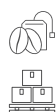


HOW CASCADE COFFEE GAINED BETTER SAFETY, PERFORMANCE, AND EMPLOYEE SATISFACTION USING ROBOTIQ'S PALLETIZING SOLUTION.



CASCADE
-COFFEE-



Industry
COFFEE & TEA



Solution
PALLETIZING



Location
UNITED STATES



Units
6



Company Size
120



Key Result
13-MONTH ROI



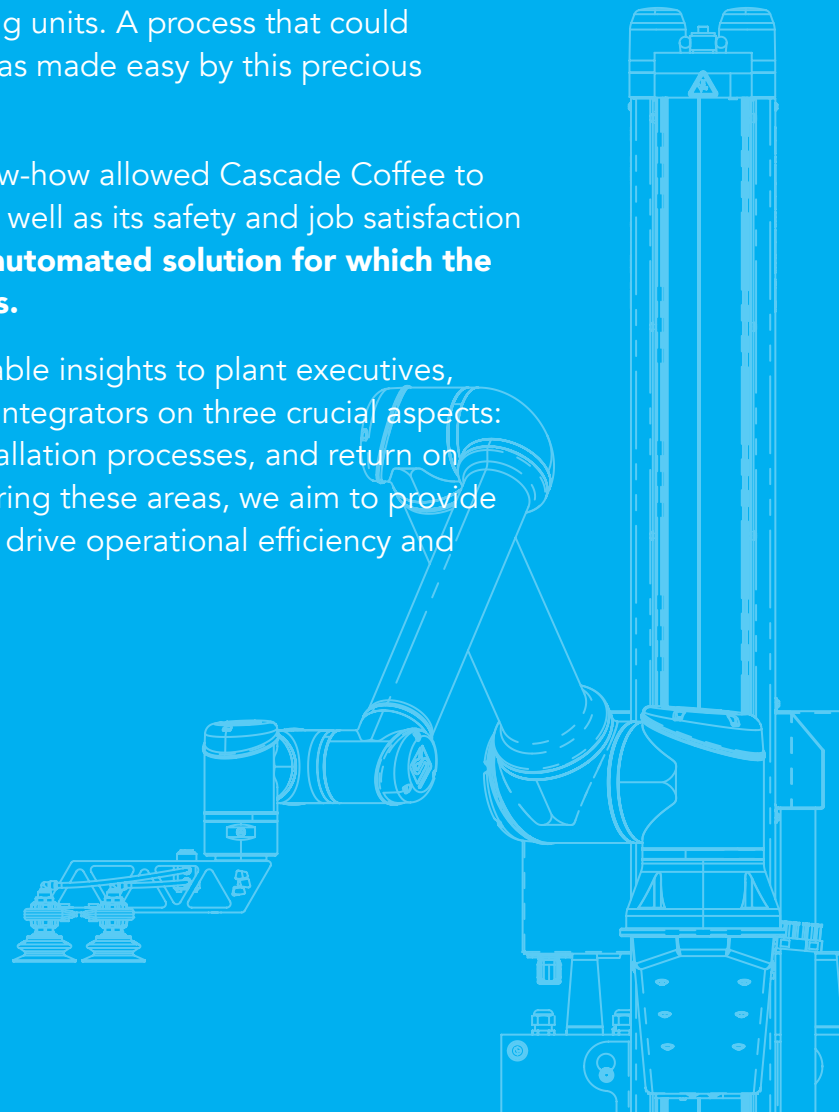
PALLETIZING SOLUTION

THE CONTEXT

Until recently, Cascade Coffee palletized orders manually. This physically demanding process was hampered by chronic labor shortages. Facing labor turnover and safety issues, Cascade faced the need to automate its palletizing operations. Robotiq and its partner, Olympus Controls, helped Cascade Coffee deploy six palletizing units. A process that could seem laborious, but that was made easy by this precious collaboration.

Robotiq's solution and know-how allowed Cascade Coffee to optimize its productivity as well as its safety and job satisfaction levels. **The result was an automated solution for which the ROI was about 13 months.**

This case study offers valuable insights to plant executives, engineers, operators, and integrators on three crucial aspects: human resources (HR), installation processes, and return on investment (ROI). By exploring these areas, we aim to provide practical solutions that can drive operational efficiency and boost profitability.



