

CHEF




Customer Case Study


cafe spice®


Cafe Spice used Chef Robotics to boost output by **2-3x**, ease labor shortage constraints, and lower food giveaway by **67%**

To accomplish this, Chef Robotics deployed its flexible AI-enabled robots, which can pick and place a wide range of ingredients with varying portion sizes and trays through quick changeovers. Unlike traditional automation, which requires costly infrastructure changes, Chef's robots fit within a human-sized footprint on existing lines and were quickly deployed on Cafe Spice's new conveyor installation.

About Cafe Spice

 Indian food brand and co-manufacturer

 Based in New Windsor, NY

 \$56M annual revenue (ZoomInfo)

“One of our biggest challenges has been staffing. For the past several years, staffing was very difficult due to many different hiring limitations that were occurring in the industry, which made it quite challenging for us to be able to continue scaling and expanding.”

Giovanni Gomez, Vice President of Quality, Cafe Spice



65,000+ hrs

Chef production hours



16+ hrs/day

2 shifts per day



None

Retrofitting necessary

Challenge 1: Labor

Hiring and retaining labor

In the post-pandemic era, Cafe Spice struggled to hire the necessary labor for its operations. Labor participation rates in New York State remained lower, making hiring all the more challenging. These labor constraints made it difficult for Cafe Spice to meet the growing demand for its products.

In addition to hiring challenges, labor costs in New York State increased following the implementation of a \$15 minimum wage in 2024. These rising costs posed a challenge to Cafe Spice's operating margins.

Challenge 2: Limited throughput

Meeting demand despite limited throughput and trouble scaling

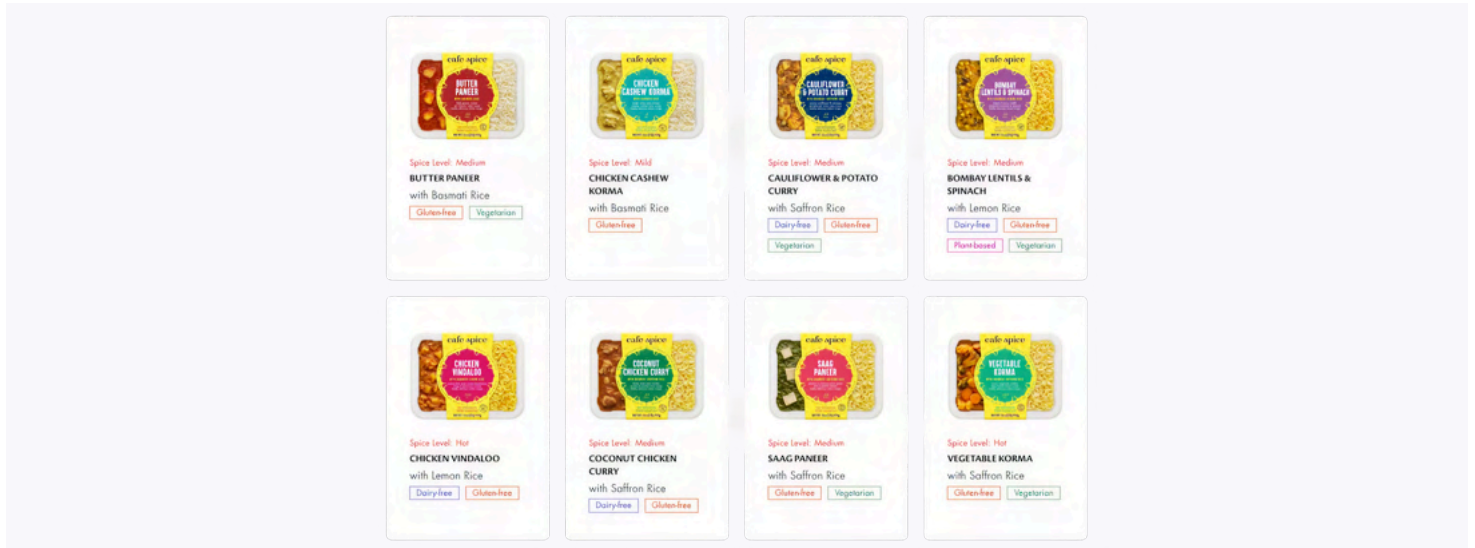
Cafe Spice historically had workers serving over tables instead of using conveyors. With workers manually shifting bowls down the line, output often landed well below expected throughput. On a given line, a throughput of 12 trays per minute was frequently the maximum output Cafe Spice could obtain. These rates limited Cafe Spice's facility output, overall revenue potential, and ability to scale.



