

GROWING FAMILY BUSINESS KEEPS THE COFFEE FLOWING WITH AFFORDABLE, EASY-TO-USE COBOT PALLETIZERS





PALLETIZING SOLUTION

THE CONTEXT

Napco Brands, faced significant challenges as they expanded. With the introduction of new brands and a burgeoning line of private-label coffees, the company's operations and production demands increased. However, they encountered difficulties in finding adequate labor to support their expanding business. The manual processes surrounding their two production lines for single-serve coffee cups were labor-intensive and posed injury risks due to the repetitive nature of the tasks.

To address these labor shortages, enhance employee safety, and boost overall productivity, Napco Brands saw the need for automation. They opted for integrating cobot palletizing solutions, specifically the AX10 automated palletizing solutions powered by Robotiq and featuring the UR10e collaborative robots (cobots) from Universal Robots (UR).

Cobot palletizers transformed Napco's operations: **not only did it lead to a 15% increase in production, but it also reduced the risk of injuries and allowed the company to reallocate eight workers per day to more specialized tasks.** This move towards automation ensured that Napco Brands could continue its legacy of growth and innovation while addressing the modern challenges of a tight labor market.

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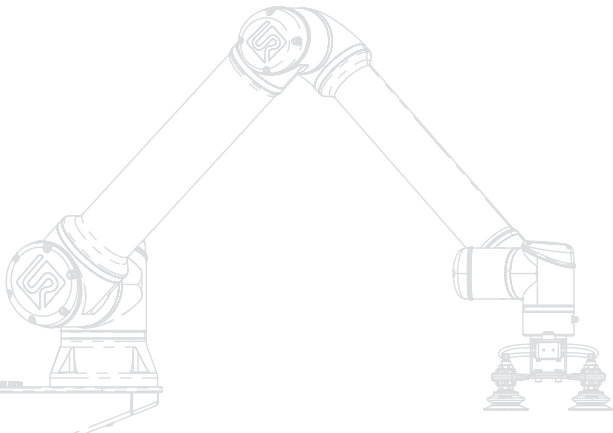
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PRESENTING NAPCO BRANDS

Napco Brands carries a rich history that began in Greece and has been serving the Chicago area since the early 1900s. Founded by Eric Latsch's great-grandfather, the company has been a beacon of quality coffee for consumers at home. Over the years, Napco Brands has evolved from producing a single in-house brand to managing four distinct brands. Eric Latsch, the VP of operations for Napco Brands, highlighted their extensive capabilities, ranging from roasting to packaging for retail and food service businesses.

The company's commitment to quality and innovation has made it a recognized name in the coffee industry, and its move towards automation with cobot palletizers further underscores its dedication to modernization and efficiency.



Eric Latsch, VP of operations at Napco Brands, is 4th generation of the family-owned Chicago-based coffee company. Napco sources, roasts, and packs coffee for both their own brands and a now growing number of private labels as well.



BUSINESS GROWTH IN TIGHT LABOR MARKET DRIVES AUTOMATION NEEDS

“At Napco, we have a lot of capability to pack for private label,” explains Latsch, VP of operations for Napco Brands. “We have a lot of factory services we can offer, anywhere from roasting to packing it into a sealed container for retail sale, or for restaurant or food service businesses.”

But finding enough workers to support the private label business has been a challenge. To address labor shortages and employee safety, and to boost productivity, **the company installed two AX10 automated palletizing solutions from Robotiq featuring the UR10e collaborative robots** (cobots) from Universal Robots (UR).

Napco has two production lines manufacturing single-serve coffee cups, but the processes around that were all manual: An operator boxed the cups and brought the box to another operator who taped and palletized the boxes. Latsch worked with Brian Einzig, sales engineer at FPE Automation, who walked through the company's processes and was able to pinpoint areas of opportunity for automation. For the end-of-line palletizing task, Einzig recommended **the AX10 Robotiq Palletizing Solution with a UR10e cobot due to its ease of deployment, its ability to handle a wide variety of pallet heights, and long track record of success.** Einzig brought in Jeff Benning, CEO of DesignHawk Innovations, to integrate the packaging line, which included the two new cobot palletizers picking up boxes as they arrive on a conveyor through the automated box sealer and placing them on pallets.

