PLC Migration

Eliminate Risk Associated with Obsolete Siemens PLC Systems

Managing the lifecycle of your control system can be a daunting risk. Migrating your existing control systems mitigates expensive and extensive downtime. A poorly executed upgrade presents the same risk. Discover how our Siemens 300/400 Series Migration Team can solve these lifecycle challenges with the experience to execute on schedule.

S7-300

S7-1200

S7-1500

S7-400

TP1200

Top Reasons to Perform a Migration

- Obsolete hardware can cause downtime due to:
  - Lack of spare parts
  - Time consuming troubleshooting
  - Unstable connections
  - Software that is difficult to navigate
- Improved throughput by decreased cycle times associated with equipment that is slower in performance
- Improved quality metrics and reduced scrap reduction rates/costs
- Reduced lifecycle costs—old equipment gets more expensive to maintain over time
- Migrate legacy PLCs and replace hard-wired relay systems with contemporary Safety PLCs (like SIMATIC Safety)—this allows safety-related programs to reside in a single controller chassis, providing flexibility in programming and trouble-shooting using Siemens TIA Portal
- Upgrade and modernize your OT Network including legacy field devices that are not ethernet capable—doing so will provide additional bandwidth for your entire control network, improve diagnostics for troubleshooting, and reduce downtime

Solutions Migration Methodology

FZ's Migration Team developed a proven strategy that will allow you to quickly and easily migrate from Siemens 300/400 Series Controllers and Siemens 300/400 Series I/O to an Integrated Modern Control System, while maintaining the existing field wiring and physical footprint in your control cabinet. This approach will provide you with:

- A high level of confidence of on time execution backed by experience, planning and risk mitigation
- Lower conversion time
- Minimized production downtime
- Reduced construction costs
- Reduced risk by preserving existing field wiring connections
- Lower engineering costs