Cafe Spice lines before Chef

High-mix production and quick changeovers

Cafe Spice produces 12 different curry entrées and even more SKUs when accounting for portion sizes and tray types. These ingredients range from various rices to chicken to vegetable curries. Traditional automation isn't capable of consistently portioning this range of ingredients or meeting the short changeover time (especially cleaning time) between SKUs that Cafe Spice requires in its daily operations. Cafe Spice has tried traditional automation without success.



Some of Cafe Spice's SKUs

High quality standards result in yield loss

While increasing output, maintaining high quality standards was also critical to the Cafe Spice team. At the end of a line, underweight trays are rejected to avoid underserving consumers. As a result, workers often over-portion meals, which causes food giveaway and reduces overall yield. This was a further blow to Cafe Spice's margins.

Accurate placement and presentation requirements

Cafe Spice uses a two-compartment tray with a shallow cavity separating rice from curry to maintain meal freshness and extend shelf life. The tray must be filled to the top to hit the target weight, which can quickly lead to spillage or spillover of curry onto rice if food is overportioned or placement is offset. Excessive spillage also requires an added labor touch point, as a worker needs to wipe the trays before entering the sealing machine. Depositors and other traditional automation could not perform well given Cafe Spice's placement and presentation requirements, paired with its extensive range of ingredients.

Solution

Deployment requirements

Required infrastructure	Easily compatible and integrated with Cafe Spice's new conveyor system
Footprint	Similar to a human footprint
Safety	Humans need to be able to work safely next to Cafe Spice's automation solution

Product quality requirements

Product consistency	Similar or improved consistency and yield over current processes
Product aesthetics	Acceptable to Cafe Spice culinary standards; curry does not spill into rice
Product portion sizes	Works with various portion sizes (5-8 oz)
Adaptable to ingredient variation	Able to handle changing densities of curries and meat chunks suspended in curries

Placement requirements

Conveyor	Can work with a single-lane stop-and-go conveyor
Placement position	Can place into different compartments of a tray
Container type	Can work with various container types

Changeover requirements

Flexibility	Can work with various ingredients, placement compartments, portion sizes, and containers
Changeover time	Can be cleaned and set up for the next production run quickly (<10 mins)

Throughput requirements

Throughput	Able to serve 30 trays per minute for the full production line (up from 12)
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Build a modern automation solution with the flexibility and placement aesthetics of a human

To boost output and reduce its giveaway problem, Cafe Spice decided to invest in Chef's AI-enabled robots along with a conveyor system. Unlike traditional automation, Chef robots can flexibly adapt to various ingredients, recipes, portion sizes, conveyors, and trays while supporting quick changeovers. In addition to accurate placement, Chef robots collect precise weight data for every deposit to achieve consistency and reduce giveaway. Finally, the Chef team developed a new utensil and software designed explicitly for curries to minimize the risk of spilling and consistently handle meat chunks suspended in a saucy base.



Cafe Spice lines after Chef

Product approach

Equipped with AI-based perception, a collaborative robot arm, and proprietary utensils, Chef robots maximize SKU compatibility while maintaining product quality and production throughput with maximum uptime.

