

CHEF



Customer Case Study






Project Open Hand
meals with love

Project Open Hand increases labor productivity by 29% using Chef robots

Project Open Hand has been feeding communities in need for over four decades. The San Francisco-based nonprofit decided to use Chef robots powered by physical AI to address unpredictable labor shortages and deliver consistent, medically tailored meals to people in need.

The organization decided to onboard two Chef robots on its production line to shift from a seven-day to a five-day workweek and employ fewer volunteers for the daily meal assembly process. Just a few weeks after deploying the robots, Project Open Hand was able to reallocate volunteers to other parts of its daily production work and monitor the yield and consistency of its meals. The Chef robots accommodate five-minute changeovers while handling two unique ingredients each day from a total rotation of 70 ingredients.

About Project Open Hand

-  Non-profit organization
-  Based in San Francisco, CA
-  Delivers meals to seniors and people with serious illnesses

“The kitchen staff appreciate the reliability of the robots and the consistency of the pace of meal tray production. It prevents kitchen staff from having to come off of a kitchen cook line and fill trays. That’s a huge thing.”

Paul Hepfer, CEO, Project Open Hand



7

Different meals every week



70

Ingredients



None

Retrofitting necessary

Challenge 1: Labor

Volunteer work can be unpredictable

Project Open Hand's meal production depends heavily on volunteers, with a new team assembling meals almost every day. As a result, the organization at times needed to pull cooks off the cooking line to assemble meals instead. Frequent volunteer

turnover (given the very manual, repetitive nature of the plating work) also meant staff spent significant time training volunteers on how to portion and plate meals accurately.

Challenge 2: Metrics

Low consistency and difficulty tracking metrics

Before automating meal assembly, Project Open Hand volunteers were manually portioning meals using volumetric scoops, resulting in unavoidable, inconsistent weights and deposits across containers. Over or underportioned meals are particularly problematic for medically tailored meals, where precise portioning is of the essence. Due to the manual assembly process, the team wasn't able to track accurate metrics on throughput, consistency, or aesthetic placement accuracy over time.



Project Open Hand lines before Chef

Challenge 3: High-mix production

Project Open Hand serves new meals every day

Nobody wants to eat the same food every day. As a result, Project Open Hand prepares entirely new meals for people in need every day. The organization wasn't able to use traditional fixed-automation systems, as those don't adapt well to high-mix production environments and rapid changeovers. While the team had already automated part of their meal production with a conveyor system and a tray sealing machine, meal assembly remained a manual bottleneck. The manual meal assembly process limited throughput and made it difficult to maintain consistent portioning across meals.



Project Open Hand's meals

Solution

Project Open Hand's ideal automation solution

Project Open Hand wanted to automate the assembly of their meals and set out to find an automation solution that would meet the following requirements:

Solution

Deployment requirements

Required infrastructure	Easily compatible and integrated with Project Open Hand's existing indexing conveyor line
Footprint	Similar to a worker's footprint and small enough to fit on Project Open Hand's short assembly line in a small commercial kitchen space
Safety	Volunteers need to be able to work safely next to this solution

Product quality requirements

Product consistency and yield	Improved product consistency and yield, and the ability to monitor and track data at the bowl level; this is key, given Project Open Hand produces medically tailored meals
Product aesthetics	Acceptable to Project Open Hand's culinary standards; meals should look like they are made for humans by humans who care about nutritious, high-quality food
Product portion sizes	Works with various portion sizes (50-500 g)
Adaptable to new ingredients every day	Able to handle new recipes every day, with rotating ingredients from a total of 70 recurring ingredients

Placement requirements

Conveyor	Can work with a single-lane indexing (stop-and-go) conveyor
Placement position	Can accurately place food into different locations within 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 (<5 min.)

Throughput requirements

Throughput	Able to serve 16 trays per minute for the full production line (which is the fastest that workers on the line can perform)
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Build a modern automation solution with the footprint, flexibility, and placement aesthetics of a worker

To address its volunteer staff shortages and deliver consistent meals while reducing giveaway, Project Open Hand decided to deploy two of Chef's AI-enabled robots on its single production line in San Francisco. Unlike traditional automation systems, Chef robots can flexibly adapt to Project Open Hand's 70 rotating ingredients, entirely new recipes every day, and varying portion sizes, while meeting the strict weight requirements common to medically tailored meals. In addition to accurate placement, Chef robots collect precise weight data for every deposit to achieve consistency and reduce giveaway.



