

Legacy Machine Panel Modernization & Refurbishment

EXTENDING ASSET LIFE THROUGH
ENGINEERING INGENUITY

Problem Statement

A customer reached out to Alliant Technologies seeking support for a critical piece of equipment originally built in the 1990s. The machine was manufactured overseas, and over time, essential documentation had been lost. Specifically, the customer faced several challenges:

- No available wiring schematic
- No bill of materials (BOM)
- Obsolete technology used in the original panel design
- Minimal documentation on original components
- Specialized components requiring specific voltage inputs and outputs
- Inability to identify modern replacement parts

Without documentation or a clear path forward, the customer was unable to refurbish the machine and was facing the prospect of significant capital expenditure to replace it entirely.

The Solution

Alliant Technologies approached the challenge with flexibility, creativity, and a hands-on engineering mindset.

- Our team conducted an on-site visit to review the existing panel and machine-mounted enclosure.
- Engineers evaluated each component in the field and identified functional requirements based on real-world operation.
- Obsolete components were cross-referenced and mapped to modern, readily available equivalents.
- Special attention was given to sourcing components with precise voltage and I/O requirements to ensure compatibility with the legacy machine.
- A new control panel was engineered and built in Alliant's shop to maximize efficiency and quality control.
- Once completed, the team installed the new panel directly into the machine's enclosure at the customer's facility.

Despite the lack of schematics, BOMs, and original documentation, Alliant delivered a fully functional, modernized solution tailored to the customer's exact needs.

The Results

- The customer regained full use of a critical machine without purchasing new equipment.
- Capital expenditure was avoided by extending the life of an existing asset.
- The machine now operates with modern, serviceable components.
- Future maintenance and troubleshooting are significantly simplified.
- The customer expressed strong appreciation, noting they had been unable to find a viable solution prior to engaging Alliant.

Conclusion

This project highlights what sets Alliant Technologies apart. We are not constrained by rigid processes or off-the-shelf limitations. When faced with incomplete information and obsolete technology, our engineering team develops creative, practical solutions that meet real-world demands. By combining field evaluation, modern engineering expertise, and in-house panel fabrication, Alliant helped the customer move forward with confidence — preserving valuable equipment and delivering a solution where none previously existed. Problem solved!