

Travis Pattern Solves Hiring Challenges, Slashes Costs & Lead Times With Cooper Cobot

CUTTING-EDGE CAPABILITIES TURN PAIN POINTS INTO COMPETITIVE ADVANTAGES

INTRODUCTION

Travis Pattern & Foundry and its subsidiary, PDU Inc., is a leading supplier of castings for electrical substation connectors, irrigation systems, portable grounding equipment and more. During the COVID-19 pandemic, PDU saw an influx of orders which caused painpoints. The welding department became a bottleneck and the company was struggling to find skilled aluminum welders. It needed a solution to maintain its efficiency and lead times. This case study explores how Lincoln Electric® Automation, leveraging automated robotic welding technology and a proprietary Cooper™ Cobot programming application, delivered exceptional results, enhancing Travis Pattern's manufacturing efficiency and product quality.

About Travis Pattern & Foundry and PDU

Founded in 1922 by Paul N. Travis, Travis Pattern and Foundry began as a small business producing patterns for sand casting. As the company grew, nonferrous foundry operations were added and industrial castings became a major part of the business. The company experienced significant growth in the 1970's when it began producing a proprietary line of irrigation products. Self propelled irrigation systems were developed; then, as the product lines grew, casting operations increased and steel forming and galvanizing capabilities were added. From the mid 1980's until the present, nonferrous casting operations have increased and more diverse product lines have been added. To support the power transmission industry, Travis Switchgear manufactures disconnect switches of many types and sizes. The acquisition of Product Design Unlimited in 1992 gave them the ability to provide a full range of substation connectors.

For more information, visit www.travispattern.com.

THE CHALLENGE

- » **Hiring Quality Welders:** The casting process and the removal of gates and risers creates dimensional differences with each part. PDU has found it difficult to find quality aluminum welders to complete these projects.
- » **Inferior Automation Equipment:** The previous robotic welding cobot Travis Pattern owned failed to provide them with the cost savings and reliability needed to maintain a competitive advantage.
- » **Cost Efficiency:** Program budgets need to be adhered to while maintaining high quality standards.
- » **Speed to Market:** Production timelines need to be accelerated to meet industry demands and stay ahead of competition.
- » **Innovative Solutions:** Advanced manufacturing technology and techniques were sought to tackle these requirements.

Interview with Travis Pattern and PDU conducted August 14, 2024

WHY TRAVIS PATTERN AND PDU CHOSE LINCOLN ELECTRIC AUTOMATION

Travis Pattern evaluated several suppliers, ultimately selecting Lincoln Electric Automation for its:

- » **Proprietary Technology:** Lincoln Electric's Cooper App software is proprietary and unparalleled by competitors.
- » **Acorn to Oak:** Lincoln Electric manufactures many standard and custom equipment that is needed for Travis Pattern to conduct its business. Standard welders, custom automation equipment and more are all manufactured and supported by Lincoln Electric allowing for easy communication and trustworthiness between customer and supplier.
- » **Expertise:** Lincoln Electric has over 125 years of experience manufacturing a wide range of welding equipment and industry-leading expertise in complex 5-axis CNC machining, fabrication and quality.
- » **Quality:** Lincoln Electric Automation employs a rigorous quality management system certified to globally recognized, universal standards like ISO 9001.

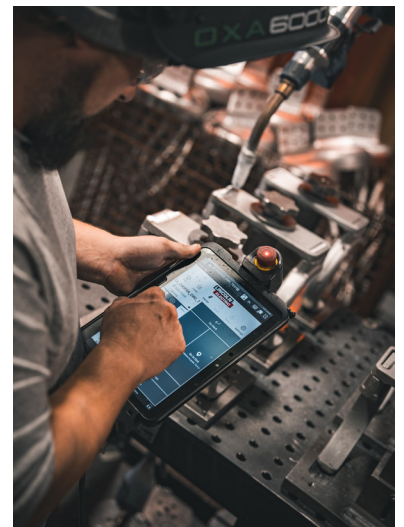
HOW THE COOPER COBOT PROVIDED A SOLUTION

"As the lead engineer at PDU, I've been overseeing our production for five years, and introducing automation has been a game changer. We've always prided ourselves on being the fastest in the industry, but during COVID, the welding department became a bottleneck. Struggling to find skilled aluminum welders, we needed a solution to maintain our efficiency. That's when we decided to go with the Cooper Cobot, and it's been fantastic.

