

Cutting Cycle Time in Half with Automated Multi-Axis Machining for Maximum Efficiency

Cut Cycle
Time by
51.5%

Increased
Machine
Uptime
30%

CHALLENGES

A leading manufacturing company faced significant challenges in machining a complex part on an OKUMA LU4000EX MY multi-task machining center—a 9-axis, dual-channel, synchronous mill-turn system with a steady rest and tailstock. Their existing manufacturing process resulted in excessive cycle times, frequent manual interventions, secondary processes, and machine downtime. Operators had to stop production multiple times to manually reposition the part, leading to inefficiencies and inconsistencies in quality and control. Additionally, due to a shortage of skilled labor, the customer required a fully automated, foolproof solution to ensure process stability.

- **Cycle Time:** 33 minutes
- **Operator Intervention:** 5 manual touches
- **Secondary Processes:** Engraving & deburring required additional steps
- **Machine Downtime:** 30% due to programming anomalies

SOLUTIONS

Saratech developed a robust analytically based manufacturing engineering process to streamline operations and eliminate inefficiencies. By implementing advanced automation, optimized programming, and on-machine engraving and deburring, we reduced the need for manual intervention while enhancing process reliability. The solution also incorporated intelligent operator messaging within the machine control system, providing guidance without requiring skilled labor. A 30-piece part run was conducted to refine the process for long-term stability, resulting in a 30% increase in machine uptime.



RESULTS

The optimized process reduced cycle time by 51.5%, cutting it from 33 minutes to 17 minutes while completely eliminating manual operator touches. On-machine engraving and deburring replaced secondary processes, further enhancing efficiency. Additionally, machine uptime increased by 30%, with stability achieved through a 30-piece part run as programming anomalies were resolved and automated workflows implemented. With full automation and improved process stability, our customer now benefits from a highly efficient, low-maintenance manufacturing process that maximizes productivity and minimizes downtime.

- Cycle Time Reduced by 51.5%
- Fully Automated – Zero operator touches
- On-Machine Engraving & Deburring
- 30% Increase in Machine Uptime – 30-piece part run optimized for long-term stability
- End-to-End Automation – Operator messages guide workflow on machine control from cycle start to finish

ABOUT SARATECH

Saratech provides engineering solutions to help companies realize better products. We supply engineering expertise, services, software, and manufacturing solutions to improve product development experiences. Our dedicated engineering team uses the software and tools that we sell and support while employing industry best practices and methodologies. We serve customers in all major industries, including energy & utilities, aerospace, space, marine, defense, automotive, manufacturing, industrial machinery, medical, electronics, consumer products, and more.

Partner with us to solve challenges and accelerate your development cycle, contact us today to request your free consultation: **949.481.3267 | info@saratech.com**

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