

Case Study: **Test system development providing precise waveform measurement**

Project Summary

We were engaged to develop substation test and measurement equipment to replace an obsolete custom board with a modern processor-based system.

The project focused on delivering high-speed waveform analysis and precise timing measurement within a high-voltage test environment.

Key Capabilities & Tools

Embedded processing system design

High-voltage and high-current hardware design

Precision measurement and timing system development

Safety-critical system design with real-time protection mechanisms

Migration from an FPGA-based architecture to a processor-based system

Project Outcome & Impact

Enabled accurate high-voltage testing with improved measurement and protection capability.

The system delivers high-speed voltage and current measurement with precise timing, supporting advanced testing scenarios.

An energy monitoring approach improves equipment protection by detecting faults before thermal limits are reached.

The updated design replaces obsolete hardware while improving performance, flexibility, and data-logging capabilities.

**Engineering certainty into complex programmes -
Talk to us today**