One of the best aspects of the Cooper Cobot is its ease of use. Our new hire, who had limited welding experience, picked up the programming quickly using the Cooper App. It's leaps and bounds better than previous systems we've tried, and the app makes writing and running programs simple and efficient.

The support from the [Lincoln Electric Automation] team has been top-notch, too. From the initial demo to the personal touch of the team in Cleveland, they've been there every step of the way, ensuring we were confident in the system's capabilities. The consistency and quality of our welds have improved, and we're now able to quote projects in days instead of weeks.

In short, the Cooper Cobot actually works—it's reliable, easy to use, and a great reflection of the Lincoln Electric products we've trusted for years. We're 100% pleased with our decision and are already looking to add more units to our facility," Austin Horner said.





THE RESULTS

"We implemented the system in May 2024, and since then, it's knocked out everything we've thrown at it. The water-cooled CRX-25iA mobile cart and dual 48x30 welding tables have allowed us to run multiple fixtures at once, increasing our production speed and reducing lead times significantly. In just the first two weeks, we welded over 2,600 parts with minimal touch-ups, proving how reliable the system is," said Patrick Frome, Engineer at Travis Pattern, PDU.

"Our manual welders take 3 to 5 minutes to weld each part. The robot [Cooper Cobot] takes 8 minutes to weld 12 parts with only about 1% requiring minor touchups. This is the consumable consumption difference between Lincoln [Cooper Cobot] and the other brand robot we had before switching to Lincoln. Competitor: 3 to 4 contact tips per day and jump liner almost every week. Lincoln [Cooper Cobot]: maybe 1 contact tip per spool if we run out of wire without catching it and we haven't had to change any jump liners yet," says Horner.

 **150%**
COST SAVINGS VERSUS MANUAL WELDERS

 **600%**
TIME REDUCTION PER PART VERSUS MANUAL WELDERS

 **1,530%**
CONSUMABLES COST SAVINGS VERSUS PREVIOUS COMPETITOR COBOT



Courtesy of Travis Pattern & Foundry, PDU.