INCREASED EFFICIENCY LEADS TO NEW BUSINESS, WITH FAST ROI

Latsch had looked at many different types of packaging equipment to improve production but found the costs to be prohibitive. “There’s a large barrier to entry when you’re talking millions of dollars in a single packaging line that may or may not help you,” he says. Collaborative robots were a much easier and more cost-effective option. In fact, **the Robotiq Palletizing Solution paid for itself in less than a year**, while other parts of the project returned their investment in about two years.

“I would definitely recommend that people go with a Robotiq and Universal Robots palletizing solution,” Latsch states. “Really, it’s such an easy solution and low-cost.”


The cobot palletizers run two shifts, operating 18 to 20 hours per day. Each day, each palletizing cell fills 1,500 boxes, totaling 180,000 single-serve coffee cups packed daily between the two cells. The robots have helped to increase productivity at Napco Brands by about 15 percent. Because costs are now fixed rather than variable, and the system has significantly reduced overtime, the company is able to be more aggressive on bidding new business.

Latsch also notes that reliability in terms of meeting customer orders is critical. He says:

“With our own brands, if you don’t get something out as soon as you can, you only have to answer to yourself. If we’re making a product for another customer, we have to make sure that it’s done on time, and to get it done on time, we have to have something like a robot that’s going to show up and perform.”

“ Having this automation with a higher efficiency has made it possible for us to acquire new customers. We have several new private-label customers that we couldn’t have dreamed of two years ago. ”

—Eric Latsch,
VP of operations for Napco Brands



**THE ROBOTIQ PALLETIZING SOLUTION
WITH THE UR10E COBOT HANDLES
1,500 BOXES PER DAY
IN A TWO-SHIFT OPERATION**

EIGHT OPERATORS FREED UP FROM PALLETIZING, WITH IMPROVED SAFETY

Napco Brands has never had an employee layoff in its history, and automation doesn't change that approach. Instead, in today's tight labor market, the two Robotiq Palletizing Solution let Latsch redeploy eight valued workers per day. Rather than performing undesirable manual labor tasks like palletizing, those **employees have been redeployed to operate bigger equipment at higher pay** in specialized tasks that require human capabilities. Latsch states:

"Having a palletizer helped take care of one of the most boring tasks that we have, which can also be somewhat hazardous because you're stooping to load a pallet."

The automated palletizing solution has reduced opportunities for injury and the high turnover that results from repetitive, boring jobs. Latsch was also reassured by the cobots' built-in safety features that protect employees, even in close proximity to the robots.

"We didn't have a need to have a high-speed robot, so a cobot seemed like the natural choice," he says.



15%
increase in throughput

UP AND RUNNING IN A DAY

The overall packaging line uses a PLC to communicate, but the cobot palletizers use the built-in UR controller with no additional PLC needed. Jeff Benning with DesignHawk explains:

“All the robots know that the other exists, so if there’s an issue with one, it’ll be transmitted to the others.”

The box that arrives at the palletizer is detected by the sensors Robotiq provides with the palletizing solution. The sensors communicate with the Robotiq software and send the signal to the UR10e to go ahead and grab the box. According to Benning the built-in controller in the UR cobot eliminates the need for additional hardware. He notes:

“It’s all right there, it’s less to diagnose, it’s less to program, it’s less that we have to teach Napco to maintain, and then ultimately, it’s just less that can go wrong.”

