

How an Innovative Coffee Manufacturer Took Cold-Brew to Market with Flexible, SCADA-Enabled Batch Controls



The Challenge: No Recipe, No FDS, and No Time to Waste



A growing food and beverage manufacturer had set its sights on entering the cold-brew coffee market. The product had already passed internal taste tests, and prototype batches were a hit. Equipment for large-scale production was on order—but one critical piece was missing: the control system that would bring it all together.

There was no Functional Design Specification (FDS) to reference. Batch recipe logic and Clean-in-Place (CIP) sequences had to be developed entirely from scratch using only a Piping and Instrumentation Diagram (P&ID). The product would continue to evolve after launch, so **recipe changes needed to be easily adjustable from the operator screen—without relying on programmers to rewrite code.**

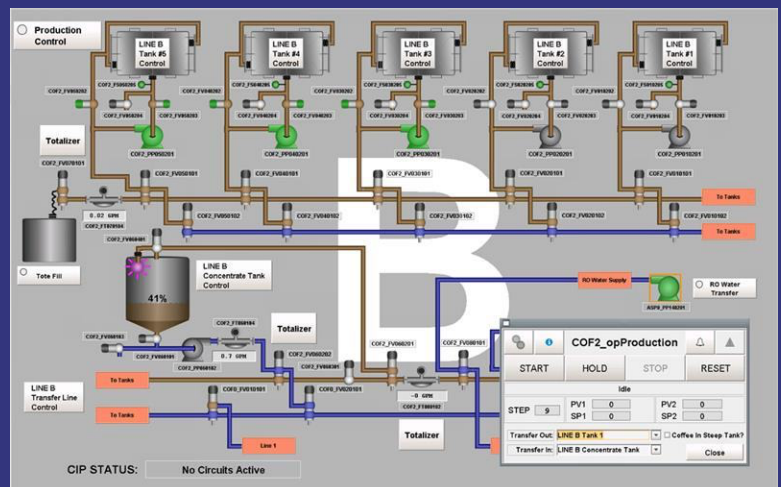
To support production and continuous improvement, plant leadership required full visibility into the process from anywhere in the facility. That meant a fully integrated Supervisory Control and Data Acquisition (SCADA) system was essential. The project demanded more than just automation programming—it required a partner who could build for long-term flexibility, maintainability, and operator ownership.

The Blue Ridge Advantage: Standards-Driven Programming and Full Process Ownership

