



Super**Systems**  
incorporated

# Retrofitted Control System for Belt Furnace

*HTI Case Study 2024*

*HTI – Heat Treat Specialists*

## Company Background

HTI, known as the "Heat Treat Specialists," excels in Austempering high carbon and alloy steels, stress relieving, and age hardening of beryllium copper. The team at HTI takes immense pride in their extensive experience, knowledge, and capabilities, and is dedicated to delivering the highest quality heat treating services. Their goal is to help clients reduce costs, minimize lead times, and enhance both quality and profit. Whether addressing challenging and delicate heat treating requirements or high-volume, low-cost demands, HTI stands ready to assist with all needs.

## Overview

HTI faced a significant challenge with their control system, which comprised many obsolete components. They turned to Super Systems Inc. (SSI) for a comprehensive retrofit solution. This case study explores the service delivery, system benefits, standout features, cost savings, and final outcomes of the collaboration.

## Service Delivery Excellence

SSI provided outstanding service delivery throughout the entire build process, marked by regular communication updates and reciprocal visits. This seamless collaboration and transparency were critical to the project's success, and HTI praised SSI's consistent and professional approach.



## Operational Improvements

The newly installed system has significantly enhanced HTI's daily operations by replacing the outdated control system. Designed specifically for job shop continuous process conveyor lines, the system enables HTI to handle frequent recipe changes efficiently. Key operational benefits include:

- **Reduced Downtime:** The modern system mitigates issues caused by obsolete components, leading to improved uptime.
- **Enhanced Flexibility:** The system supports frequent recipe changes, crucial for HTI's dynamic production environment.

## Standout Features

Several features of the SSI system have stood out to HTI, showcasing the sophistication and innovation of the solution:

1. **Architectural Excellence:** The system includes features appreciated by combustion system experts, such as 100% low fire proving before re-firing.
2. **Gap Timing Optimization:** The system's part and process gap timing features maximize throughput by reducing gaps and preventing cross-contamination while adhering to strict customer process specifications.
3. **Belt Master Recipe Management:** This feature allows operators to store and retrieve part-specific recipes by scanning barcodes, virtually eliminating errors due to incorrect parameter entry.
4. **Super Data Software:** This powerful software collects a wide range of parameters requested by customers, integrating them into part tracking information throughout the process, ensuring complete processing transparency.



## Final Outcomes

The collaboration with SSI has yielded several positive outcomes for HTI:

**Improved Efficiency:** The new system operates efficiently, ensuring smooth production processes and meeting all specified requirements.

**Enhanced Transparency:** HTI has experienced improved process transparency, providing their customers with greater confidence and peace of mind.

**Operational Savings:** The upgraded control system, while not generating substantial immediate savings, has led to notable reductions in operational costs due to increased reliability and reduced downtime.

**Future Readiness:** HTI is well-prepared for future retrofits, with a solid foundation for ongoing improvements and refinements based on the current system's success.

## Conclusion

HTI's partnership with Super Systems Inc. has proven to be a strategic decision, resulting in enhanced operational efficiency, improved system features, and notable cost savings. SSI's industry expertise, commitment to customer satisfaction, and innovative solutions have solidified their position as a preferred integrator for HTI's control system needs. This case study highlights the importance of selecting a knowledgeable and experienced partner to achieve successful project outcomes in the heat treat industry.