



# Case Study: Tank Farm Automation

## Project Overview

A major system upgrade was executed with exceptional efficiency, transitioning 1,300 I/O points to a new PLC system in under four hours and achieving full software integration within two days. The project enhanced operational efficiency by implementing a smart pathway optimization algorithm to automate verification and selection across 1,500 flow paths between 70 storage tanks and production equipment. The scope also included replacing five aging Square D PLC systems over a single weekend; minimizing downtime and delivering immediate improvements in system reliability and performance.

### Built-In Redundancy

- GE redundant PLC.
- Redundant HMI servers.
- Redundant Profinet networks.

### Enterprise Integration

- Linked to scheduling and reporting.
- Scalable to other sites.

### Fast PLC Transition

- Custom card reused existing harness.
- 1,300 I/O points switched in <4 hours.

### Pathway Optimization

- Automated flow verification and selection.
- Optimized 1,500+ flow paths across 70 tanks.

### Results

- Downtime minimized — full changeover in one weekend.
- Efficiency improved — automation reduces manual work.
- Reliability increased — triple redundancy built in.
- Future-ready — design adaptable to multiple facilities