

## Control System Replacement and Upgrade

A major bakery sought solutions for an outdated control system used in a critical batching process. Plant personnel were unable to modify it, as key replacement parts were no longer available. The resulting control system downtime was having a negative impact on overall plant production.

### Main Objective

The client needed to replace an obsolete PLC system with up-to-date hardware to increase supportability of the system. Additional solutions were needed to reduce downtime caused by equipment failures.

### Customer Results

MAVERICK utilized PLC hardware and programs that used off-the-shelf standard products, allowing for easy replacement during future maintenance, and offering much higher levels of overall reliability. As MAVERICK's team worked 24 / 7 during installation, the new control system was introduced with minimal downtime, and started up on schedule.

### Application Description

- As-built drawings of existing systems, as well as process and instrumentation diagrams ensured that new systems included all necessary equipment.
- A description of operations for the existing control system was developed by analyzing the existing PLC program and by drawing information from plant maintenance personnel and supervisors, allowing for seamless upgrades and improvements to PLC programs.
- Existing pushbutton panels were replaced with large touchscreen monitors. New HMI (human machine interface) screens were developed and installed on monitors to provide more effective operator control.
- New back planes with PLC and I/O hardware were designed and fabricated.
- Existing field devices, wiring and electrical enclosures were reused whenever possible to help save money and resources.
- Plants operators and maintenance personnel were provided additional troubleshooting tools.
- When a production line is shut down, new back planes are installed and tested, allowing production to begin on schedule.