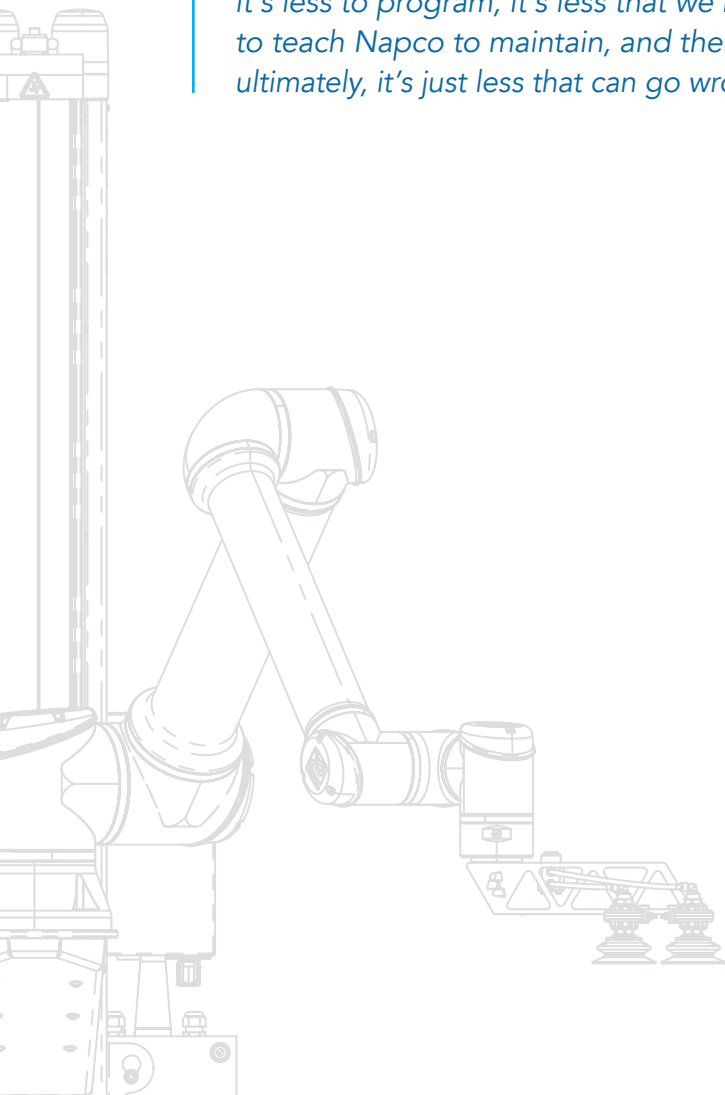
Another advantage of the Robotiq Palletizing Solution is the intuitive online configurator that enabled Benning to quickly map out the application. Once box sizes, pallet dimensions, and format are entered, the simulation provides an accurate cycle time for the process. Benning says:

*“That’s always one of the difficult parts of our job, determining exactly how the final system will run. It was a huge benefit knowing that we’re going to meet the cycle time we need; we’re going to put enough material in boxes at the right rate for Napco. **After seeing the simulation software and realizing that Robotiq had the whole palletizing package, it was a really obvious choice.**”*

When Robotiq solutions were installed, Latsch was surprised by their small footprint and how fast they were to set up. On the day of installation, Benning showed the Napco team how to run the system and were available for the next few days for any additional needs.

““ Installing the Robotiq Palletizing Solution with UR cobots was definitely the easiest thing we’ve ever done. I don’t even know if it was more than a shift to get it up and running from when they delivered it. I couldn’t imagine it going any better. ””

—Eric Latsch, VP of operations



EASY PROGRAMMING AND MINIMAL TRAINING, THEN HAND OVER THE KEYS

A key advantage of the Robotiq Palletizing Solution is the ease of programming and ongoing use. DesignHawk's Benning focuses on working with customers after deployment to make sure they feel confident to maintain it and take ownership of it over the system's lifetime. That's made easier with the intuitive UR collaborative robots and Robotiq palletizing software environment.

"Once it's set up, they make it very easy for Napco to add new boxes or different size pallets," says Benning.



