Phillips Forged is a high-end knife making company.

- Founded in 2015 by UT Graduate, John Phillips
- Won episode of Forged in Fire in 2019
- Featured in 2021 Blackberry Farm Catalog
- Of recent, won Damasteel Chef Invitational with the two knives he entered.
- The increased market visibility has created high demand and a long backlog
- Started as 1-man shop

Our Mission
To help complete the backlog of orders and transition from a custom job shop to a larger scale production facility, our team set out to:
- Develop standard work procedures and document quality specifications
- Implement lean process improvements
- Carry out production planning
- Create simulations to represent the evolving production process
- Perform economic analysis to identify investment opportunities.

Body of Work
Over the course of the past two semesters, our team has worked to optimize the production process.
- SOP documents will be used to train newly hired employees.
- Lean manufacturing was used to identify the critical path, bottlenecks, and increase throughput.
- Simulations were created to quantify the financial impact of process improvements.
- Economic analysis was performed to justify further process improvements.

Results
- Backlog reduced by 70%
- 150% Increase in Throughput
- Hiring & Training 2 Workers
- Process Improvements
- Average Cycle Time Reduced from 11 hours to 4 hours
- Yearly Profitability Increased by over $200,000
- Product Quality & Employee Quality of Life Prioritized

Recommendations
Short-term: Purchase a new grinding machine to alleviate the current bottleneck.
Long-term: Move to a new facility with more space and power.

Deliverables
- SOPs for each Process Step
- Facility Layout Diagram
- Value Stream Mapping
- Line Balancing Calculations
- 8 Simulation Scenarios
- Engineering Economic Analysis
- Machine Maintenance Cards
- Sourcing for Packaging

Introduction
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