



A Rockwell Automation Company

## QSV Biologics Fermentor Control, PLC & MMI Upgrade

### The Client:

QSV Biologics is an Edmonton based cGMP biologics contract manufacturer providing mammalian cell culture, microbial fermentation and purification services for the production of protein therapeutics, vaccines and diagnostics.

The facility, located in the Edmonton Research Park, has a twelve year track record and is licensed for cG manufacture of pre-clinical and commercial supply.

### The Requirement:

For the last twelve years, QSV has been using a PLC based control system to manage its batch fermentation processes. Control was accomplished via manual operator devices and a mimic panel for operator display. Various control loops were manually configured each time a batch was run. Over the years more complicated devices like VFDs, PH meters and chart recorders have been added, the original PLC became obsolete and new batches were added by

production. As a result, a new control system was required along with an upgraded power distribution system.

As well, various regulatory requirements meant that an improved operator interface providing improved process monitoring and reporting was also required to verify process parameters and performance.

### The Design Solution:

QSV engaged HinZ to upgrade and improve the performance of their fermentation power and control system. HinZ worked with QSVs process engineers and operators to define process performance requirements and to write a functional requirement specification. From the Control Functional Specification, HinZ recommended the use of Rockwell CompactLogics PLC, Flex I/O, and PanelView Plus MMI for operator control and process monitoring.

Hinz designed the PLC and MMI cabinets, issued them to panel builders for quotes, selected the successful panel builder and inspected the panels for specification compliance and quality workmanship.

The power distribution system was also upgraded to include new 120V loads and add 480V loads, which

included additional VFD units. Contractor construction specification and site co-ordination was also provided.

The MMI included approximately sixty individual screens for batch selection, automatic sequencing, sequence testing, manual control and loop configuration. Screen access was controlled via layered password protection. Various third party devices such as a chart recorder and VFDs were connected to the PLC via Ethernet.

Finally, HinZ assisted with onsite system commissioning and operator training.



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## System Specifications:

- CompactLogix PLC, 1769-L32E
- Powerware UPS
- Baldor VFDs
- Weidmuller power supplies and terminal blocks.
- Festo pneumatic valves
- PanelView Plus MMI
- Hoffman enclosures
- Ethernet communications
- Prosoft Modbus communications modules.

For further information or to contact a Hinz office near you, please check our website at:

[www.hinz.com](http://www.hinz.com)