



INNOVATING STORAGE & RETRIEVAL

Samsung Electronics

Performance Report

Challenge:

Increase throughput, accuracy and space savings.

Solution:

Single pod of four horizontal carousels and materials management software.

Result:

Pod contains more than 75% of the facility's total inventory yet occupies 30% of the floor space.

Horizontal Carousel System has provided a 15 month ROI



Carousels allowed a 300% increase in throughput and storage density.

Electronic parts distribution center speeds picking, reduces labor and space with automated carousels.

When Samsung Electronics America, Inc. decided to automate their electronic parts distribution facility they turned to White's automated horizontal carousel system to provide increased levels of throughput, storage density and accuracy while also reducing space.

Samsung's Ledgewood, NJ facility services all the parts requirements for the 2400 authorized Samsung service centers throughout North America and regions of South America. At this facility, White's horizontal carousels and materials management software replaced standard shelving and immediately increased picking speeds from 35 lines per hour to 150 lines per hour, per person and reduced man hours by 75%. The carousels' loading capacity proved 300% greater than the shelving system, allowing Samsung to reduce the size of their warehouse by more than 55%.

15 month ROI

"White's horizontal carousel system has provided a 15 month return on investment (ROI)," said Sang Hyun Lee, parts department manager.

The carousel system also helped improve Samsung's picking accuracy to greater than 99% bettering the industry's benchmark. Added Lee, "Our pickers had to search the rows of shelving which was not only very time consuming but also very difficult to manage. Now an operator stands in front of the carousels and everything is brought to them, which is much more efficient."

Row after row of four-post shelving was replaced with a single pod of four horizontal carousels. The pod contains more than 75% of the facility's total inventory yet occupies 30% of the floor space. The pod's outer carousels each have 72 bins and the inner carousels 66 bins. Each carousel has 14 shelf levels. It occupies an area 12.8 feet tall and 80 feet long. A scissor lift in front of the carousels helps operators reach the bins easily.

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Parts orders are downloaded from Samsung's order entry system are sorted into batches of orders. The batches are optimized to minimize carousel rotation. Orders are picked into assigned totes. When the operator is ready to pick the orders, the carousels position themselves for picking. A Lighttree™ indicates the position of the SKU and quantity to pick. The operator then bags (if needed) and applies an adhesive label as it is place the SKU and the quantity.

As the operator completes each pick they push a task complete button. The software then lights the Lighttree for the next pick in the waiting carousel. The previously picked carousel positions itself for the next pick. When all the picks in the batch are completed, the operator simply pushes the totes forward onto a waiting conveyor which delivers them to the packing station.

The parts distribution center supports the entire Samsung product line, which includes over 2,000 models of consumer, business and information system electronic goods, such as VCRs, computer components, and TVs. At any one time 750,000 parts consisting of 20,000 SKUs must be in stock and ready to ship.

Extend cut-off time

The implementation of the automated carousel system allowed the same day shipping cut-off time to be extended from 2pm to 5pm. This additional three-hour window is important in helping Samsung keep their high level of customer satisfaction.

The White automated carousel system has allowed Samsung to consolidate their Canadian and Los Angeles, CA operations into the New Jersey facility. "The ability to expand our existing carousel's length as we grow provides us with tremendous flexibility and additional savings," said Lee.



At any one time, 750,000 parts consisting of 20,000 SKUs must be in stock and ready to ship.



When batch picks are completed, totes move to a waiting conveyor which delivers them to the packing station.

www.whitesystems.com

SencorpWhite, Inc.
400 Kidds Hill Road
Hyannis, MA 02601

Main office: (508) 771-9400
Fax: (508) 790-0002
Email: sales@whitesystems.com



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