



AUTOMATION SOLUTIONS LLC

CASE STUDY: AFFORDABLE ROBOTIC INTEGRATION FOR PART MANUFACTURERS & FABRICATORS

If you are a Part Manufacturer or Fabricator who still relies heavily on manual processes, you are falling further behind in your aspirations of meeting production goals and achieving higher profitability.

MANUAL PART FABRICATION SAMPLES:



Typically considered the "weakest link" in production, manual processes (such as stamping presses, automated spot-welding machines, laser cutting machines and press brakes) inside of manufacturing facilities tend to be inefficient & unreliable.

Limitations Include:

- Recruiting, hiring & training manpower
- Employee sick-time/days off
- Number of shifts
- Employee turnover
- Inconsistent quality & operator speed
- Random failure
- Repetitive work impact
- Lack of monitoring

SCALABLE ROBOTIC SOLUTIONS:



Not just for major manufacturers, fabricators finally have Automated & Robotic Alternatives for labor-intensive tasks of all sizes.

ADVANTAGES OF LEVERAGING ROBOTS TO REPLACE MANUAL TASKS:

PRODUCTIVITY



Productivity will be increased by optimizing equipment & workers. Robots work reliably 24/7, producing at consistently higher-quality levels while reducing waste. ROI can frequently be recouped in the first year.

FLEXIBILITY



Our robotic solutions can be quickly and easily adapted to handle new products, even low-volume or quick-turn jobs. Robotic arms can be reprogrammed and redeployed. We also offer mobile solutions, allowing for use across multiple tasks.

QUALITY



Eliminate undesirable, repetitive human tasks while increasing quality and consistency. Robots can reliably perform precise, consistent activities as well as loading and unloading machines without breaks.



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The following sample project showcases a scalable solution with a ROI realized during the initial year of installation. Contact our team to learn how a no obligation site-visit could result in your company's increased productivity.

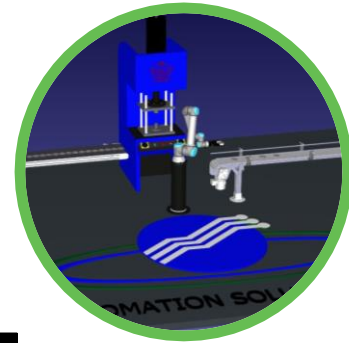
SITUATION ANALYSIS:

- A manual operator was tasked with using a metal press to attach 1,950 units over an 8-hour shift. The ever-rising cost of labor & benefits, combined with employee failure, turnover & safety concerns triggered the customer to seek a new solution.
- Our team developed and installed a robotic cell for an investment of \$158K, leading to a 1/3 increase in throughput – all while saving \$160K in annual labor costs.
- The cost-savings, combined with elevated production output, helped the organization exceed goals and reach new profitability levels within the first year of operation.
- Additionally, the installed robot is capable of being re-programmed and leveraged for other tasks – further justifying the capital expenditure.



ITEMS INCLUDED IN CELL CREATION:

- One Universal Robot (UR10e)
- Universal Robot Mounting Pedestal
- One Custom Vibratory Feed System
- One Custom Part Tray
- Custom Table For Vibratory Feed System & Part Tray
- Custom Controls Converting Existing System
- Safety System Design & Installation
- Safety Floor Scanner & Light Curtains



RETURN ON INVESTMENT:

	CURRENT PRODUCTION <i>(as provided by client)</i>	PROPOSED SOLUTION <i>(reducing operators)</i>	VARIANCE TO CURRENT PRODUCTION
Production Rate Units Produced Per 8 Hour Shift	1,950 Units	2,600 Units	650 Incremental Units Produced Per Shift
Cycle Rate Total Time To Produce One Unit	15 Sec.	11 Sec.	4 Fewer Seconds Than Current Process
Direct Labor Required Dedicated Press Operator Material Handler	1 F.T.E. 0.1875 F.T.E.	0 F.T.E. 0.1875 F.T.E.	-1 No Operator Required With Proposal 1.5 Hours Of Handling Held Constant
Total Annual Labor Hours	4,940 Hours	780 Hours	4,160 Fewer Annual Direct Labor Hours
# Of Shifts Operated Per Day	2	2	
Shift Length Hours: 8	28,800 Seconds	28,800 Seconds	
Annual Operating Days Per Year	260 Days	260 Days	
Blended Labor Rate	\$22.00 Per Hour	\$22.00 Per Hour	
Expense Multiplier	75.00%	75.00%	Benefits, Healthcare, Bonuses, Taxes
Hourly Cost Of Labor	\$38.50 Per Hour	\$38.50 Per Hour	All-In Cost Per Hour
Annual Production	1,014,000 Units	1,352,000 Units	338,000 Incremental Units Produced Annually
Labor Cost Per Unit	\$0.19	\$0.02	\$0.17 Lower Per Unit Cost
ANNUAL LABOR COST	\$190,190.00	\$30,030.00	

Our solution increased production by 33%.

No direct labor is required to operate this cell.

The cost of manufacturing labor is at an all-time high; especially when combined with the rising cost of benefits, healthcare, insurance, etc.

The cost of \$158,000.00 for this robotic cell's materials & services is recouped in a single year's labor savings of \$160,160.00



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