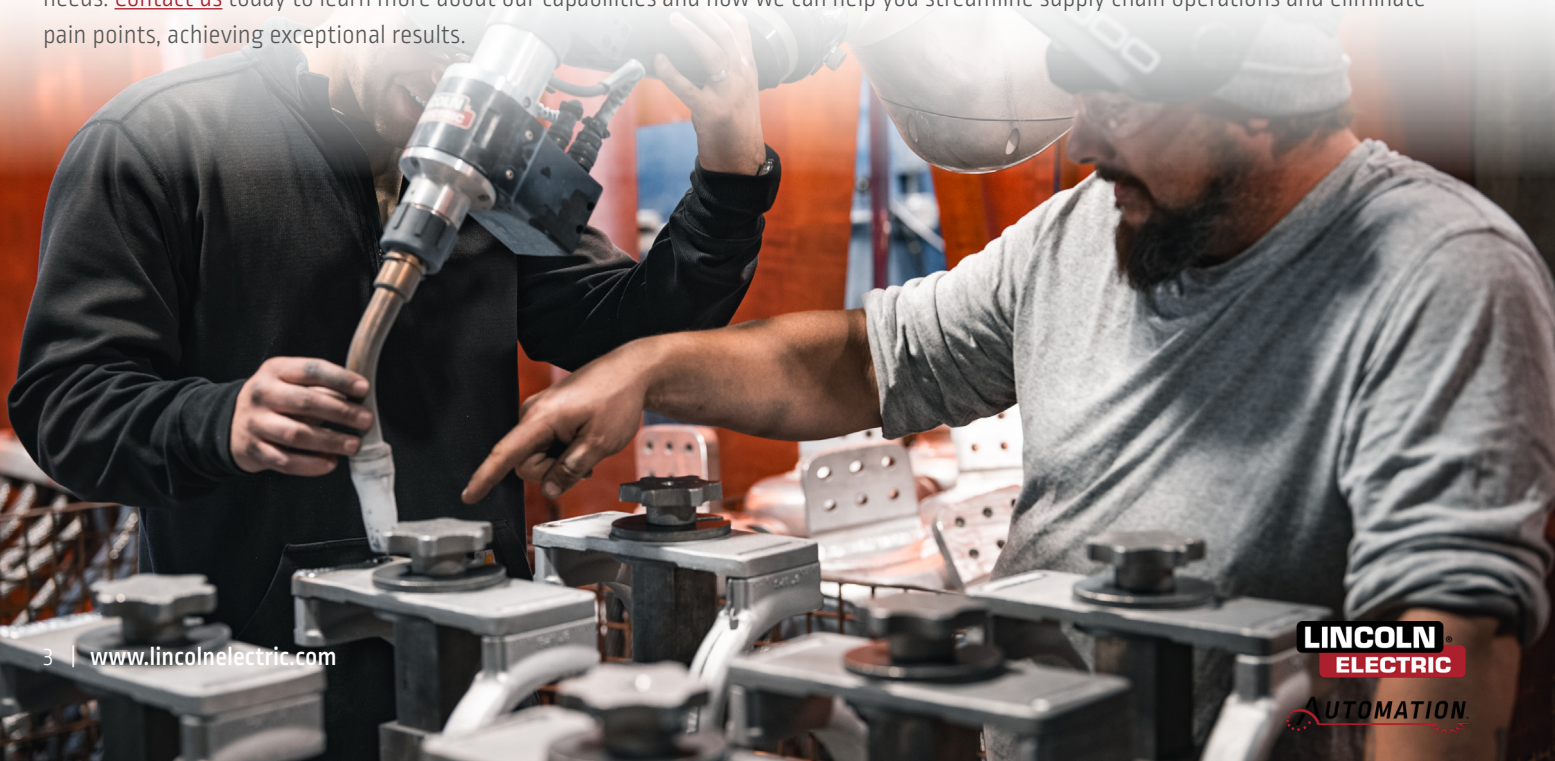


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Austin Horner
Lead Engineer
PDU Inc.

FACING SIMILAR HIRING AND MANUFACTURING CHALLENGES?

With advanced manufacturing technology, some of the largest equipment in North America, comprehensive in-house capabilities, and over a century of expertise, Lincoln Electric Automation is well-equipped to tailor innovative, cost-effective solutions for your complex needs. [Contact us](#) today to learn more about our capabilities and how we can help you streamline supply chain operations and eliminate pain points, achieving exceptional results.



About Lincoln Electric

Lincoln Electric is the world leader in the engineering, design, and manufacturing of advanced arc welding solutions, automated joining, assembly and cutting systems, plasma and oxy-fuel cutting equipment, and has a leading global position in brazing and soldering alloys. Lincoln is recognized as the Welding Expert™ for its leading materials science, software development, automation engineering, and application expertise, which advance customers' fabrication capabilities to help them build a better world. Headquartered in Cleveland, Ohio, Lincoln has 71 manufacturing locations in 20 countries and a worldwide network of distributors and sales offices serving customers in over 160 countries. For more information about Lincoln Electric and its products and services, visit the Company's website at <https://www.lincolnelectric.com>.

CUSTOMER ASSISTANCE POLICY

The business of Lincoln Electric is manufacturing and selling high quality welding equipment, automated welding systems, consumables, cutting equipment and EV charging systems. Our challenge is to meet the needs of our customers, who are experts in their fields, and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or technical information about their use of our products. Our employees respond to inquiries to the best of their ability based on information and specifications provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment, or to provide engineering advice in relation to a specific situation or application. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or communications. Moreover, the provision of such information or technical information does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or technical information, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose or any other equivalent or similar warranty is specifically disclaimed.

Lincoln Electric is a responsive manufacturer, but the definition of specifications, and the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements.

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Works Cited

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