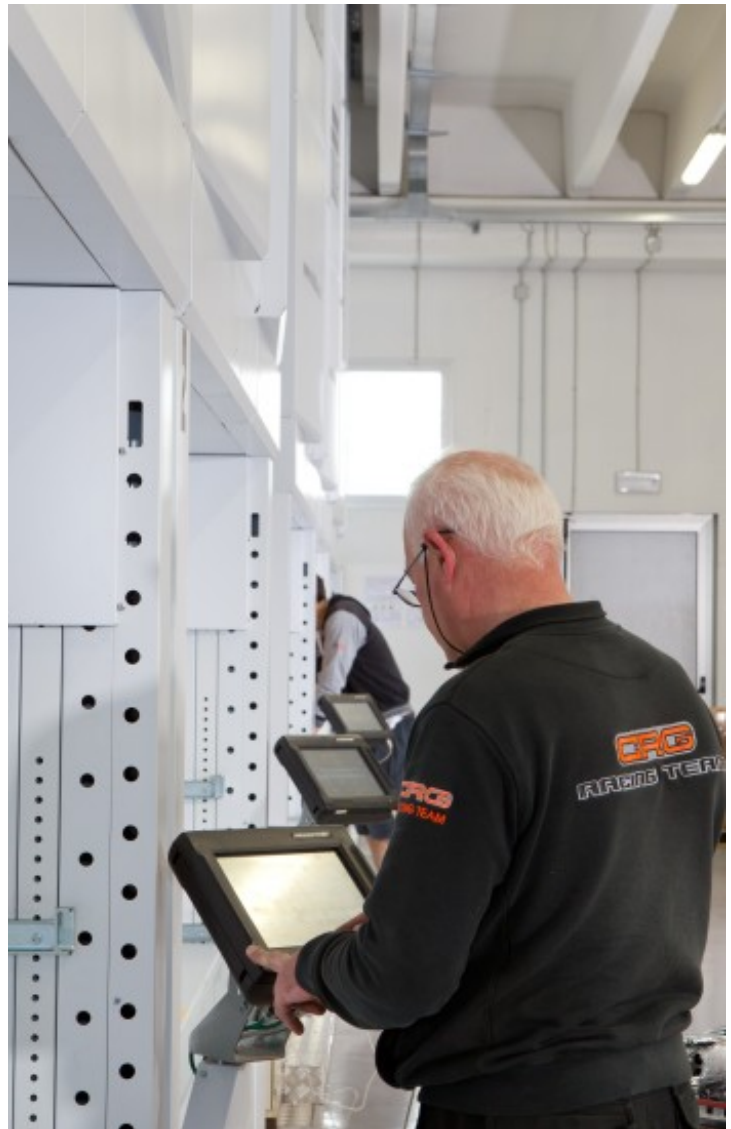
The alphanumeric LED bar clearly displays an item's position as well as other critical information such as part number, quantity to be picked, description or any additional important notes.

Other available items such as a laser pointer clearly lead the operator to the exact location of the item required.

The use of either or both available picking aids leads to maximum accuracy and speed as operators are quickly and easily able to locate the correct items.

All this goes to show that automated vertical storage systems can do much more than just save floor space.

For more information, visit Modula's [website](#).





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