AI-BASED PERCEPTION

Chef's perception system uses AI to accurately detect bowl positioning and food surface topology, enabling precise deposit placement and consistent portion weights. At Cafe Spice, Chef robots reliably deposit rice and complex curries with minimal spillage, ensuring both accuracy and cleanliness.

Product approach

MODULAR AND PORTABLE

A Chef robot takes up the same footprint as a worker and can be moved easily between lines to meet changing production needs. Changeovers to new ingredients or meals take just minutes, making Chef robots as flexible as workers. At Cafe Spice, switching robots between conveyors—or transitioning from depositing rice to curry—is quick and seamless.

COLLABORATIVE

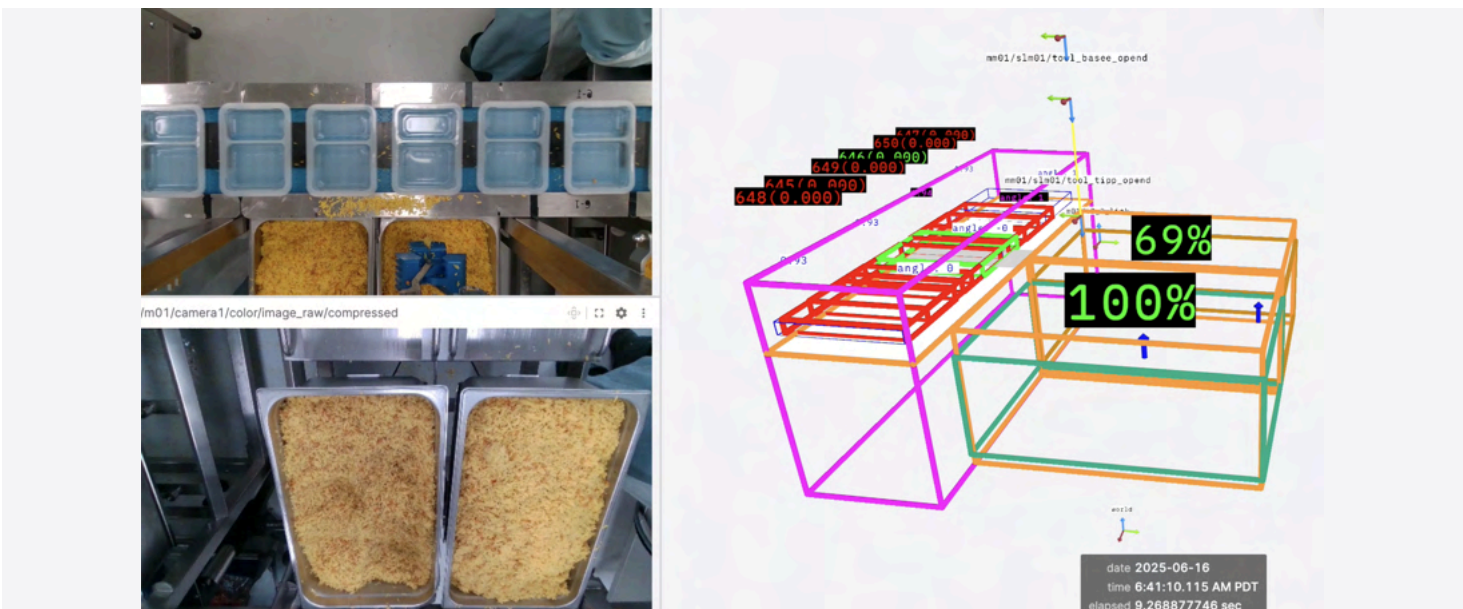
Chef robots have helped Cafe Spice achieve high throughput while meeting industry standards such as ISO 10218 for working alongside humans. As Cafe Spice continues to automate more work stations, humans can safely work next to robots on the same production line.