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INTRODUCING CASCADE COFFEE

Cascade Coffee is a 40-year-old company based in metropolitan Seattle, Washington, otherwise known as America's coffee capital. Cascade is one of the largest contract roasting and packaging outfits in the US. They specialize in roasting, grinding, flavoring, and packaging coffee, and shipping it to different parts of the globe. Cascade's customers span the world's biggest food and beverage brands.

Cascade's production ranges from single-serve K-cups, 12, 20-ounce bags, and 2 pounds bags out of their 150,000 square-foot facility. Their 120 employees are busy distributing to the US, Canada, and Japan.



Greg Thayer,
Vice-President



Ron Kane,
Chief Operating Officer



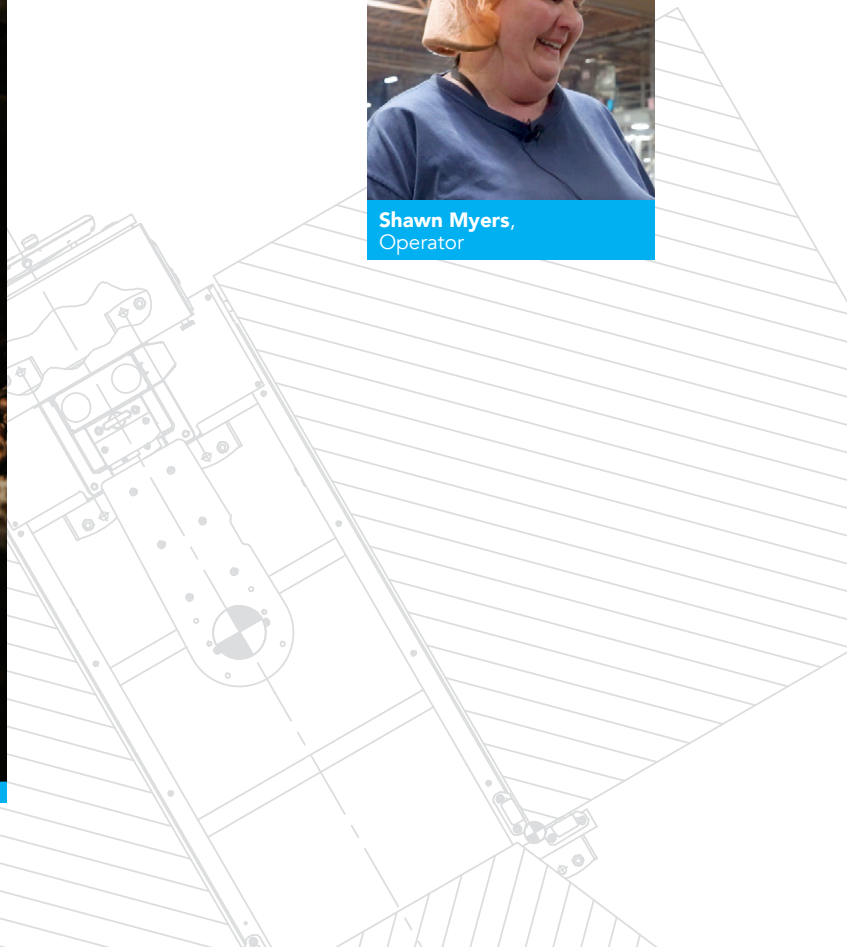
Dennis Stickles,
Director of Engineering and IT



Blanca Xar,
Operator



Shawn Myers,
Operator



CHALLENGES AREAS

Labor shortage

Back in the day when Cascade Coffee hand-stacked their cases, the company's biggest problem was finding operators to handle the task. The **turnover** rate was over **60%**. Plus, every new hire who started on Monday only to quit by Friday had to be trained, which was a colossal task, given that Cascade deals with **400+ SKUs** and **dozens of pallet configurations**. This put an incredible strain on the company's resources and leadership, and quickly became overwhelming. Cascade often recruited temporary workers to complete the palletizing task, which was ultimately expensive and time-consuming.

The real turning point, however, was employee safety and satisfaction...

Safety and satisfaction

Before Cascade deployed any robots, human operators used to take cartons off the conveyor and stack them manually. This required them to ergonomically twist and bend to stack the cases. They were thus exposed to many possible injuries, including sore muscles and sore backs, as well as chapped hands from the cardboard.

This repetitive task was also a source of fatigue and boredom, leading to burnout. The impact on employee morale—lower engagement, higher absenteeism, and a lack of productivity—could not be neglected.

