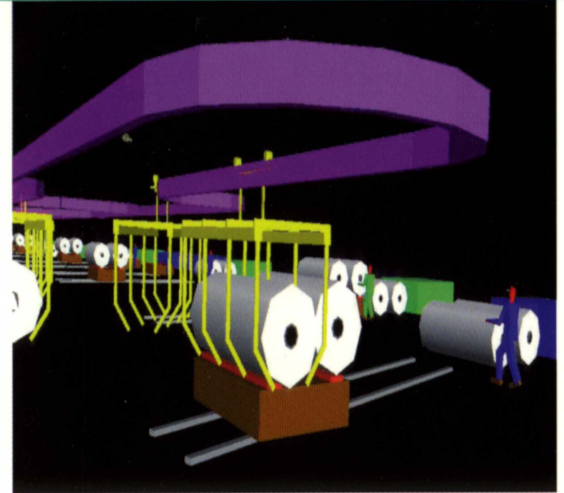


PROJECT Finished Paper Roll Handling System

CUSTOMER Appleton Papers, Inc.



Objectives

1. Evaluate and prove the AEM system's ability to meet the design throughput requirement of 5100 rolls per day.
2. Identify any deficiencies (bottlenecks) in the system flow and determine potential design improvements.
3. Assist with controls development, including flow logic and AEM path zoning to insure design throughput objective is reached.
4. Evaluate each order sortation area's ability to meet the design throughput requirement.

Description

System 1: Automated Electrified Monorail (AEM) delivery of cut paper rolls from nine rewinders to seven wrapping machines.

System 2: AEM delivery of wrapped paper rolls from seven wrapping machines to four order sortation areas.

System 3: Palletized order sortation using semi-automated bridge cranes.

"Bottom Line" Results

System can achieve 5100 rolls per day requirement. Determined optimum dispatch locations for empty AEM vehicles. Developed dispatch algorithm for empty vehicle selection of rewinder pick-up location. Developed AEM path flow logic to minimize vehicle flow restrictions through the following methods:

- AEM track zoning
- Vehicle priorities
- Pick-up/Drop-off decision logic

Determined minimum vehicle requirements of 12 for system #1 and 15 for system #2. Vehicle costs were \$80,000 and \$30,000 for systems #1 and #2, respectively.

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