REAL-TIME CONVEYOR INTEGRATION

Chef's conveyor integration solution uses a wireless module to coordinate closely with other line equipment. This approach optimizes throughput with both indexing and continuous conveyors while preserving the flexibility to reposition Chef robots as production needs evolve. Cafe Spice has obtained up to 40 trays per minute and high placement accuracy throughout.

PROPRIETARY UTENSILS

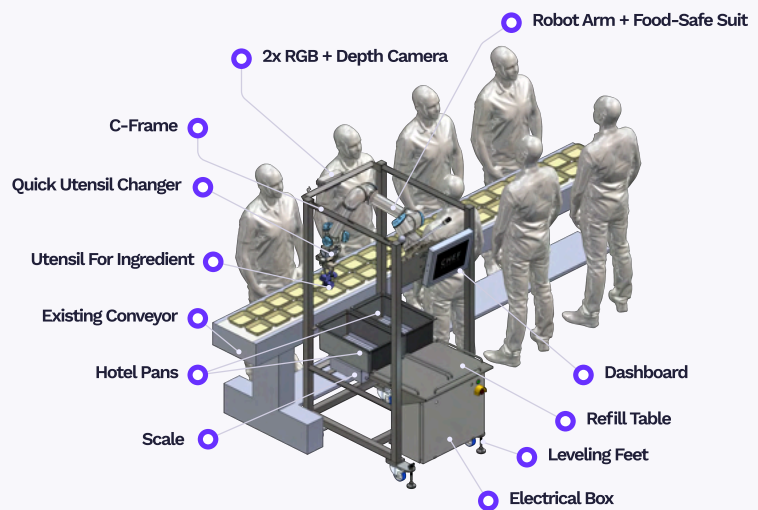
With a simple utensil swap, Chef robots can deposit hundreds of different SKUs, enabling fast changeovers and minimal sanitation time. For Cafe Spice, the Chef team engineered a custom utensil specifically designed to handle curries with varying densities and suspended proteins—while consistently meeting high quality standards.



Chef robot camera visualization with bounding boxes

Deployment approach

Chef robots are a low-risk investment for Cafe Spice because they work across different conveyor types and easily slide onto the company's new conveyor lines. All they require is 120V AC power and a pneumatic line with a standard industrial quick-disconnect air coupling.



Creating value from day one

Chef can deploy within weeks of the contract closing and quickly have systems operational in production. For Cafe Spice, the Chef robots were running in production within 2 weeks of conveyor installation. This allowed Chef robots to start assembling food and create value quickly. Customers can choose to automate one or multiple

stations at a time. Cafe Spice chose partial automation as a starting point, deploying 4 robots to start. After that, the company quickly deployed 4 more robots, partially automating 2 production lines. Now, Cafe Spice is onboarding 8 more robots, to fully automate both production lines with a total of 16 robots.

Business approach

RaaS eliminates upfront CapEx and hidden fees

Many traditional automation suppliers create custom one-off automation solutions, requiring customers to pay a large capital expense (CapEx) investment upfront. This approach would have required Cafe Spice to limit its cash flow and allocate a considerable budget through long planning cycles, resulting in slowed deployment timelines and a delayed return on investment (ROI).

Chef Robotics follows a robotics-as-a-service (RaaS) model, acting as a robot staffing agency for Cafe Spice. Chef's recurring RaaS fee includes hardware and software updates, support, and maintenance. Thanks to this approach, Cafe Spice eliminated the need for a large upfront investment and avoided surprise fees or maintenance costs over time. The company was also able to start small and increase its number of robots over time, rather than making a large commitment right away.

Business approach

The RaaS model also incentivizes Chef to provide high-performing, durable products that create long-term value for Cafe Spice. Through ongoing software updates, Chef continually deploys the latest AI models to improve robot performance over time. This helps drive additional cost savings for Cafe Spice, notably through yield improvements and reduced giveaway.

