

CASE STUDY

Streamlining Manufacturing Processes for Cost-Efficient Production and Timely Delivery

Introduction

Our client, facing internal labor constraints and a tight timeline for a critical project, sought a solution to outsource the full assembly of a complex product. The project involved laser cutting, forming, welding, paint, and assembly operations. The product needed to be ready for shipping within 8 weeks and maintain a consistent output over the following 6 months, with peak shipping demands during certain months. Freight costs were a significant concern due to the size of the product.

Problem statement

The client needed a reliable outsourcing partner to handle the entire assembly process within a constrained timeframe while addressing concerns about labor availability, meeting project deadlines, and minimizing freight costs.

Methodology

- Utilized the Prototype division to produce the initial components promptly.
- Implemented a streamlined welding process,
- completing the first unit within 2 weeks for on-site trials.
- Developed customized weld fixtures and
- established assembly cells to support high
- volume production.
- Engaged a team of 20 skilled welders and
- assemblers, ensuring a rapid transition to full
- production within 8 weeks.
- Offered 20,000 square feet of warehousing space and direct shipping to the end customer from our facility.



Objectives



Outsourcing

To meet the 8-week production deadline, Alacriant aims to efficiently outsource the assembly process.



<u>High quality</u>

Ensuring high-quality production is a key objective for Alacriant to sustain shipments over a 6-month period.



<u>Costs</u>

Alacriant strives to minimize freight costs associated with the size of the product.



<u>Analysis</u>

The implementation of our methodology resulted in the following outcomes:

Rapid Prototyping and Trial Phase:

- Utilized the Prototype division to create initial components in a matter of days.
- The weld team completed the first unit in just 2 weeks, allowing the client to conduct on-site trials promptly.

Efficient Production Scaling:

Built custom weld fixtures and set up assembly cells, enabling the team to achieve full production within the 8-week timeframe.

<u>Cost Reduction and Logistics</u> <u>Optimization:</u>

- Offered 20,000 square feet of warehousing space, eliminating the need for the client to secure additional storage.
- Implemented a direct shipping strategy, resulting in a substantial cost reduction of over \$80,000 in freight expenses.

<u>References:</u> Internal project documentation and reports. Client feedback and communication records.

Recommendations

Based on the successful outcomes of this case study, we recommend that clients facing similar challenges consider:



Alacriant explores in-house warehousing for optimized logistics and reduced freight costs.



Implementing custom fixture design enables Alacriant to achieve efficient and scalable production.



Alacriant leverages prototype divisions for quick iterations and trials.



Conclusion

Through a strategic combination of rapid prototyping, efficient production scaling, and logistics optimization, we successfully met our client's tight timeline and cost constraints. The lessons learned from this case study underscore the value of a comprehensive approach to outsourcing, emphasizing both speed and cost-effectiveness.