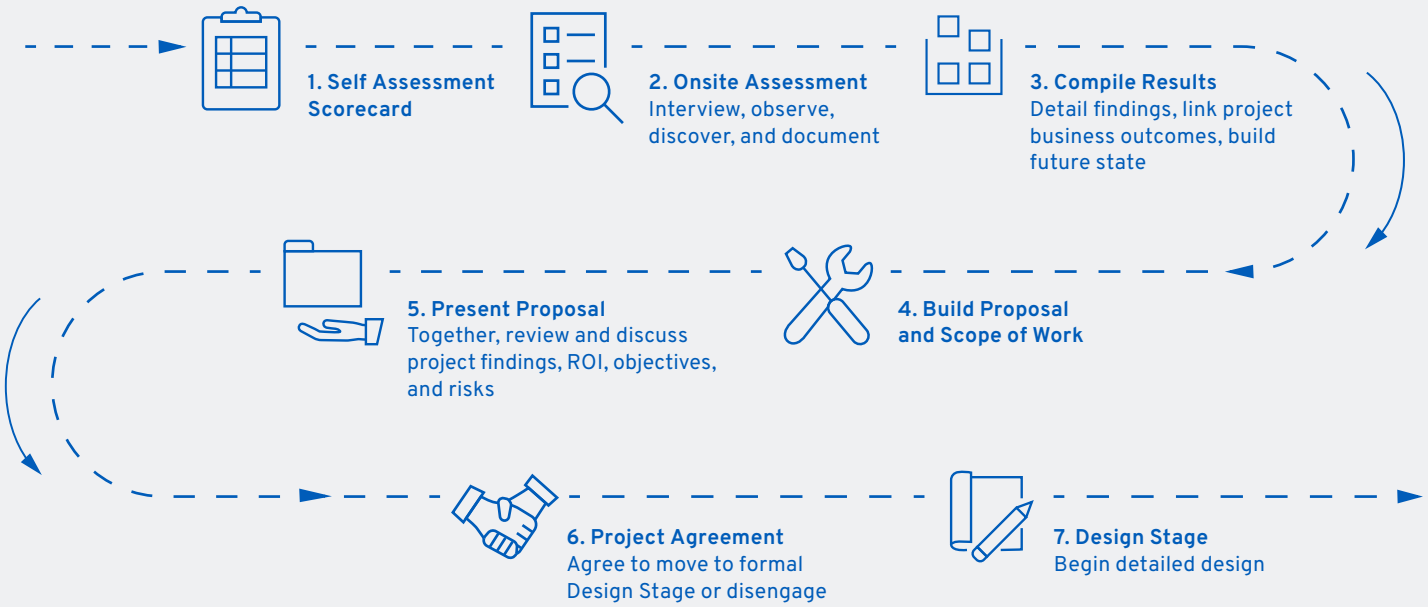
Benefits of Migration

- Improve reliability
- Reduced maintenance costs
- Complete system verification and as-built documentation
- Innovative process control
- Proactive implementation
- Remote support capabilities
- Easier procurement of replacement parts

The FZ Difference

- Extensive migration experience and a formalized migration strategy
- Coordination of system install with plant turnaround schedule
- Phased migration at a rate suitable to your applications and budget
- Independent of brand affiliation
- Comprehensive project coordination engagement
- Multi-departmental support (SCADA, Electrical Engineering, Communication, Cyber Security, Measurement)
- Onsite coordination of system replacement
- Post-project support and training

Proven PLC Migration Process



Step 1: Self-Assessment Score Card (2 hours with FZ Engineer)

- Review of existing control system architecture
- Identification of obsolete/near obsolete hardware/software
- Identification of current control system risks
- Migration cost estimates for AFE generation purposes

Step 2: Onsite Assessment (1–3 days based on plant size and potential scope)

- Control narrative review/update
- Shutdown key verification
- Migration of new PLC programming
- Internal integrated system testing
- Site acceptance testing (SAT)

Step 3 & 4: Compile Results & Develop Proposal (1–3 days)

- Construction coordination
- Site acceptance testing (SAT)
- Verification and commissioning
- Scheduled turnover coordination
- Operating training
- Post-installation service and support

Step 5: Present Onsite Findings and Proposal (2 hours)

- We will come back to your site and have an in-person meeting with key stakeholders
- We will review and discuss our findings and the proposal
- Outcome of meeting—define next steps and path forward

Step 6: Formal Design State

- If we agree to move forward, FZ will proceed to a design stage to build the formal design
- Once design stage is reviewed and agreed upon, FZ will host a formal kick-off meeting and begin project execution.

Self-Assessment for PLC Migrations

Understanding the age and lifecycle of your control system and related field devices is typically a task that is not managed on a regular basis. As your equipment ages, upgrades from antiquated hardware platforms can be risky due to the complexity of system architectures used and managing of the system cutover time window. FZ has performed many of PLC, VFD, MCC, HMI, & SCADA system modernization projects and has a proven process to reduce and manage inherit risk.

This self-assessment scorecard aids engineers at end-users in determining risk, complexity, and change management opportunities (people, processes, and tools) and should be completed while speaking with a FZ Subject Matter Expert.

Please rank your responses from 1–5 with 1 representing strongly disagree and 5 being strongly agree. After you complete this assessment, please print.

_____ Our drawing sets are easily accessible and up to date as accurate representations of the current control architecture.

_____ We have a formal asset management system for tracking what critical assets are installed in the facility (i.e. HMI, PLC, VFDs) and their product lifecycle as it relates to preventative maintenance and obsolescence.

_____ We can swap parts of the control system easily with minimal risk to production.

_____ Critical asset programs are backed up on a regular basis and program changes are being tracked.

_____ Our control infrastructure and associated field assets are Industry 4.0/IIoT ready and can provide valuable production data for making better business decisions.

_____ Ethernet is being or has been adopted as the standard control network on the plant floor.

_____ We have secure remote connectivity access to monitor and troubleshoot our control system remotely.

_____ OT virtualization and thin clients have been adopted for plant floor applications.

_____ There is no operational risk associated with system cutover (rip and replace vs phased approached).

_____ We have levels of redundancy within our control systems (I/O, controller, and network level).

Total Score: 0

- 40–50: You're well in control of the lifecycle of your control system. Let us know if we can help in the future.
- 35–39: Room for cost reducing process efficiency improvements. Call FZ to help.
- 10–34: High degree of process inefficiency and operational risk factors. Call FZ to help.

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