Canadian Bakery Automates with Robotic Packaging Solution Designed by RevTech Systems

CUSTOMER
Boulangerie La Fabrique

INDUSTRY
Food Production/Packaging

SOLUTION
*m*Grip on Universal Robots UR10 for packaging of various artisan breads

LA FABRIQUE

CHALLENGES

• Keeping up with demand as an essential business

• Staffing and employee satisfaction

• Pick-and-place solution to accommodate various artisan breads

RESULTS

• Eliminated **tedious and repetitive tasks**

• Improved packaging line to **attract and retain workers**

• Standardized **production capacity**

THERE'S SOMETHING SPECIAL about the smell of fresh-baked goods. Realtors use fresh cookies as a secret weapon to sell homes. Fresh bread brings families together at the holiday table. Perhaps that is why — even during historically chaotic times — artisan bakery Boulangerie La Fabrique has continued to see explosive growth.

As an essential business in the food production industry, the bakery needed to keep up with demand. But staffing was one of their biggest problems. "They wanted to change the job dynamic by assigning more value-added tasks to the human and use a robotic solution to manage the production pace and repetitive tasks," explained Catherine Bernier, applications engineer at robotic integrator and automation specialists Revtech Systèmes (Québec, Canada), who helped the bakery develop a new robotic bread-packaging solution. "Now, due to the time of COVID, the project was prioritized to be ready for the forecasted growth after the crisis."

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>
> **—CATHERINE BERNIER,** *applications engineer at robotic integrator and automation specialists Revtech Systèmes*

With fewer than 20 employees, Boulangerie La Fabrique needed to run at maximum efficiency to keep up with demand from local consumers as well as their hotel and restaurant customers. The bakery needed an automated bread-packaging solution as fast as possible. Automating the packaging operation would help the company to keep pace with growing demand and scale their business. By tasking the robots with these repetitive tasks, Boulangerie La Fabrique will be able to attract and retain labor by offering workers more rewarding tasks. But how would they find a robotic solution that could not only pick and place the delicate loaves of bread quickly and repeatably while accommodating the natural size variation of the product?

A Delicate Touch

Finding a robotic pick-and-place solution that would accommodate the unique features of baked bread posed a challenge. "We had to implement a robot that would package various artisan breads that would vary a lot in shape and dimensions," said Bernier. "Even in the same type of bread, the form and shapes varied a little."

As part of the final robotic bread packaging work cell, loaves travel down a conveyor to a robotic pick station. Once there are enough loaves on the conveyor to fill one layer of a bread bag, the bread blocks a photoeye, triggering the robot into an action. A Universal Robots UR10 collaborative robot (cobot) sporting a six-finger Soft Robotics *m*Grip robotic gripper grabs the loaves in the accumulator and carries them to a bagging machine. The robot repeats the process, placing a second row of loaves on top of the first. The PLC then triggers a linear actuator to push the bread stack into a waiting plastic bag for shipping.

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Soft Robotics *m*Grip offers integrators such as Revtech a modular robotic gripper that can be configured in either parallel or circular configurations with up to six fingers to accommodate different sized products. The *m*Grip enables adaptive handling of unstructured objects of varying size, shape, and weight. This integrated and easy-to-use solution, which includes an *m*Grip gripper paired with a high-performance control unit, is perfect for automating pick-and-place applications.

"We considered other indexed-finger robotic grippers, but they weren't food safe for our operations," Bernier said. Soft Robotics' *m*Grip with its modular design and food-safe construction is compliant with both U.S. Food and Drug Administration's CFR Title 21 and the European Union's EC 1935/2004 Food Contact Material regulations, making it the perfect choice, according to Bernier. "Once we figured out the proper configuration, the natural tolerance for shape variation that Soft Robotics *m*Grip offers was the final part of the automated solution."

Exceeding Expectations

Mathiew Veilleux of Boulangerie La Fabrique had several important goals for the bread-packaging solution: ease labor pressures on the packaging line, improve the packaging operation to retain more workers, and standardize production capacity. Ultimately, he was surprised by the final solution.

"I must admit that we met all the goals we wanted to achieve," he said. "However, I didn't expect the production capacity to improve as much as it did. When we resume operations at full capacity after coming out of COVID, I would expect to need three to four packers at that station instead of the four to five packers, depending on the season of the year."
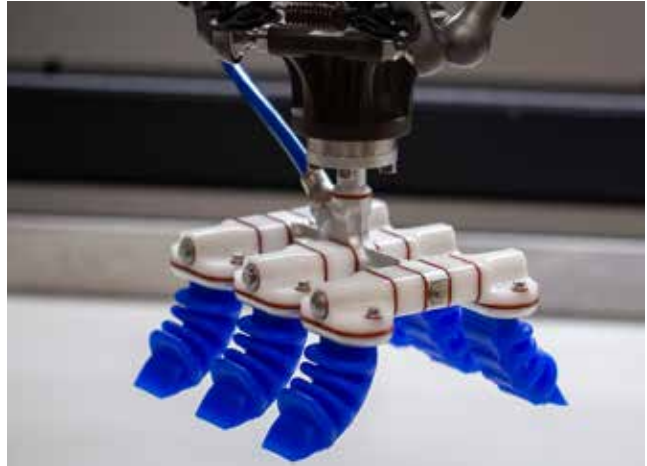
Since the packaging line was installed in the Boulangerie La Fabrique, operations have improved to the point that Veilleux is looking to automate the bag closing and bread slicing operations too.

For more information on Soft Robotics solutions, contact solutions@softroboticsinc.com or visit SoftRoboticsInc.com to watch *m*Grip in action in food packaging and related applications.
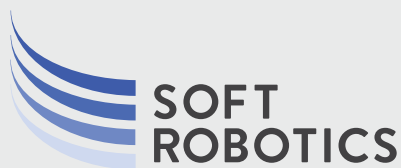
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