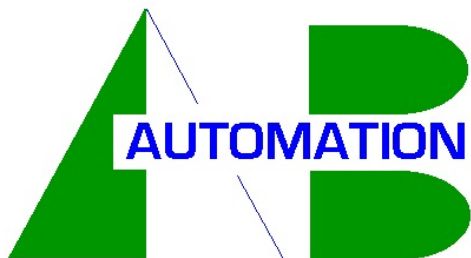


# Project Profiles

Food & Consumer Products



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# Onion Mill Automation

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**Description:** This system automatically controls an Onion Mill which produces powdered, granulated, flaked and diced dried onion products. The mill automatically sequences over 100 motors for conveyors, blowers, elevators, sieves and various types of mills. The system automatically shuts down if any equipment fails.

**Hardware:** Allen Bradley PLC 5/30 and 1305 variable speed drives on a Remote I/O network..

**Operator Interface:** Allen Bradley PanelView 1400e (Touchscreen).

**Engineering Activities:** PLC and PanelView programming, Start Up Assistance and System Documentation.

**System Documentation:** Control Description, and Software Documentation for the PLC and the PanelView were provided.



# Decaser, Single Filer, Case Slitter Additions

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Description:	The PLC systems control activity on two food plant bottling lines. Existing PLC programs were modified to accept the new equipment. Additional interlocks with the existing equipment were added. Additional downtime reporting information is now also being processed.
Hardware:	Allen Bradley 5/25 PLC's are used to co-ordinate activity between the vendor supplied equipment and the conveyor systems.
Operator Interface:	Conventional pushbuttons and pilot lights are used for operator control of the system. Downtime information is communicated via the Data Highway+ to the reporting system.
Engineering Activities:	PLC Programming, Start-Up Assistance, System Troubleshooting and System Documentation. The system was started up one line at a time, to allow for uninterrupted plant production.
System Documentation:	Control Description and Software Documentation for both PLC's. The existing PLC program was revised and documented into a more structured format.



# Empty Box Distribution

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Description:	The system distributes empty boxes to packaging lines. Five different types of boxes can be routed to seven different packing stations. Boxes are sent in adjustable slugs to allow high speed operation.
Hardware:	Allen Bradley SLC 5/03 PLC which communicates with the operator keyboard to adjust box counts and destinations..
Operator Interface:	Conventional pushbuttons and pilot lights with a BCD keypad allow the operator to control the system.
Engineering Activities:	PLC Programming, Start-Up Assistance, System Troubleshooting and System Documentation. Ladder Logic programs were completely documented and updated.
System Documentation:	Wiring Diagrams, Control Description and Software Documentation for the PLC.



# Modifications to a Palletizer Feed System

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Description:	The existing palletizer feed system PLC program was modified to double the number of lines feeding the system. The boxes are accumulated in sufficient numbers to fill an entire pallet level. Up to sixteen different pallets can be in progress at the same time. The system automatically tracks boxes throughout the system.
Hardware:	Allen Bradley 5/25 PLC which communicates with the Allen Bradley 2/30 PLCs for the palletizers.
Operator Interface:	The existing PanelView 1200 was modified to allow the operator to control the system.
Engineering Activities:	PLC Programming, Start-Up Assistance, System Troubleshooting and System Documentation. Ladder Logic programs were completely documented and updated.
System Documentation:	Control Description and Software Documentation for the PLC and the PanelView.



# Produce Packaging Line

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- Description: This project added conveyors to distribute bulk produce to 5 different scale packaging units. Automatic control of product was implemented based on hopper levels.
- Hardware: A Seimens/Texas Instruments 430 PLC was used to control conveyors and diversion gates.
- Operator Interface: A conventional panel is used to turn the system on and off. Each conveyor and gate is supplied with a Hand-Off-Auto switch. The system will operate fully in automatic or will allow scales to be operated manually. In automatic mode each scale can be independently set for the proper product.
- Engineering Activities: Control System Panel Layout and Wiring Diagrams, Control Description, PLC programming and Start-Up Assistance.
- System Documentation: Control Description, Complete Ladder Logic Listing, Database Printout, and Cross Reference Listing. Complete system drawings were also supplied.