Performance

Due to labor shortages, Cascade employees often had to stop machines up the line because employees down the line couldn't palletize fast enough. When that happened, operators had to run from the middle to the end of the line. These machine stoppages resulted in performance loss and, therefore, revenue loss as well. Overall, it was a most stressful situation for operators and management.



60%

turnover rate before palletizing units integration.

THE PROCESS

Cascade Coffee believes in providing a great livelihood and satisfying career opportunities. The downsides of manual palletizing did not sit well with a company that prides itself on an excellent work culture. What's more, palletizing was the lowest-paid position, yet the highest source of potential repetitive injuries. That irreconcilable contrast needed to be addressed.

Choosing the solution technology

They considered pallet lifters, hydraulic systems, and compressed air options, but these were non-starters. Since Cascade uses pallet jacks, not forklifts, they needed a solution that kept pallets on the floor.

Next up were automated palletizing solutions. Here, Cascade weighed both conventional robot and cobot options and looked at different providers.

A conventional robot tendered itself as *the* big solution for all the wrong reasons. The safety cages would take up too much space. The installation, programming, and learning curve would be huge, calling for specialized technical expertise and extra downtime associated with a lengthy deployment.

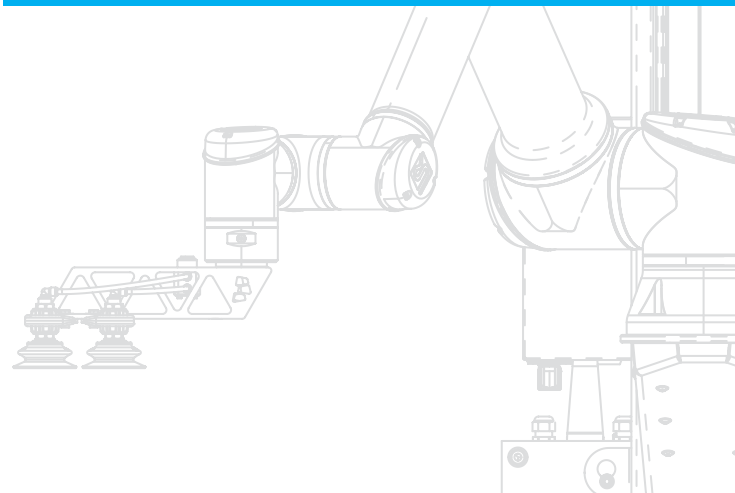
Flexibility is crucial to co-packaging operations—Cascade manages over 400 SKUs and dozens of pallet configurations—so the absence of flexibility was also a major concern. Then there was the lack of approachability (given employee reluctance and fear around the equipment). And finally, Cascade didn't have a million dollars to burn; they needed a solution that would fit their budget.



Cobots soon emerged as the right technology for Cascade, thanks to their small footprint. Cascade needed to install the cobots in close proximity to conveyors, for fork-lift transportation laying.

Cobots met all Cascade's technical requirements: they don't require safety guarding, take less time to install, and can work with the manufacturer's existing equipment.

Cascade deals with
400+ SKUs
and dozens of pallet configurations.





Choosing the solution provider

When it came to choosing a specific cobot solution, Cascade had several criteria in mind. Size mattered, from the size of the machine and the budget to the duration of the deployment. It also needed to be a solution employees would be comfortable sharing space with.

These elements made the Robotiq solution stand out:

Coordinated motion – The motion of the robot and the seventh axis is coordinated. This reduces the time it takes to stack your pallets, thanks to the robot not having to stop, rise, and then continue.

Fixed mast – Robotiq uses a fixed mast, which is far more rigid than a telescopic mast, especially since the latter is more likely to wear out over time.

Maintenance – The mast requires very little maintenance: just apply lubrication once every two years, and very little at that!

Pallet height – Robotiq's cobot can stack to a high height (108 inches) compared to competitors, which optimizes transportation and minimizes fees.

Software – The user-friendly software lets operators train new hires in only five minutes.



“ The fact that Robotiq integrated that seventh axis made us feel like they did more homework than the other competitors on the shortlist. The reasoning from there was that there were likely other areas in which they outthought the competition. ”

—Dennis Stickles,
Director of Engineering and IT

“ All our operators can recover from situations they might run into very easily and they can learn the robot easily: **operators will show a brand new operator how to work the robot in about 5 minutes or less.** ”

—Dennis Stickles, Director of Engineering and IT



THE PARTNERSHIP

Robotiq works with trustworthy partners across the world. These strong partnerships ensure quick and successful installs as well as client satisfaction. For Cascade Coffee, the partner was Olympus Controls, an Engineering Services company that specializes in the integration of motion control, machine vision, and robotic technologies.