Jeff Benning, CEO of DesignHawk Innovations, programs the UR10e cobot arm by simply moving it through desired waypoints that he adds to the cobot's teach pendant.



Jeff Benning (left), CEO of DesignHawk Innovations focuses on working with customers after deployment to make sure they feel confident to maintain their solution and take ownership of it over the system's lifetime.



Eric Matthews, Napco Brands production floor manager, had no robotics experience before being handed the keys to the new palletizing solution. He says:

"It did take a little bit of training, but it was a very easy course to go through, and it's pretty user-friendly overall. After I was showed the system and took over, I was relieved."

Changeovers with the Robotiq palletizing software are very easy, taking less than a minute on the cobot's own touchscreen to change the size of the box, how many boxes go on a pallet, or the direction of the boxes. When a new product comes in, Matthews is able to take an existing installed program and modify it for new requirements. He explains:

"It's a very simple process. They walked me through it, no more than five to ten minutes of training and I can take any size box, with any parameters I want, and program it myself."

THE ROBOTIQ PALLETIZING SOLUTION HAS A USER-FRIENDLY INTERFACE THAT THE OPERATORS QUICKLY LEARNED HOW TO USE.



Matthews also hears from colleagues who were relieved that their jobs were safe and that they didn't have to perform labor-intensive palletizing tasks anymore. He says:

"Now they're able to focus more on the quality of the cup instead of worrying about going back and forth and making sure the pallets are palletized."

As Latsch looks across his business and the manual packaging processes still required for different coffee products, **he sees many other opportunities for collaborative robots.**

"I think cobots would be helpful in almost any factory setting, he says. It depends on the task, of course, but I could find a use anywhere for them."

He also recognizes the importance of the right integrator and distributor, with DesignHawk and FPE Automation having made the process as easy as I think it can be.



Eric Latsch, VP of operations for Napco Brands (left) discusses the Robotiq Palletizing Solution with Jeff Benning, CEO of DesignHawk Innovations, a UR Certified Systems Integrator. Benning integrated the system, then taught the Napco staff how to operate it.

NAPCO
BRANDS®

 **UNIVERSAL ROBOTS**

 **ROBOTIQ**

 **FPE Automation**


**DESIGNHAWK
INNOVATIONS**

1 DAY
INSTALLATION
AND TRAINING

180,000
COFFEE CUPS
PACKED DAILY

12 MONTHS
MONTHS RETURN ON
INVESTMENT

ABOUT UNIVERSAL ROBOTS

Universal Robots is a leading provider of collaborative robots (cobots) used across a wide range of industries and in education. Founded in 2005 and headquartered in Odense, Denmark, Universal Robots aims to create a world where people work *with* robots, not *like* robots. Its mission is simple: Automation for anyone. Anywhere.

Since introducing the world's first commercially viable cobot in 2008, Universal Robots has developed a product portfolio reflecting a range of reaches and payloads and has sold over 75,000 cobots worldwide. An extensive ecosystem has grown around the company's cobot technology creating innovation, choice for customers and a wide range of components, kits and solutions to suit every application. The company has over 20 offices globally, with North America headquarters in Novi, MI. For more information, please visit www.universal-robots.com.



THE AX10 ROBOTIQ PALLETIZING SOLUTION

The AX10 incorporates the UR10e collaborative robot arm from Universal Robots and includes all required hardware and software. The palletizer has a payload of up to 11,5 kg (25lb), a stacking height of up to 2750 mm (108 in) and can handle up to 13 picks/min. What differentiates the AX10 Robotiq Palletizing Solution from its competitors is the coordinated motion of the 7th axis and robot arm, allowing for optimized robot trajectories without the need for programming.

Robotiq is a Quebec (Canada) company founded in 2008. In addition to palletizing, Robotiq offers products and services for factory automation, including a broad range of three- and two-finger grippers, sensing and vision, screwdriving, and machine tending. Robotiq works with a global network of partners to support local manufacturers.

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

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