



Performance Report

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Challenge:

The Armed Forces Institute of Pathology stores over 50.1 million pathology slides, as well as their wet tissue specimens and paraffin blocks with a continuous increase in storage demands.

Solution:

Installed eight White Systems Horizontal Carousels with four StorBot mechanical pickers.

Result:

Over 60% space savings over existing building and can accommodate future growth of over an additional million slides.

Carousel system allows pathology slides to be kept in one-third the space.



The mechanical picker delivers the tray to the operator for selection of the requested slide.

For almost 20 years, the Armed Forces Institute of Pathology's (AFIP) repository was located in a building that offered 45,000 square feet of space. Now, the AFIP'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.

How is that possible? By maximizing the repository's vertical cube through the installation of eight double tiered horizontal carousels, serviced by four StorBot mechanical pickers, plus two Aisle Saver Mobile Storage Systems, all from White Systems.

The repository's former building was unsuitable for storage of the paraffin blocks and the formalin-preserved wet tissue specimens. This valuable collection of human and veterinary tissue is used in research, education and consultation.

New, Smaller Building

The AFIP, a part of the Department of Defense, received funding for a new building. Built in Silver Spring, MD as an annex to the Walter Reed Army Hospital located in Washington the new one-story, pre-engineered building that now houses the AFIP's collection has 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.

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.*

Special Trays

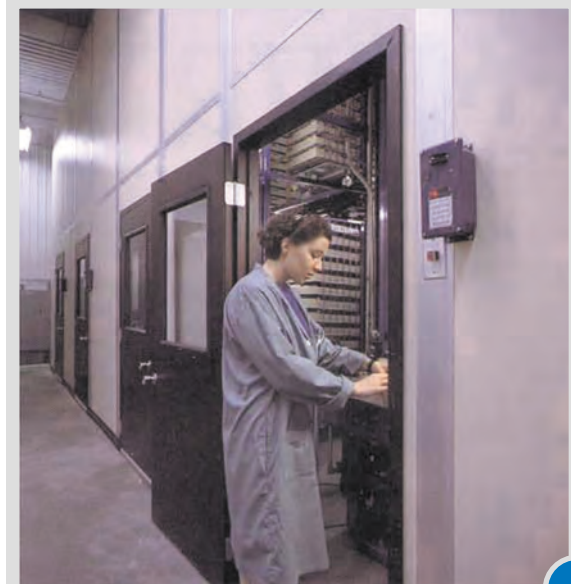
To accommodate the slides, White custom made slide storage trays with 17 dividers. The trays are lined with cork for extra protection. Each bin on the carousel has 14 trays. There are 44 bins per carousel.

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-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 AFIP uses two White Aisle Saver systems to store the portion of the collection that is preserved in paraffin wax and the AFIP's wet tissue samples.



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