

Automated Warehouse Handles Increased Volume For FUJIFILM



The **FUJIFILM** application is one of AGV Products' first installations of the "automated warehouse." According to AGV, benefits include improved logistics and safety, and reduced labor requirements and plant damage.

[FUJIFILM U.S.A., Inc.](#) [1], began manufacturing operations at the 500-acre Greenwood, SC campus in 1988, when the company announced the construction of its first U.S. factory for the production of pre-sensitized plates for the graphic arts market. The manufacturing complex is currently comprised of five high-tech manufacturing plants, as well as the Greenwood Research Laboratories, and the largest FUJIFILM distribution center in the world.

The 1,200 associates employed in Greenwood manufacture digital and conventional pre-sensitized plates, color photographic paper, QuickSnap one-time-use recyclable cameras, and digital and conventional medical imaging products.

"In 1999 we began a 130,000 sq. ft. [distribution center](#) [2] expansion project dictated by an anticipated 50 percent increase in material handling volume," explains Keith Butler, distribution center manager for the Greenwood facility. "The challenge was to increase the handling volume without increasing our operational staff. After an in-depth study of the process, we investigated the use of automated guided vehicles (AGVs)."

The approximately 500,000 sq. ft. distribution center consists of three main areas: raw materials, partial picking operations, and full pallet operations. Products produced at each of the seven manufacturing plants on campus are delivered to the DC, and stored for delivery to regional distribution centers. Butler continues, "The Greenwood facility is a strategic production hub in the [FUJIFILM](#) [1] family of companies around the world.

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Published on Industrial Maintenance & Plant Operation (<http://www.impomag.com>)

“Over the past few years, we have added the production of several digital products that required additional storage capacity and increased our material handling needs. In addition to conventional imaging and information products, we now manufacture digital photographic paper, digital printing plates, and digital dry medical imaging film.”

The increased volume dictated a more cost efficient method of handling inbound and outbound loads. Explains Butler, “We added square feet, but we didn’t want to add operating staff. We investigated other material handling methods and finalized on the AGVs.

“The full pallet storage area has the highest number of moves, so we chose to implement the AGV system there. Prior to the use of AGVs, we were utilizing man-up VNA (very narrow aisle) turret trucks in the rack area. Additional pallet moves required additional vehicles, and AGVs eliminated the need for more drivers.

In the dock area, the Greenwood facility still transports pallets and loads trucks with conventional sit down forklifts and pallet jacks. Other areas of the DC utilize a variety of vehicles, including sit down forklifts, stand up forklifts, order pickers, side loaders, and VNA trucks.

According to Butler, as the Greenwood facility learned to use the system more efficiently, they began to anticipate additional benefits, including higher productivity, the elimination of non-value added activities, continuous operation (no breaks, etc.), less handling of products, reduced potential damage, and more coordination when picking and storing pallets.

“The system was designed so that the AGVs could service all aisles in the warehouse. An AS/RS (automated storage and retrieval system) fixed aisle concept would have required a crane for each aisle. The AGV solution is ideal for our application. We had relatively rigid parameters, i.e. low ceilings, existing racks, etc., requiring the AGV system to be adaptable. Our storage racks are seven levels high, with 30 pallet positions on each side of a very narrow aisle. Each storage location houses a pallet and the system has a capacity of 12,000 pallets.

“The biggest challenge during the installation was timing,” adds Butler. “Unfortunately, implementation started during our peak-shipping season and it required products to be removed from the racks and then reloaded utilizing the AGVs. With the large volume of products we were moving, this became very difficult and resulted in a great deal of overtime. However, everyone worked together and made this project a success in spite of the challenges.”

According to AGV, its automated warehouse combines a modified VNA truck manufactured by Hyster Company, and AGV Products’ guidance controls and software. The driverless operation is capable of complete “lights out” operation from the warehouse receiving area to the shipping dock.

[For more information, visit www.agvp.com](http://www.agvp.com) [3].

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Source URL (retrieved on 07/24/2014 - 5:05pm):

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