

# CenArk Controls, LLC

*"Processes. Controlled."*

Case 170322 - Abbreviated

Project: High volume conveyor system for the retail industry.

Customer: Product distribution warehouse in Central North America.

Location: North America

Challenge: Client needed a remote method to monitor product in motion through the existing conveyor system.

Overview:

The Client managed the distribution of product to the shipping dock for a major retailer. They were unable to track product remotely, delaying tracking and deliver details.

Request:

Review the possibility of integrating the conveyor controls into a remote accessible monitoring system.

Discovery:

The existing conveyor system was installed in phases, utilizing multiple control systems, including; relays, timers, Allen Bradley PLCs, Siemens PLRs, as well as bar code readers from multiple vendors. None of the systems were able to communicate directly. Material was routed through the facility using traditional driven conveyors and pneumatic diverters. The conveyor system was imbalanced, causing some accumulators branches to become overloaded, stopping the branch from operation.

Customer Perceived Issue:

- The existing conveyor system was undersized and needed replacement.
- The customer service teams were unable to track products in real time, delaying customer service request.
- The conveyor operated 24/7. Improvements or replacements would be very difficult due to operational requirements.
- The multiple control methodologies would make it impossible to provide a real time remote monitoring system. A plant wide replacement quotation was expected.

Actual Issue:

- The existing conveyor system was effective in distribution the Client's products.
- The overloaded accumulators were the result of seasonal variances in sales by region.
- The warehouse would be unable to shut down for the extended time required to replace the multiple control systems.



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## Solution:

The existing control systems were not modified. A secondary data collection system was installed in parallel to the various controls. The existing controls were linked using Ignition Edge, allowing the retrieval and modification of the various controls systems instructions. All data was connected to an MQTT server, allowing remote monitoring via, handheld devices as well as corporate PCs.

## Results:

- The customer service staff was able to monitor the transfer of product real time from remote locations.
- The system was installed without disruption to the Client's operations.
- The overloaded accumulator conveyor issue was resolved with the redirection of product into the specific shipping dock stations.
- The conveyor transport speed was optimized using the collected transfer data provided by the unified system.



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