



WReCAP

Distributed, Parallel Control

Application:

Sorting and High-Speed Material Handling Applications have unique requirements:

- Control is spread over large physical areas
- Even though an individual zone is independent and autonomous, adjacent zones impact the logic
- Modern conveyances and sorting systems are under extreme pressure to increase their speed and performance
- Size and cost of zone controllers are critical to competitive positioning
- Interface requirements to associated motor controls, sensors, actuators are varied and continually changing
- An "Open-Architecture" program development environment allows engineers to select the "Best of Breed" without worrying about retraining and restarting the learning curve

Solution:

Western Reserve Controls Holocon® Zone Controller fulfills all of these requirements.

WRC's Holocon Controllers are compliant with IEC61499 a new international standard for highly distributed function block controls. It provides an event-driven mechanism for proper sequencing over multiple zones. The standard is "Open-Architecture" with an emerging infrastructure supported by companies, organizations, and universities around the world.

Holocon supports graphical function block control development supplemented with embedded real-time JAVA, CAN, Ethernet, Discrete I/O, analog I/O and RS232.



Programming the W2 controller is via the Function Block Development Kit (FBDK), implementation tools of the IEC61499 standard licensed from Rockwell Automation. Over 400 function blocks are available to select from as well as a growing library; including network, math, display, logic and control blocks

For this application of Zone Control, the options that would be selected include:

- Ethernet and DeviceNet
- Discrete I/O
- Multiple controllers that can be distributed using Ethernet and DeviceNet
- W2-FBDK Function Block Development Kit .

Benefits:

- Easy to interface IEC 61499 Function Blocks lowers application engineering costs.
- Common Ethernet networking solution lowers capital costs and improves performance
- DeviceNet supports integration with existing controls reduces integration costs.
- Standards compliance simplifies start-up and long-term support lowering total cost.
- Option for embedded web server allows user access via browser - an expensive operator interface software package is not required.
- Robust selection of I/O to meet application requirements.
- Event-Driven processing reduces network traffic, speeds response time, and opens the door for other options such as redundant I/O.
- Graphic Development Environment is intuitive and easy to use - lowering costs.

Western Reserve Controls, Inc.

