

Cybertech Automation helps industry engineer, build, configure, and commission instrumentation, electrical, and control system technologies.

# GE FANUC LEGACY UPGRADES

## MIGRATION PATHS FOR 90/30, 90/70 AND 90/70 GMR TÜV CERTIFIED SYSTEMS

*For those plants that use GE 90/70 GMR for SIL 2+ systems, there is no direct GE hardware upgrade available. Cybertech has the expertise and custom software tools to streamline your migration to another vendor system.*

### THE GE LIFECYCLE

As of 2011, GE has discontinued support and availability of the GE 90/30 system. In 2013, they did the same for for 90/70 PLC systems. The TÜV-certified 90/70 Genius Modular Redundancy (GMR) system is also now unavailable.

The GE hardware migration path for non-SIL PLC systems is their PAC Systems. For SIL trip systems, they offer the PAC8000 controller as an upgrade (for applications up to SIL 2). For those plants that use GE 90/70 GMR for SIL 2+ systems, there is no direct GE hardware migration available – although GE does offer the Mark VIeS SIL 3 system.

If you are considering a migration from GE to another vendor, Cybertech has extensive experience migrating obsolete GE SIS systems to Schneider Triconex/Trident and Honeywell Safety Manager systems. For GE PLC, non-SIL systems, Cybertech can also evaluate migration paths to any of the other major PLC systems including **Schneider**, **Rockwell** and **Siemens**.

To streamline migrations, Cybertech has developed GE software tools to automate these migrations.

### PLC SYSTEM INTEGRATION CONSULTING

#### Cybertech can:

- Evaluate your existing PLC/SIS control system
- Provide migration plans for PLC/SIS system obsolescence
- Make PLC/SIS performance, architecture and industrial communication network recommendations
- Provide detailed designs for PLC/SIS system upgrades and additions
- Prepare request for proposals, bid spreads and evaluation of PLC/SIS quotes
- Procure PLC/SIS systems
- Provide client representation, prepare test programs and direct factory acceptance testing and site acceptance testing
- Provide full integration from PLC/SIS plant floor devices to BPCS to management level information
- Provide cabinet and rackroom electrical and field instrumentation design services



### CYBERTECH'S EXPERTISE

Founded over 20 years ago by a core group of PLC programmers, Cybertech is one of Western Canada's largest engineering firms specializing TÜV IEC61511 safety systems. 5% of Canada's TÜV Rhineland Functional Safety Engineers work at Cybertech.

Cybertech completes PLC/SIS installations and system upgrades in a wide variety of industries. PLC/SIS-related work makes up approximately 60% of our 450+ yearly projects. Upgrading legacy systems and replacing obsolete/unsupported hardware represents a large portion of this work. Migrations are typically done during plant shutdowns, but Cybertech also has extensive experience doing online and on-the-run upgrades.

We can plan new control system architecture and provide complete turnkey solutions including the fabrication of cabinets/control panels along with procurement, installation and commissioning.

### Contact

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## GE MIGRATION TOOLS

Cybertech has developed automated software tools to automatically extract GE Logicmaster logic, Genius block configuration and GMR information. This data can be used to build a new application in another vendor system. The tools automatically validate the new configuration against the original. Data that is processed includes:

- Trip setpoints and delays
- Ranges and scaling factors
- Voting, degradation and efaults
- Calculations
- Initiator/final element logical connections
- Complete I/O reconciliation
- Scaling
- Cause and effect reconciliation

Data is stored in a database which can also be used to automatically generate test procedures and project documentation.

### Cybertech's tools:

- **Extract** configuration data into a project database
- **Reconcile** configuration data across systems and against plant documentation
- **Automate** configuration of logic, gateways, graphics, alarms and documentation
- **Test** configuration and graphics
- **Save** engineering time and project cost, facilitate easy change management and re-testing
- **Increase** quality (avoid errors and inconsistency)

## PLC COMMISSIONING

Cybertech provides start-up and commissioning services with full documentation including:

- Electrical/instrument PLC system commissioning
- Factory and site PLC acceptance tests
- Operations/maintenance manuals
- Field PLC installation checks
- Loop/control logic checks



## RELEVANT PROJECT EXPERIENCE

Cybertech has extensive GE upgrade experience. Below are some recent sample projects where we operated as the Main Automation Contractor (MAC) for procurement, design, programming and commissioning.

GE Upgrade Path	I/O	Notes
GE 90/70 GMR to Triconex	100 I/O	Successful online migration of a process heater and feed pumps, extensive planning of impairments, mitigations and switchover procedures
GE 90/70 GMR to Triconex	10 I/O	Turnaround migration of a hexane process unit
GE 90/70 GMR to Triconex	220 I/O	Turnaround migration (36 hours) of a diesel hydro treater unit
GE90/70 GMR to Trident	50 I/O	On-the-run migration of building fire and gas protection system
GE90/70 GMR to Trident	10 I/O	On-the-run migration of a flare monitoring system
GE 90/70 GMR to Triconex	9 systems with over 6,500 I/O	Support for client to plan logistics, architecture, power/space/wiring infrastructure for a multi-year migration