Project Open Hand line with Chef robots

Product approach

Equipped with AI-based perception, a collaborative robot arm, and proprietary utensils, Chef robots maximize SKU compatibility while increasing consistency and yield. The Chef team designed its robots with the challenges of high-mix meal assembly in mind:

AI-BASED PERCEPTION

Our robots are designed to handle the inherent variability of food ingredients. The perception system uses AI to accurately detect bowl positioning and food surface topology, enabling precise deposit placement and consistent portion weights.

FLEXIBLE

Chef robots can work with almost any ingredient, portion size, conveyor, tray, tray compartment, and insert. Customers can quickly add new meals to the menu and onboard new ingredients to adapt to seasonality and changing production demand.

MODULAR AND PORTABLE

Each Chef robot has the same footprint as a worker and can be easily moved around to adapt to changing production needs.

COLLABORATIVE

Chef robots meet industry standards such as ISO 10218 and work safely alongside volunteers in Project Open Hand's small commercial kitchen. The volunteers enjoy working alongside the robots, which are helping make work on the assembly line easier and less repetitive.

REAL-TIME CONVEYOR INTEGRATION

Chef's conveyor integration solution uses a wireless module to coordinate closely with other line equipment and optimize throughput with both indexing and continuous conveyors. The Chef team built a custom integration for Project Open Hand's stop-and-go chain conveyor—an older model that many food manufacturers have since discontinued.

PROPRIETARY UTENSILS

With our easy-to-swap volumetric utensils, Chef robots can deposit hundreds of different SKUs, enabling fast changeovers and minimal sanitation time. For Project Open Hand, this flexibility—handling 70 different ingredients with minimal downtime—was the key to successfully implementing automation.

RAPID CHANGEOVERS

Switching from one ingredient to the next takes less than five minutes. All a line worker needs to do is swap out the utensil, slide out the pans of food, wash down the robot like they would do with any other equipment on the line, and select the next meal on the HMI screen.

PER-PICK METRICS

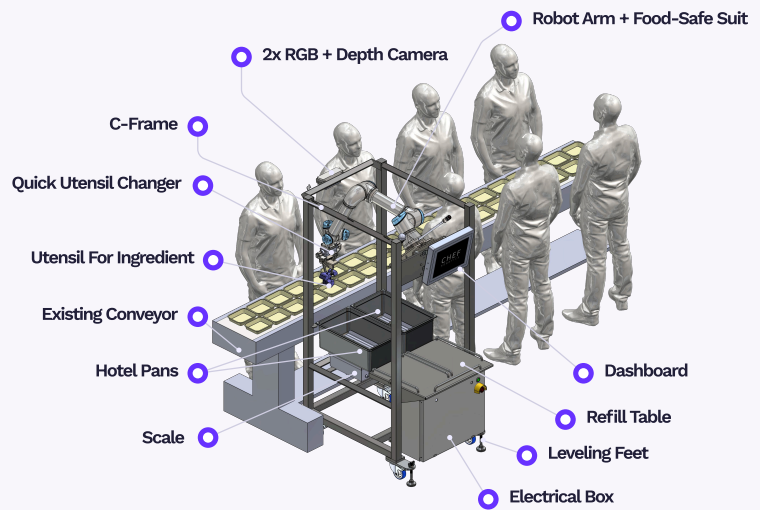
Two integrated weight scales under the pans of food measure the weight of every pick, helping increase consistency and reduce giveaway.

FULLY DEPLOYED IN TWO WEEKS

Once the robots arrive at a customer facility, they can slide onto the production line and start assembling meals without any retrofitting or bolting required.

Deployment approach

Chef robots were a low-risk investment for Project Open Hand because just two robots were enough to automate its meal assembly process, and they easily slide onto the organization's existing short conveyor line. All they require is 120V AC power and a pneumatic line with a standard industrial quick connect air coupling.



Creating value from day one

Chef deployed its robots within weeks of onboarding Project Open Hand. Within just a few weeks, the robots were fully operational. The organization has since reduced its seven-day work

week to a five-day work week while allowing volunteers to spend less time on repetitive meal assembly tasks and requiring fewer core employees to substitute in case of volunteer shortages.

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 Project Open Hand to set aside a significant portion of its budget over several planning cycles, only to adopt an automation solution that exceeds its actual needs.

