Case Studies

The only intelligent and affordable automation solution

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RAPID ROBOTICS

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Automating pad printing and heat-stamping in a high-mix environment

Overview

Located 40 miles east of San Francisco, and in business since 1969, Livermore's Westec Plastics is one of the Bay Area's best-known and most-respected manufacturing operations. Today Westec runs 23 injection-molding machines in a 46,000 square-foot facility that includes a full-service tool room and ISO Class 8 clean room facilities for medical applications.

WESTEC Plastics Corporation

Challenge

Bay Area-based Westec Plastics couldn't hire machine operators fast enough to meet demand. It wanted to automate, but conventional cobots were too expensive and inflexible for its high-mix environment.

Solution

The Rapid Machine Operator (RMO) gave Westec an affordable all-in-one solution that didn't need training or systems integration and could be 'hired' for only $2,100 per month.

Benefits

With RMOs on the floor, Westec was able to:

- Win $600K in new business
- Minimize downtime
- Make production more consistent
- Hit production targets during the holiday
- Free human operators for higher-value tasks
- Compete with facilities in lower-cost labor markets

Story

In late 2019, Westec president Tammy Barras decided it was time to take another look at automation. The high cost of living and the chronic labor crunch in the Bay Area were making it harder and harder to hire the machine operators Westec needed to bid on jobs and get work done. Automation seemed like the best way to keep Westec's business thriving.

"It's a constant struggle to make sure you have enough operators to run all your jobs," Barras said. "Many of our injection molding machines take multiple operators to run. Then you also need the bandwidth to run the pad-printing or the secondary operations. You have to keep shuffling people back and forth and hope you have enough to make it work. It's a real high-wire act."

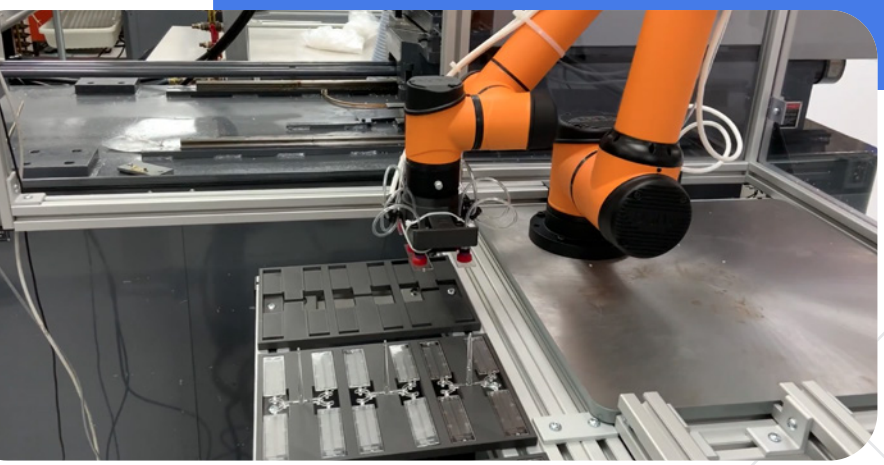
"With RMOs we can allocate human operators to more complicated tasks. Not only do we get a a quick return on our investment, we can run more machines, which equates to more sales!"

Tammy Barras
President, Westec Plastics Corporation

WESTEC Plastics Corporation

"In the contract manufacturing industry, the biggest problem with automation is that we're constantly changing jobs. We're not producing our own products 52 weeks a year. It's really hard to automate a program that only runs for three weeks or a month. You don't want to buy a robot and have it sit around and gather dust most of the time."

Tammy Barras
President, Westec Plastics Corporation



Westec was eager to automate but not sure where to start. Conventional robots weren't designed for medium-sized facilities like Westec's. They were for big factories with big engineering teams and the funds to hire teams of pricey system integrators. Each time the robots were moved between jobs, hey needed to be retrained and reintegrated — a process that could take months.

Then Tammy heard about Rapid Robotics, and what she heard intrigued her. Rapid had created an all-in-one cobot, the Rapid Machine Operator (RMO), which arrived with everything it needed to get to work right away. Out of the box, the RMO had computer vision, grippers and AI pretrained to interface with injection molding, pad printing, heat stamping and many other kinds of industrial machines. Each RMO could be 'hired' for only $2,100 a month and could be moved between jobs with minimal effort.

It sounded too good to be true; but at that price, Tammy reasoned, what did Westec have to lose? By now it was early 2020, and Westec had a new contract to mold plastic PCR 'chips' for COVID-19 test kits. Westec assigned an RMO (which it nicknamed 'Kim') to the test-kit production line. In less than a week, Rapid's customer care team had the RMO working on the line, neatly cutting the plastic gates between trays that came out of Westec's four-cavity injection molding machine.

Westec's customer placed an order for 10 million pieces — but canceled partway through the job. With conventional robots, the cancellation would have been a costly fiasco for Westec's fledgling automation program. "Had we automated this program simply for this one product, Kim would have been getting all dusty sitting lonely in the corner doing nothing. Our ROI would have never been recovered." Tammy said.

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Instead, Kim carried on with different tasks, helping Westec human operators pad-print everything from medical devices to thermostat housings.For example, a human operator might print one side of a part and stage it into a holding fixture. Kim would then take the part from the fixture,stamp it with the pad printer, pick it back up and load it into a drying tray. When the tray was full, Kim would push it into a bin for bulk packaging.