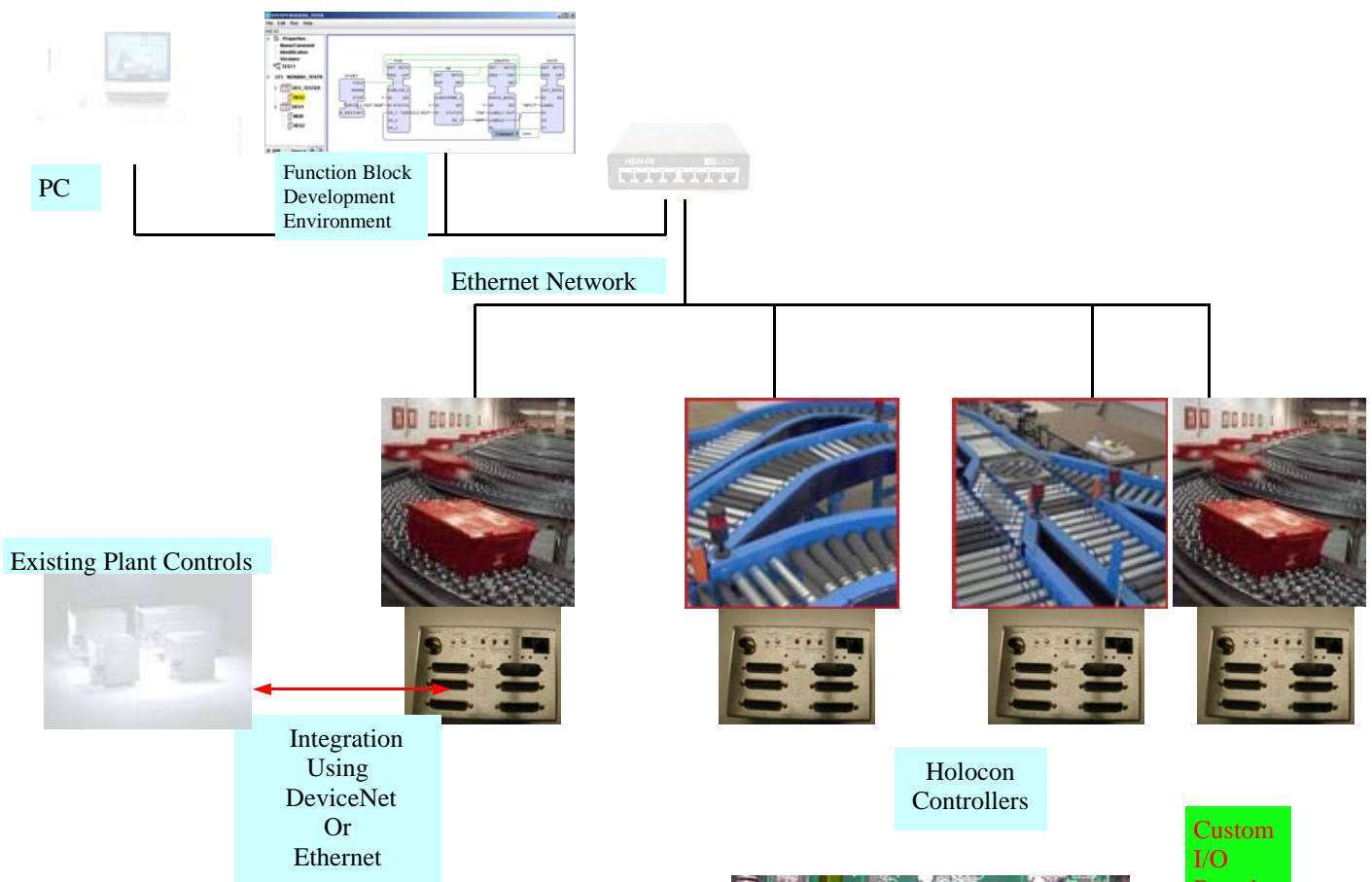
1485 Exeter Drive

Akron, OH 44306

330-733-6662 (phone), 330-733-6663 (fax)

sales@wrcakron.com, <http://www.wrcakron.com>

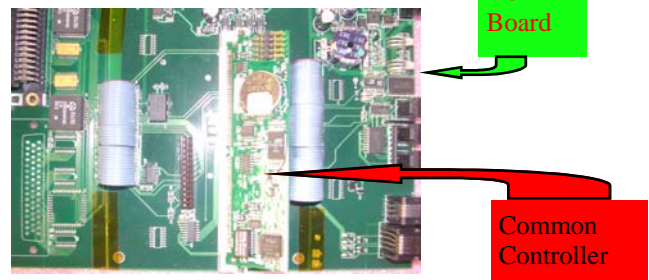
Conveyor and Sortation Application



The illustration above displays:

- Multiple, distributed Holocon Controllers providing parallel processing, integrated logic and I/O for a Conveyor / Sortation Application
- Ethernet networks for common communication within the control system
- DeviceNet communication networks supports integration with existing controls
- Graphical Function Block Development Environment
- PC for other functions including:
 - Data logging
 - Program Development
 - View of overall operation
 - View of detailed operation
 - Operator Interface

Common specifications for Holocon Controllers are found on separate data sheets found at <http://www.wrcakron.com/holocon.html>



Packaging and Cost

Holocon controllers are comprised of several components. For software transportability, a small controller card is common to all implementations. The controller card is plugged into a host card that carries only the I/O and peripherals necessary for an OEM's specific application.

This approach enables WRC to meet specific form factor requirements and cost targets without major development expense.