



A Rockwell Automation Company

Canbra Foods Limited Margarine Plant Upgrade

The Client:

Canbra Foods is Canada's largest on-site fully integrated canola processor and packer. Their production exceeds 300,000 metric ton of seed per year. Canbra was the first company in the world to market canola oil.

Canbra receives canola seed from contract growers, cleans the seed, extracts the crude oil, refines it and then processes the oil into various consumer goods and proteins for animal feeds. Processing and packaging is all done in one location.

In North America Canbra supplies its own Canola Harvest brand and private-label salad and cooking oils, margarines and shortenings to all major retailers. In the food service sector Canbra services the major international fast food

chains and industrial bakeries. Canbra currently exports canola oils to many countries of the Pacific Rim and South America and also offers an extensive line of canola bulk oils for refiners and industrial food processors. Another essential byproduct of canola seed processing is protein meal for animal feed.

The Lethbridge based facility is comprised of a seed cleaning plant, seed storage, crushing, an extraction facility, refinery and a margarine plant. Over 1000 tons a day are processed

The Requirement:

In 2000 Canbra Foods expanded/upgraded their margarine production facility. This expansion included upgrading the pasteurizer, upgrading the clean in place (CIP) system, adding a new bulk whey system, adding a new state of the art chiller, removing the old stand alone control system for the pasteurizer and integrating it into the PLC program, expanding the number of milk and mix tanks and upgrading the PLC and HMI systems. The additional tanks provided

the opportunity to introduce a batch control system to improve not only the amount of production but quality and accountability. Extensive rework of the piping and valves were involved. Canbra Foods required the Allen-Bradley HMI and PLC programming work available from Hinz.

The Design Solution:

Canbra Foods is a strong supporter of Allen-Bradley motor control products and PLCs, so they chose Rockwell's RSBatch as their batch control system. The RSBatch system was beneficial in several ways. Firstly, the margarine making process could be run using a batch system. This allows the batch controller to move product through the system one phase at a time. As a phase or particular piece of equipment becomes available the first product in line uses it and moves on. This provides increased production as multiple products can be produced at the same time. Secondly, it provides a detailed series of information on all of the products being made, including the date and time of production and lot numbers of each of the ingredients used in the margarine making process. In the unusual case of a product recall or quality issue, the specific ingredients can be determined by the lot number and less product needlessly recalled. Thirdly, the batch system allows for easier troubleshooting as the problem can be quickly narrowed down to a single machine or process.

There were several new additions to the PLC program.

The RSView HMI system needed to be substantially revised due to the number of equipment changes in the field. New equipment which had compatibility with the RSBatch system was added.

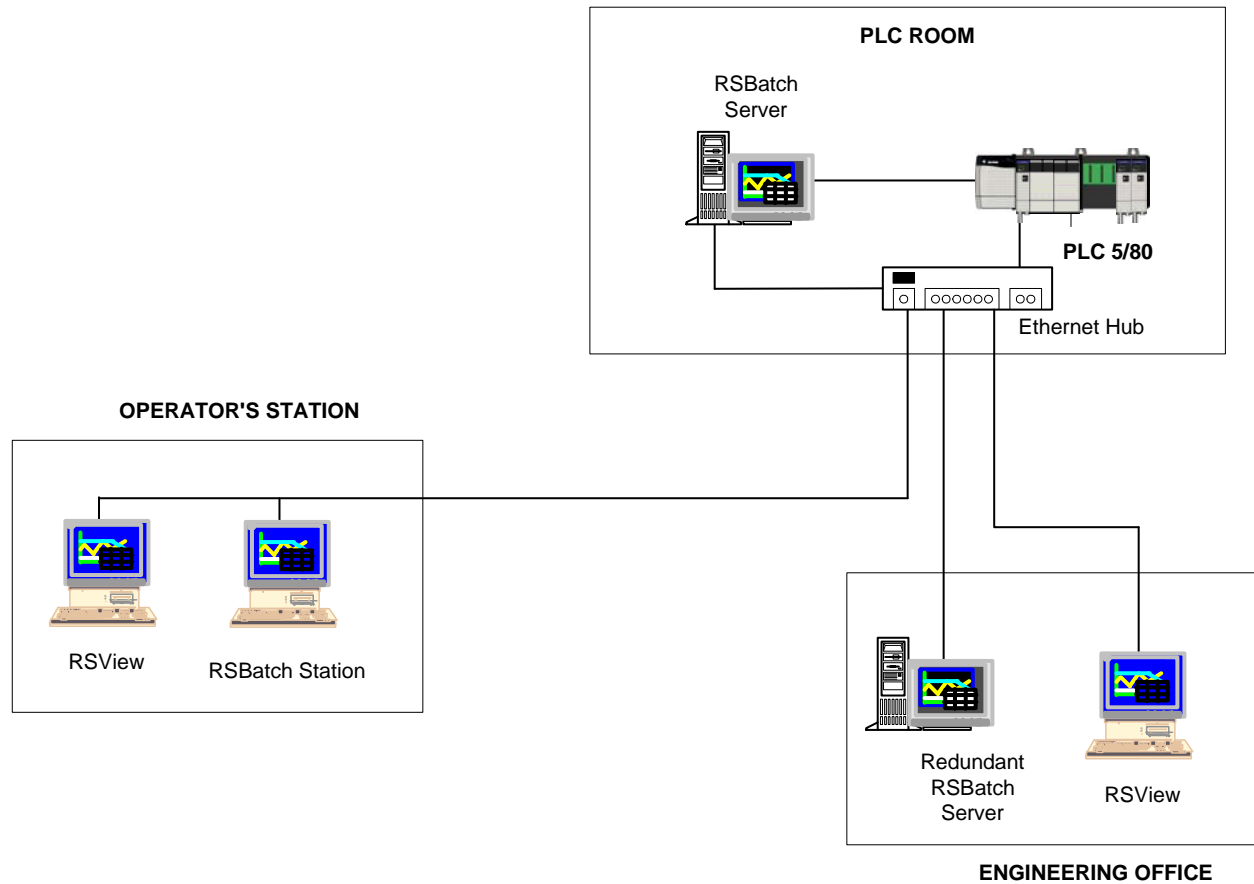
The PLC program underwent a drastic overhaul. The CIP system was revised due to the piping and valve changes. The Chiller System was added to the program. The Pasteurizer was integrated into the system and its PID was tuned. The Bulk Whey System was added to the program. The PLC program was also modified to accommodate the RSBatch connection.

Hinz provided RSView and PLC 5 programming expertise.



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System Specifications:

- Allen-Bradley 5/80 PLC
- 2 RSView View Stations
- 1 RSView Development Station
- 1 RSBatch Control Station
- 2 RSBatch Redundant Servers
- Ethernet Hub

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

www.hinz.com