



Horizontal Carousels Store 50.1M Pathology Slides and More in One-Third the Space

CASE STUDY

Challenge

For almost 20 years, a highly relied upon pathology company had its repository located in a building that offered 45,000 square feet of space. The repository's former building was unsuitable for the storage of paraffin blocks and the formalin-preserved wet tissue specimens. This valuable collection of human and veterinary tissue is used in research, education and consultation and requires efficient and secure storage. When the company replaced their original building, they were left with a much smaller space for their inventory.

Solution

To maximize the repository's vertical cube, the company installed eight double tiered horizontal carousels, serviced by four StorBot mechanical pickers, plus two Aisle Saver Mobile Storage Systems, all from White Systems.

As a part of the Department of Defense, the company received funding for a new building. Built in Maryland as an annex to the Walter Reed Army Hospital, this new one-story, pre-engineered building housed the company's collection with only 15,200 square feet of floor



space. The horizontal carousels not only accommodate the repository's slide collection, but have space for an expected annual growth of 500,000 slides for the next two years.

Enclosed to eliminate dust, the eight horizontal carousels are double stacked in two groups of four. Each StorBot mechanical picker services two carousels – one on each level, eliminating the need for a full mezzanine and an additional operator. The pickers are controlled by keypads mounted on the outside wall.

To accommodate the slides, White custom made slide storage trays with 17 dividers. The trays are lined with cork for extra protection. Each bin on the carousel has 14 trays. There are 44 bins per carousel. The carousels are accessed by four doors, one located directly in front of each picker. There are also doors – one on each level – located on the backside of the enclosure, that open onto a partial mezzanine, which leads to a carousel



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White is a leading designer and manufacturer of advanced storage and retrieval systems serving a variety of different industries, including manufacturing, medical, defense, retail, and warehousing with over 70 years of experience.

supported grating between the machines. This provides access to all slides in the event of a power failure or during routine maintenance.

When a request for a slide reaches the repository, an employee enters the slides' identifying number into a PC which then outputs the correct location within the carousel. With this information, an operator enters the carousel number, the bin number and the row number in the appropriate keypad. The corresponding carousel rotates until it is facing the StorBot which has automatically positioned itself to the correct tray. The StorBot pulls the tray and brings it to an ergonomically correct level. The operator simply opens the door and pulls the requested slide.

Whenever any of the four front doors are opened, the system shuts down the carousels and the StorBots. After the slide is retrieved and the door is shut, the operator via the keypad, instructs the StorBot to return the tray to its assigned location. This routine occurs approximately 1,000 times each month. At the other end of the building the company uses two White Aisle Saver systems to store the portion of the collection that is preserved in paraffin wax and the company's wet tissue samples.

Results

Now, the company's 50.1 million pathology slides, as well as their wet tissue specimens and paraffin blocks, are stored in a building barely one-third the size. The company has been able to maximize the repository's vertical cube and save 60% of space. The addition of the carousels has given the company the ability to effectively accommodate to the future growth of over a million additional slides.

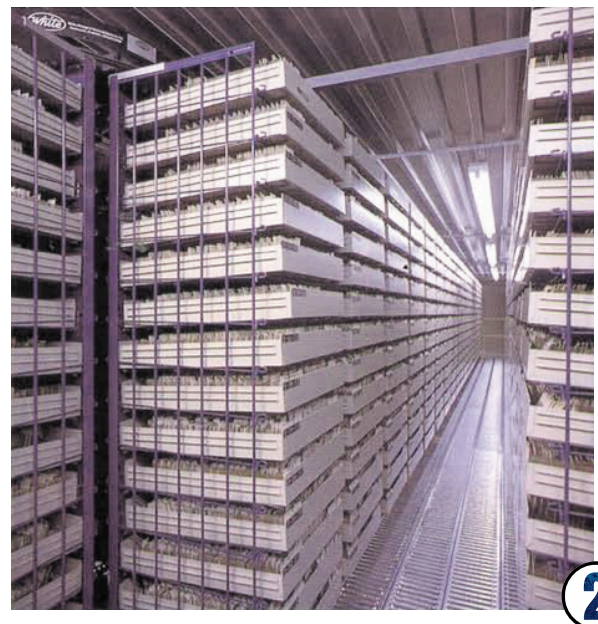
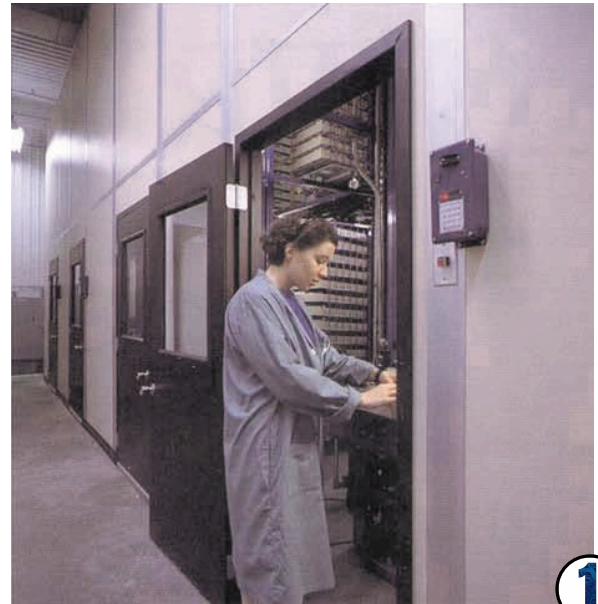


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1 Top: When any of the six doors is open, the carousels and the pickers are shut down.

2 Bottom: Grating, supported by the carousels, allows access when the system is down for maintenance.



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