What began with open lines of communication between Robotiq, Olympus, and Cascade grew into a genuine fellowship.



“ I talk to Sales and Support at Robotiq regularly. I know them by name and even have their cellphone number, so anytime I need something, I can call and get a resolution right away. ”

—Gina Kim,
Robotic Sales Specialist at Olympus Controls

Cascade envisioned several more robotic solutions for their factory over the next several years. In the wake of their first experience with Robotiq and Olympus, it meant something to them to nurture an ongoing relationship with true partners that would continue to help them evolve down the road. These were people they could reach out to for a solution the way you would ask a colleague sitting at the desk across from you; people they could trust to actively inform them of new solutions capable of continually improving their operations.

“ Whenever we had questions or possibly needed changes, Robotiq and Olympus were able to communicate rapidly and come up with a solution for us in a very short amount of time. ”

—Dennis Stickles,
Director of Engineering and IT





THE DEPLOYMENT

“Olympus did a fantastic job walking us through everything we could expect, how it would work, who would be here to install it. For lack of a better term, we had a real ‘white-glove service,’ and they lived up to it.”

—Ron Kane, COO

The deployment went smoothly, and employees felt satisfied and confident in future deployments.

DAY 1 MECHANICAL INSTALLATION

DAY 2 SOFTWARE PROGRAMMING

DAY 3 TRAINING

The first installation needed to go well to elicit a positive response from the factory floor. By virtue of their longstanding relationship, **Olympus and Robotiq were able to work seamlessly** in demonstrating right off the bat how much palletizing automation was going to better the lives of both employees and management.

“It was uneventful. It just worked.”

—Dennis Stickles, Director of Engineering and IT

Start-up assistance

Another key element in Cascade's success was bringing a Robotiq engineer onsite to coach the first deployment. In addition to guiding Olympus and Cascade through the nuts and bolts of the process and entrenching best practices right at the mechanical installation phase, the Robotiq coach made sure that by the time the deployment wrapped up, Cascade felt fully confident in the use of their new palletizing solution, including being able to take ownership of the programming and even implement new applications on their own.

It was a total team effort, that would go on to develop into more...

“ We stayed in touch with Robotiq and got some of the first applications that they pushed out, like the double case pick. We put that in very quickly because Dennis was confident he would be able to deal with the software. All this is thanks to the quality of the coach, who was able to show him exactly how to do it. ”

—Ron Kane, COO



THE REWARDS

Safety and team morale

Robotiq's palletizing cobot brought benefits on many levels. For a start, it literally boosted Cascade employees' happiness and motivation.

"My life has changed since Stakidi-Stack [another cobot]. I'm able to move around and check my bags, and help with the computer. By the time I'm done, my stacking is done too."

—Blanca Xar, Operator

Cascade's operators are comfortable working with and around the cobots. They view the cobots as facilitators and as part of the team, almost like another person, which is why they give them names.

Cobots have made the factory floor ergonomically safer. No more lifting, twisting, and bending with cases of coffee in tow. The factory is also quieter. No more yelling directives and cautions from across the line. What was once a hectic operation is now a simple, fluid process.

During a recent audit by a governmental agency that monitors workplace health and safety, the Washington state officials, who had never seen cobots before, left the Cascade facility extremely happy after seeing how the machines work from a safety perspective.

Performance

Another considerable benefit is the gain in performance for Cascade Coffee: their "slowest" line palletizes 2,500 cases in a day, and their fastest, 6,500. Plans are afoot for a line expected to palletize 7,500 cases a day.

And then there's the continuous motion manufacturing that's made it possible for Cascade to really elevate its performance exponentially.

"As a co-manufacture for coffee, the speed with which we can switch on the fly between 400 individual SKUs and dozens of pallet configurations has been a real game-changer. You simply do not lose any time. It's continuous coffee manufacturing."