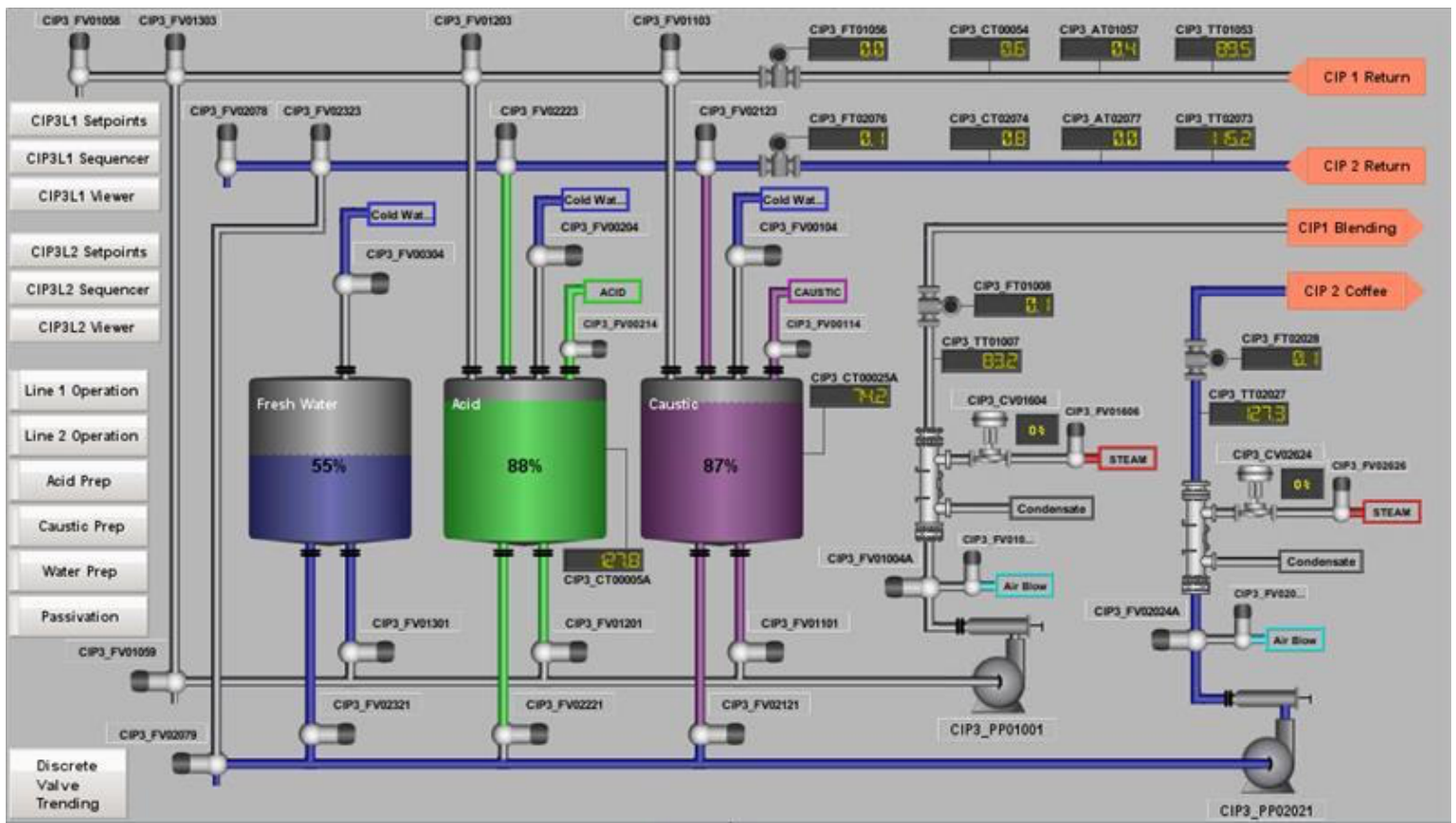
Blue Ridge stepped in with a comprehensive, end-to-end solution. In addition to delivering controls hardware specifications and PLC/SCADA programming, Blue Ridge also designed and assembled the custom control panels needed for the batch system—ensuring seamless integration from hardware to software.

Leveraging extensive experience in liquid processing, Blue Ridge developed batch and CIP logic based on ISA-88 industry standards. The modular, structured code ensured the system would be easy to understand and modify—not just by Blue Ridge, but by any competent engineer in the future.

The operator interface was designed with flexibility in mind. Instead of requiring a laptop and programmer to make recipe changes, the system allowed production staff to modify batch settings directly from the HMI. This freed up the engineering team to focus on strategic projects, rather than daily adjustments.



Caption: Operator-facing batching interface designed for intuitive control and real-time monitoring—no coding required for recipe changes.



Simulated CIP interface showing real-time valve states, tank levels, and critical process indicators across the facility.



For the SCADA implementation, Blue Ridge deployed an Ignition-based system — leveraging their Gold Certified integrator status.

The result was a real-time, graphical user interface that mirrored the process P&ID and displayed tank levels, valve positions, and key process indicators plant-wide.

Simulations, particularly for the CIP sequences, were run in multiple scenarios to validate performance under different operating conditions—helping prevent downtime before it could occur.

The Results: On-Time Delivery, Long-Term Ownership, Scalable Success

The project was completed on schedule and within budget. The cold-brew coffee line launched successfully and has continued to grow, **driving increased market share for five consecutive years.**

Since launch, the system has required only a single service call from Blue Ridge—a testament to the maintainability and reliability of the solution. From recipe development to process improvement, the customer fully owns their operations.

What began as a control system deployment became a foundation for long-term success, giving the customer the ability to innovate, scale, and adapt independently.