

VALUE PROPOSITION

MATERIAL HANDLING

SOLUTIONS

Allen-Bradley® ControlLogix® Programmable Automation Controller (PAC)

- ControlLogix PAC enables SeayCo Integrators Inc. to meet customer speed, accuracy and volume requirements

Rockwell Software® RSLogix™ 5000 Programming Software

- Flexible, simplified solution provides one source for discrete, process, drive and motion control programming

SEAYCO INTEGRATORS INC. ACHIEVES A 50 PERCENT INCREASE IN DISTRIBUTION CENTER SORTATION USING ROCKWELL AUTOMATION



RESULTS

Increased Throughput

- Control solution enables warehouse to increase belt speed from 350 feet to 600 feet per minute

More Accurate Routing

- Solution diverts packages with a 99.9 percent read accuracy rate

Rapid ROI

- End user realizes complete ROI within two years

The SeayCo Integrators control solution shown here enables distribution centers to divert packages with a 99.9 percent read accuracy rate while nearly doubling conveyor belt speed.

BACKGROUND

SeayCo Integrators Inc., a Conyers, Georgia-based material handling system integrator, helps distribution centers sort, track and load cartons. Using a unique combination of custom modular software and programmable logic controllers, SeayCo directs the flow of materials, at speeds up to 600 feet per minute, through the warehouse with speed and accuracy.

CHALLENGE

A national convenience store distributor, McLane Company Inc., approached SeayCo to install state of the art controller and sorter technologies to enable thousands of consumer products to reach their appropriate delivery docks quickly and accurately.

Small margins in the retail distribution industry demand accountability for every item that enters or leaves the warehouse.

Case in point: If a case of misrouted cigarettes is delivered to the incorrect store, without record, the distributor could lose nearly \$1,000.

Another challenge for SeayCo was developing a solution that would meet McLane's need for complete accuracy at high conveying speeds.

"Just a few years ago, typical conveyor sortation speeds were in the range of 350 feet to 375 feet per minute," said Mike Nichols, director of controls engineering at SeayCo. "Today we see nearly twice that rate."

At the rate of 600 feet per minute, each carton in the warehouse must be scanned, identified, and assigned a divert destination in a fraction of a second. If the control system does not have the processing speed or capacity to respond to the identifying data before it reaches the diverting station, the package will be recirculated through the sorting process, resulting in lost productivity.

SOLUTION

SeayCo worked with its local automation supplier McNaughton McKay to develop a Rockwell Automation cost effective solution — in the form of an Allen-Bradley® ControlLogix® Programmable Automation Controller (PAC) — to track fast moving cartons as they travel through the distribution center to trucks waiting at the loading dock doors. As part of the Rockwell Automation® Integrated Architecture™, the ControlLogix PAC leverages the Allen-Bradley Logix Control Platform, including a common

control engine, common RSLogix™ 5000 programming software and communications services to increase functionality, scalability and flexibility while reducing costs.

The ControlLogix controller's powerful capabilities enabled SeayCo to meet the customer's accuracy and speed requirements. "After considering all potential solutions, we concluded that the ControlLogix PAC offered the speed, power and flexibility to meet our customer's needs," said Nichols. "ControlLogix offered the solution that would work the best for our customer."

SeayCo's solution uses a digital camera to capture bar code information and transmit the information to a PC that uses RSLinx® software from Rockwell Automation. The computer assigns a lane-specific sequence number and destination to each case and the ControlLogix PAC tracks and diverts cartons to the proper dock door.

The 32-bit instructions of the ControlLogix controller allow for a greater degree of mathematical flexibility, making it possible to accommodate the 20 dock doors at the distribution facility. SeayCo's previous programmable controller was limited to 16-bit instructions, which did not offer the same degree of flexibility, and thus limited the capabilities of the system.

The ControlLogix controller also allows SeayCo to meet the high-speed demands of its customers because it is able to process sequence numbers much more quickly. The increased processing capabilities ensure that packages can be more accurately

diverted to the proper dock door without the need to recirculate, even at increased speeds.

RESULTS

SeayCo's sortation solution boasts a 99.9 percent read accuracy and displays real-time system status graphics at terminals throughout the distribution center. Detailed reports provide warehouse management with ample data to operate successfully within the industry's tight margins.

With product flowing smoothly through the warehouse and seamless integration of production data, SeayCo's customer realized a complete ROI within one year of installation. McLane was so pleased with SeayCo's solution that it has since asked SeayCo to integrate similar solutions at six other locations.

"This solution has enabled us to compete more effectively in the material handling controls market. With the ControlLogix PAC, we are able to meet the high-performance needs of our customers," said Nichols. "We couldn't be more pleased with our decision to select Rockwell Automation."

The results mentioned above are specific to SeayCo's use of Rockwell Automation products in conjunction with other products. Specific results may vary for other customers.

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