—Ron Kane, COO

THEIR "SLOWEST" LINE
PALLETIZES

2,500

CASES IN A DAY

THEIR FASTEST LINE
PALLETIZES

6,500

CASES IN A DAY

PLANS ARE AFOOT
FOR A LINE EXPECTED
TO PALLETIZE

7,500

CASES IN A DAY

UNEXPECTED WINS

Raising the minimum wage

The adoption of automated palletizing also brought Cascade Coffee some unexpected wins. As the three stakeholders developed a strong long-term relationship, the visible effects on Cascade Coffee are numerous.

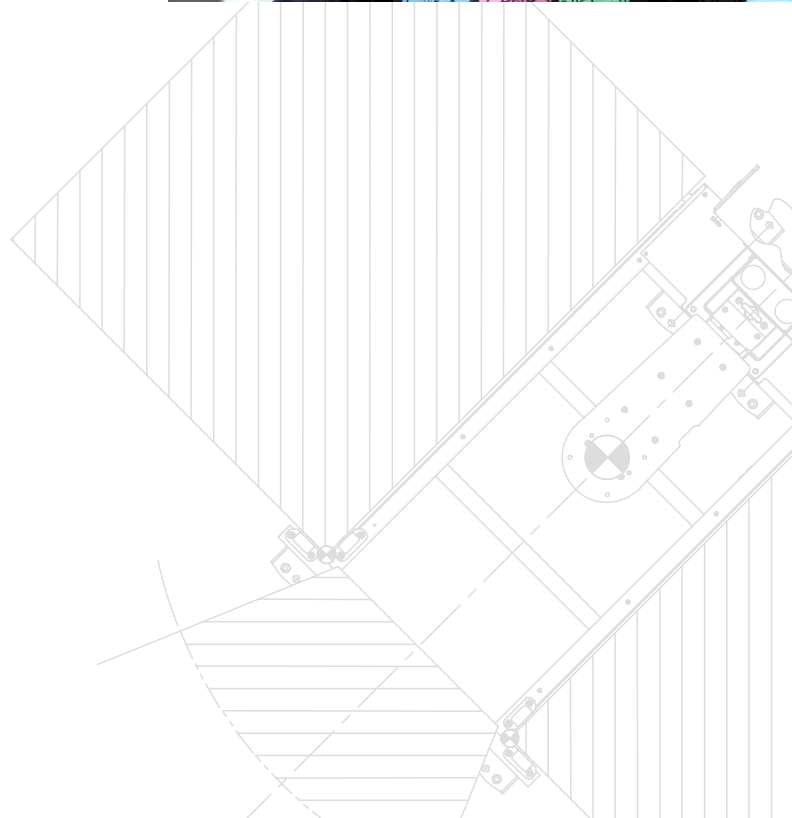
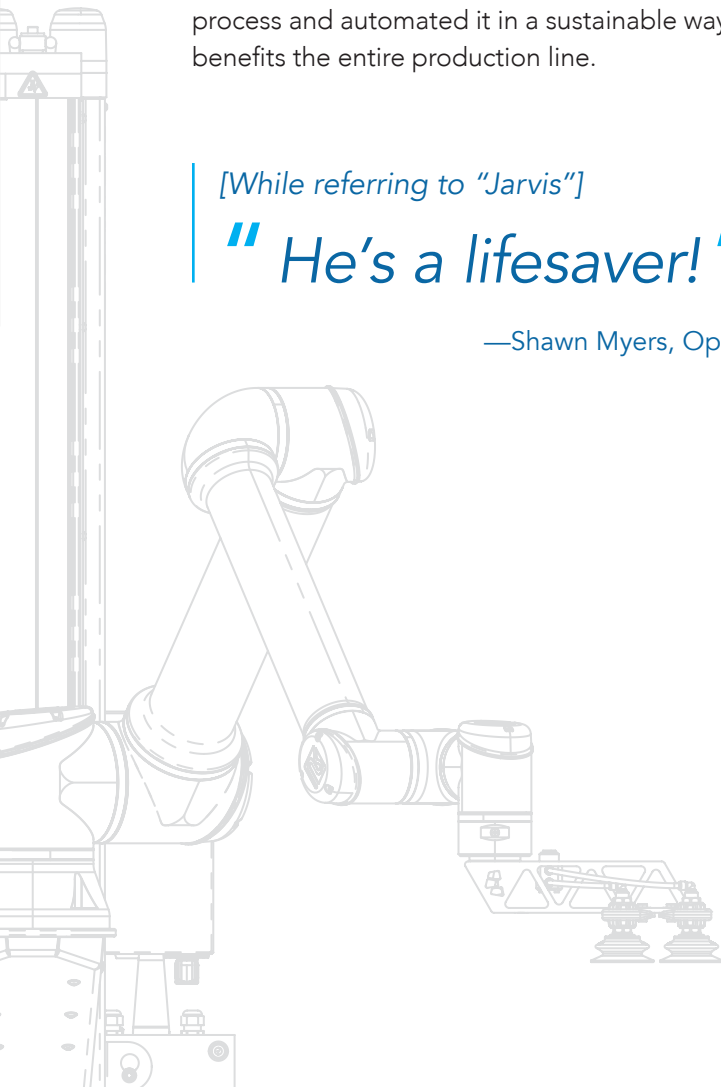
Some operators are just glad their manual palletizing days are behind them. For others, the elimination of hand-stacking meant workers could advance into highly technical jobs that pay better, a phenomenon that's been instrumental in actually increasing the minimum wage at the factory. Employees who started on a temp basis as end liners are now working as mid-liners, building their technical skills and earning more.