For a flat monthly fee, Chef provides



Core hardware and software



Customer-specific configurations



Hardware and software upgrades



Field support and maintenance

	RaaS	Traditional automation
Core hardware & software	✓ Included	✗ Software updates cost extra
Deployment support	✓ Included <ul style="list-style-type: none"> Dedicated technical guidance and onsite support Customer-specific configurations Meal and ingredient onboarding Onsite training 	✗ Often an added cost ✗ Often time-limited
Consistent AI & performance improvements	✓ Included <ul style="list-style-type: none"> Software updates Latest AI models Improving performance over time 	✗ Stagnant performance ✗ System tuning, re-calibration, and consultations cost extra
Support & maintenance	✓ Included <ul style="list-style-type: none"> Spare parts Repairs for unexpected equipment damage Follow-on training and on-site support 	✗ Expensive maintenance contracts ✗ Unexpected repair costs
Post-deployment changes	✓ Included <ul style="list-style-type: none"> New ingredients New meals New trays Support for new conveyors 	✗ Expensive post-deployment customizations ✗ Long lead time on modification requests
Customer success	✓ Included <ul style="list-style-type: none"> Weekly calls to monitor utilization and uptime Regular check-ins on overall customer happiness Hands-on support on any issues 	✗ Often comes at an extra cost

Cafe Spice leveraged Chef Robotics to boost output by **2-3x**, ease labor shortage constraints, and lower food giveaway by **67%**

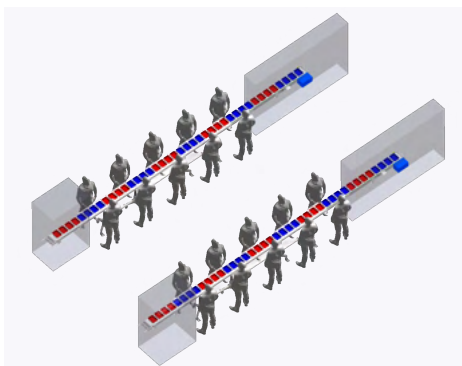


“The data insight with the Chef robots has been transformative. Previously, we took a sample every 30 minutes. Now, we have granular insight into every deposit in every tray, which allows us to make better business decisions and adjustments where warranted.”

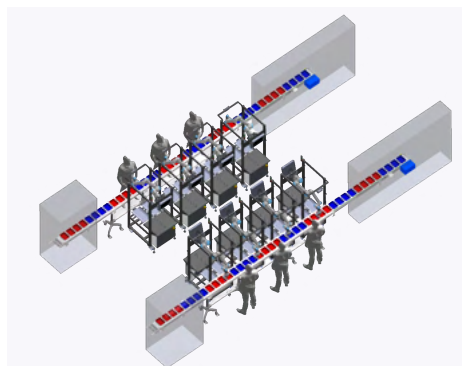
Virgilio Felix, Chief Operating Officer, Cafe Spice

Increased output by **2-3x**

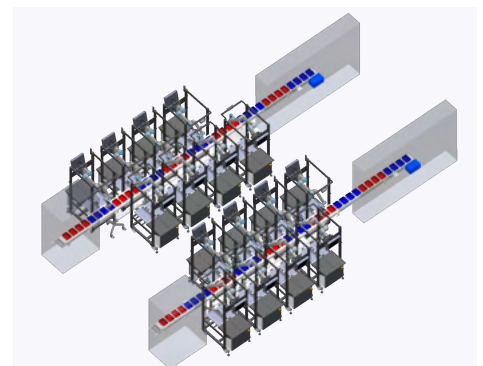
Before using Chef, each Cafe Spice line operated at 10-15 trays per minute. With Chef robots and the new conveyor system, the company now achieves a throughput of 30 trays per minute on average, resulting in 2-3 times higher output. The increased throughput has allowed Cafe Spice to consolidate some of its production lines, resulting in millions of dollars in additional revenue potential.



