

CAPABILITY PROFILE

GEM80 PLC Replacement

Removing the burden of replacing a legacy system

Overview

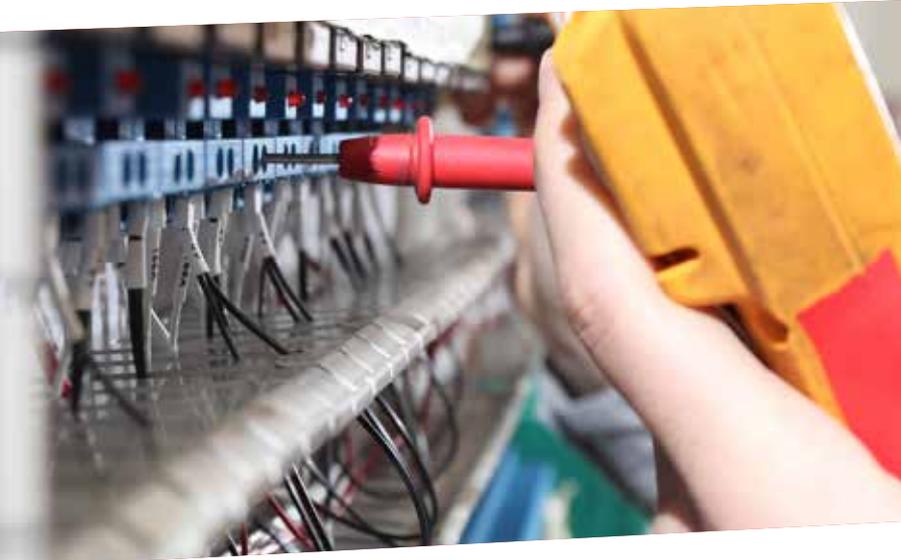
The replacement of the legacy GEM80 PLC is a significant challenge that faces many of our clients. Servelec Controls has in depth experience working with such legacy systems and use migration technology to mitigate risk, reduce testing and provide a long-term upgradeable solution. To facilitate this, Servelec Controls proposes a migration to a Siemens S7 solution, reducing installation time from six weeks to just six days.

Key benefits:

- **Improve productivity, efficiency and availability**
- **Reduces project implementation time and risk of cabling issues**
- **Reduces risk of upgrade / low risk upgrade through reducing human error in code.**
- **Enhanced lifecycle management**

“We recently replaced the obsolete GEM 80 PLC systems and we chose Servelec to carry out this work. It was essential that the installation time was minimised and that the system worked without lengthy commissioning. Servelec came up with two key ideas. Firstly, a semi-automated method of translating GEM ladder logic into Siemens S7 code, which eliminated the inevitable errors associated with hand coding. Secondly, adapter cards which allowed GEM connectors to be plugged directly into replacement S7 racks with no on-site rewiring. This resulted in an installation and commissioning time shorter than the most optimistic estimates. The successful outcome of this project was due in large part to the technical competence and innovation of Servelec.”

John Bush, FRIT TL, EDF Energy



Advantages at a glance:



Reduces installation time from 6 weeks to 6 days



10% of new code was sampled with no errors introduced



Reduces impact on operations, downtime and cabling issues

Solution

Servelec Controls developed a hardware interface that allows connection from the existing GEM80 front connectors to interface to the Siemens S7 range of IO modules, meaning no need to interfere with existing cables, drastically reducing installation time both in terms of changeover and testing.

Servelec Controls has also developed a set of tools to assist with the code translation to help seamlessly migrate the existing PLC functionality to the new S7 environment. The code translation tool partly examines the GEM80 software and creates a set of files that can be imported into the S7 environment. This process does not fully automate the task; however, it provides a solid platform from which the migration can be built and speeds up the process. In a recent project that consisted of 6,000 rungs of code, only 600 rungs were required to be developed and tested before the import files could be created. Ten per cent of the new code was sampled and an independent manually documented verification process was performed which proved no errors were introduced. The partly automated approach significantly reduces engineering time and the chances for human error in code translation.

Summary

Throughout the UK and nuclear and power generation industry, Servelec Controls has successfully delivered GEM80 replacement projects, providing expert seamless migration path. Our client's benefit from the knowledge that Servelec Controls has of the GEM80 range of PLC's, along with the peace-of-mind provided by ongoing hardware and software support from Servelec's team of expert engineers and consultants.

Servelec Controls has worked on the UK's largest power and nuclear sites over four decades, working with the biggest operators in nuclear, power and defence. Contact a member of our team today to find out how we can help you.

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