For Cascade, cobot palletizing took the most difficult and least gratifying part of the coffee manufacturing process and automated it in a sustainable way that benefits the entire production line.

[While referring to "Jarvis"]

"He's a lifesaver!"

—Shawn Myers, Operator





Earning a quick ROI

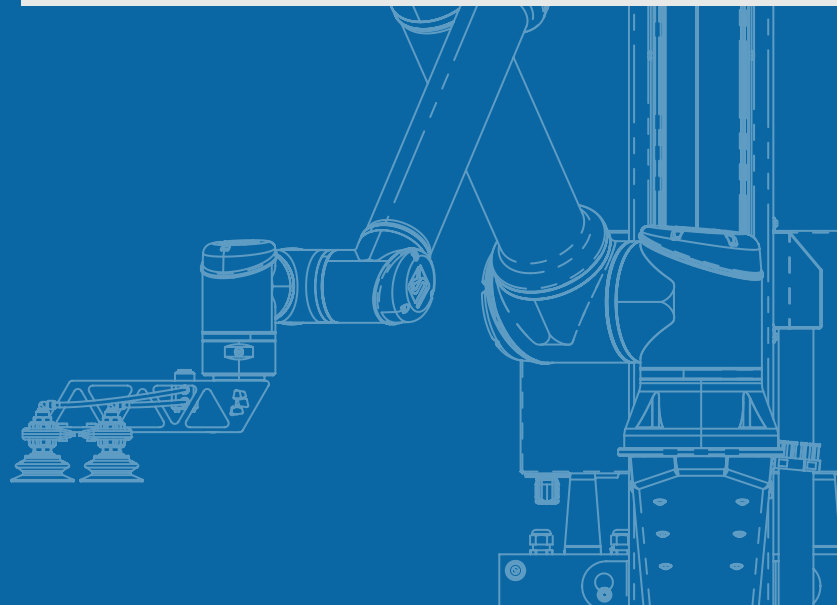
Over and above the labor and safety gains, the speed of the return on investment almost rivaled the speed of performance on the factory floor.

Cascade bought Jarvis, the cup line cobot, first, as a trial robot to make sure it would pay off financially as planned. The ROI on Jarvis was 11 months.

**FOR THE NEXT FIVE COBOTS,
THE ROI AMOUNTED TO UNDER
13 MONTHS.**

“ The ROI was a slam dunk from the beginning, from how much labor it saved. The installation process was the smoothest install of any piece of equipment I have had to experience in 28 years. ”

—Greg Thayer, VP



Takeaways

Many factors have added up to greater productivity and satisfaction:

- › Keeping workers healthy and productive, and transitioning them from mundane manual tasks to tasks that add greater value for the company.
- › Working with dependable, low-maintenance equipment that requires zero technical expertise to learn and run, and that also adds the agility essential to a co-manufacturer's operation.
- › Achieving the peace of mind that stems from having partners actively invested in making you better company.

Taken together, these gains unequivocally justify the investment.

*“ I would recommend Robotiq to any manufacturer. Robotiq lives up to the promise they make that is collaborative robots will make your manufacturing process **better, easier and safer**. They have made the integration flawless, we've had zero issues from a maintenance standpoint. They have made us a better factory just by them being here. ”*

—Ron Kane, COO

Unlock greater potential with Robotiq Palletizing Solution and find out how it can transform your business operations.

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