*Original Cafe Spice lines
with workers only*



*Today's setup with 4 robots and 3-4
workers on each line*



*Cafe Spice's plan to fully automate 2
lines with 8 robots each*

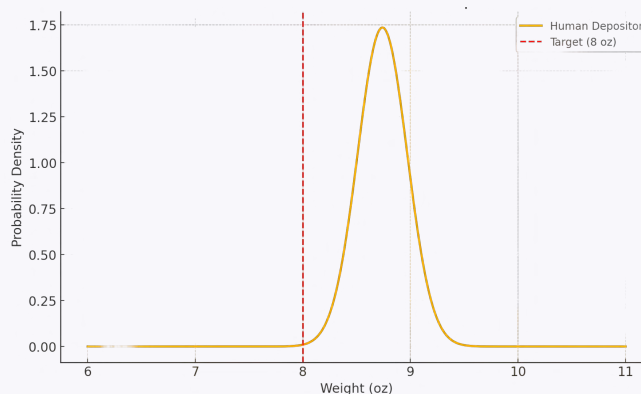
Increased worker productivity by 60% to ease labor constraints

Previously, Cafe Spice required 8-10 workers per production line for meal assembly. With Chef, the number of dedicated workers on each line has decreased to 3-4 people, delivering a 60% increase in labor productivity on average. Cafe Spice leverages the freed-up workers in other areas of its operations, which had previously remained understaffed.

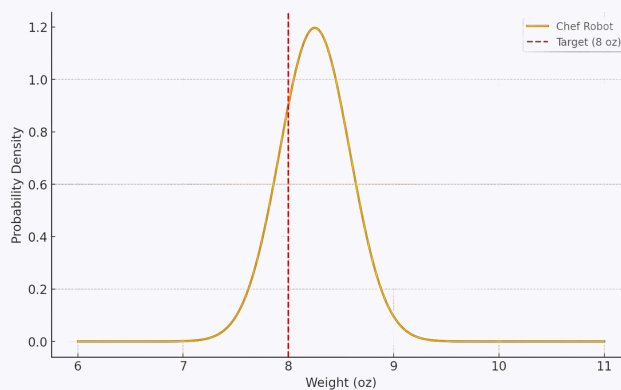
Improved product consistency and reduced food giveaway by 67%

Cafe Spice has seen the percentage of deposits within the target weight range increase notably for meals assembled by Chef robots compared to those assembled by workers. Food giveaway was 9.19% before Chef and is now 3.05% for Chef-made meals. Additionally, the acceptance rate for Chef-made meals is 91%, compared to a 75% acceptance rate for worker-made meals. These consistency improvements directly affect Cafe Spice's overall product quality, as Chef robots are able to accurately place ingredients into the company's two-compartment trays. They have also allowed Cafe Spice to reduce food giveaway by 67%.

Normal Distribution - Human Depositor



Normal Distribution - Chef Robot



The standard distribution of human-made meals (top) vs. Chef-made meals (bottom)

Reduced redundant motions

Before using Chef, the redundant pick-and-place motions that Cafe Spice workers needed to perform on the production line could lead to repetitive strain injuries and high workers' compensation claims. After adopting Chef, Cafe Spice was able to reduce the number of redundant motions workers needed to carry out.

Higher visibility into production operations

Through Chef's sensor suite and manager dashboard, Cafe Spice now has data on every single deposit made by Chef robots, accessible from anywhere in the world. Cafe Spice has been able to receive live feedback on operational statuses and track historical deposit data to monitor and improve its production operations continuously.



"The Chef Robotics team has been amazing. When I walk through the facility, I see folks who are always here. They're always there helping us out. We had some customized tooling that was needed for the kind of product we service, and they were here to make sure that we had the right tooling for the curry side of our of our meals."

Sameer Malhotra, Co-Founder and CEO, Cafe Spice

Full interview with Sameer Malhotra

Contact us to learn how Chef robots can transform your production lines.

chefrobotics.ai/contact-us

Contact us →