Teaming Kim with a human operator made production more consistent, Barras said: “Having a robot paired with a human operator stabilizes the outcome. The operator naturally gets into a rhythm to keep up with the robot’s pace.”

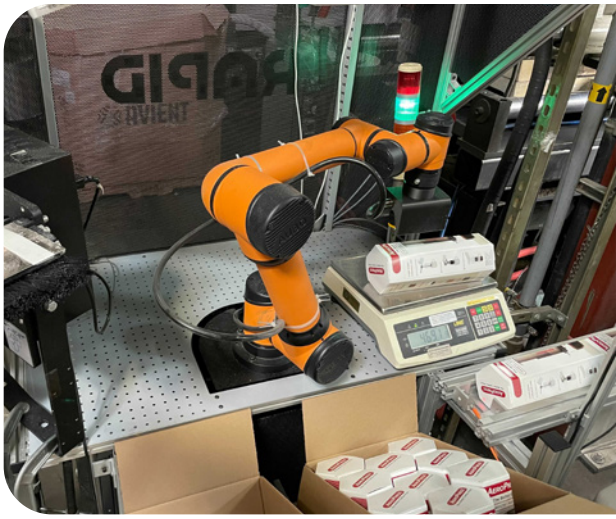
When operators go on their scheduled breaks, they can even stage Kim with work materials and let her get on with the printing unattended. “If we didn’t have Kim, that would be downtime that we wouldn’t be producing,” Tammy said.

Kim is just one of three RMOs at Westec. Others work in other parts of the facility helping Westec hit holiday production targets and win a project that initially looked out of reach.

For 17 years, Westec has manufactured the popular Aeropress coffee maker, molding, heat stamping and packaging each unit. Most months, Westec produces about 50,000 units. But during the holiday crunch, Westec runs the job full time, ramping production 50% to 75,000 units per month.

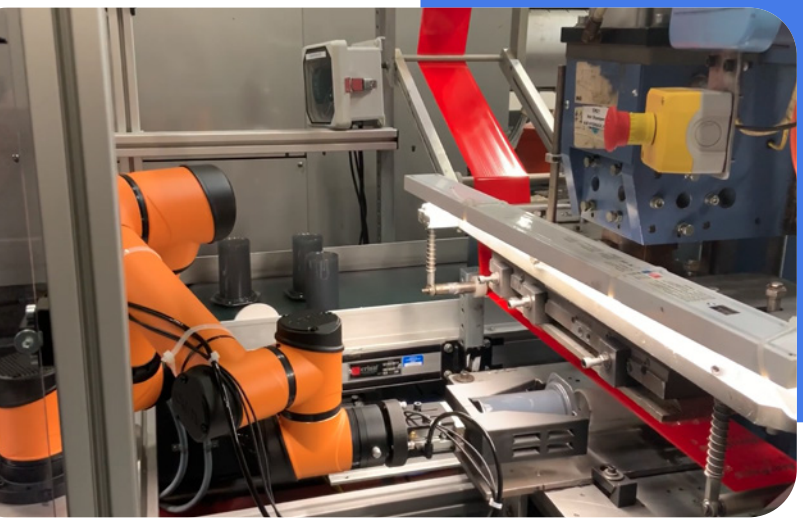
The customer wanted Westec to do the job for the same price the Midwest facility had originally quoted, despite Westec’s higher costs for labor, energy and just about everything else. Westec’s response: no problem.

Rapid’s RMOs gave Westec the flexibility to meet Aeropress’s terms. Westec simply put operators freed up from the first job onto the second.



“With RMOs, we can take on more projects, compete better on cost, quickly ramp production and stabilize our output while putting existing employees on higher-value tasks. Rapid Robotics meets our needs with its ability to easily move RMOs from one job to the next.”

Tammy Barras
President, Westec Plastics Corporation



Westec assigned two RMOs, “Melvin” and “Nancy,” to hot stamping and packaging Aeropress cylinders as they came out of the injection molds.That freed up six operators for other jobs, which gave Westec a crucial advantage when Aeropress approached it in 2021 with a $600,000 job it had originally assigned to a facility in the Midwest.

Tammy Barras
President, Westec Plastics Corporation

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Conclusion

By assigning an RMO to pad printing, Westec freed up one human operator for other work, three shifts per day, doing the work of three operators over 24 hours, **saving roughly $60,000 per year**

During the high season, Westec's RMOs operate hot-stamping, packaging, and pad printing machines full time, 24 hours a day, **doing the jobs of three full time human operators across each of Westec's three shifts.**

Looking Ahead

Westec expects RMOs to play a key role on many other jobs — both existing and new.

"I've seen a lot of robotics vendors make big promises they can't deliver. Rapid is different. The flexibility, intelligence and subscription pricing of the RMO are unlike anything we've seen from other robotics vendors. We're saving money and winning business that we probably wouldn't have if it hadn't been for Rapid."

Tammy Barras
President, Westec Plastics Corporation

WESTEC Plastics Corporation

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Rapid Robotics is the creator of the first affordable robotic machine operator designed for simple machine tasks. Available for just $2,100 a month and requiring absolutely no programming, systems integration, specialized hardware or robotics skills, the Rapid Machine Operator enables manufacturers to easily deploy a pretrained cobot in hours and see ROI in months. Rapid Robotics' founding team combines robotics and manufacturing expertise with a SaaS business model to deliver affordable solutions to real-world industry problems. The company is based in San Francisco, California.