Chef operates under a robotics-as-a-service (RaaS) model, serving as a robot staffing agency for Project Open Hand. Chef's recurring RaaS fee includes hardware and software updates, support, and maintenance. Thanks to this approach, Project Open Hand eliminated the need for a large upfront investment and avoided surprise fees or maintenance costs over time. The organization was also able to start small with just two robots and see a return on investment (ROI) right away.

Business approach

The RaaS model also incentivizes Chef to provide high-performing, durable products that create long-term value for Project Open Hand. Through ongoing software updates, Chef continually deploys the latest AI models to keep improving robot performance over time. This helps drive additional cost savings for Project Open Hand, 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	<p>✓ Included</p>	<p>✗ Software updates cost extra</p>
Deployment support	<p>✓ Included</p> <ul style="list-style-type: none"> • Dedicated technical guidance and onsite support • Customer-specific configurations • Meal and ingredient onboarding • Onsite training 	<p>✗ Often an added cost</p> <p>✗ Often time-limited</p>
Consistent AI & performance improvements	<p>✓ Included</p> <ul style="list-style-type: none"> • Software updates • Latest AI models • Improving performance over time 	<p>✗ Stagnant performance</p> <p>✗ System tuning, re-calibration, and consultations cost extra</p>
Support & maintenance	<p>✓ Included</p> <ul style="list-style-type: none"> • Spare parts • Repairs for unexpected equipment damage • Follow-on training and on-site support 	<p>✗ Expensive maintenance contracts</p> <p>✗ Unexpected repair costs</p>
Post-deployment changes	<p>✓ Included</p> <ul style="list-style-type: none"> • New ingredients • New meals and portion sizes • New trays and placement positions • Support for new conveyors 	<p>✗ Expensive post-deployment customizations</p> <p>✗ Long lead time on modification requests</p>
Customer success	<p>✓ Included</p> <ul style="list-style-type: none"> • Weekly calls on utilization, ingredient coverage • Regular check-ins on overall customer happiness • Hands-on support on any issues 	<p>✗ Often comes at an extra cost</p>

Project Open Hand has increased labor productivity by **29%** while tracking reliable data at the bowl level

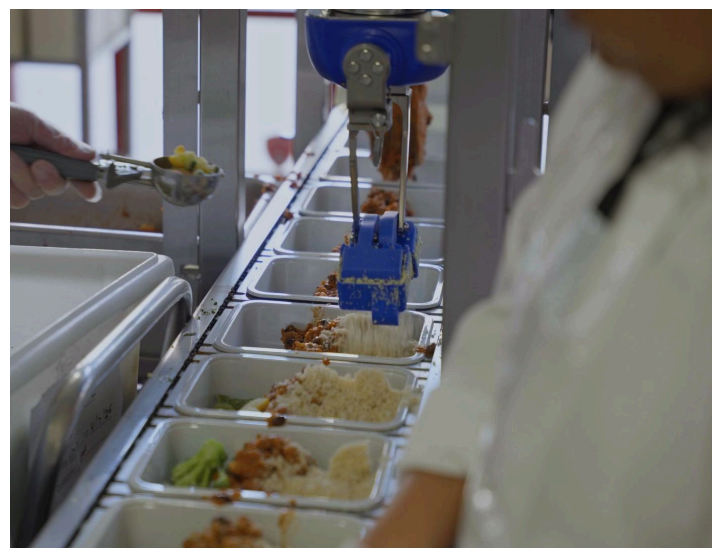


“Imagine every meal is your medication. Having a medication pill that was inaccurate would be like getting the wrong medication. Chef Robotics brings that level of accuracy at a per-meal level. When you’re talking about thousands of meals being produced, these are great areas of improvement.”

Michael McCormick, Senior Director of Business Operations, Project Open Hand

29% higher labor productivity

Before adopting Chef robots, Project Open Hand relied on seven volunteers to assemble meals on its production line. With the two Chef robots in place, the team has been able to reallocate two volunteers to other tasks in its commercial kitchen (which also involve fewer repetitive motions) and maintain steady production, even on days with limited volunteer availability. The organization has been able to meet its daily throughput goals, with the Chef robots completing up to 4,550 weekly servings across seven meals per week.



Chef robots complete up to 4,450 servings per week at Project Open Hand

Yield and consistency metrics

Since using the robots, Project Open Hand has been able to track yield and consistency for all 70 ingredients over time. For a nonprofit serving medically tailored meals, reducing giveaway and increasing consistency isn't only about cost savings. Over-depositing food can mean that chronically ill clients receive too much of an ingredient they are advised to limit. In that sense, tracking these metrics is not just beneficial to Project Open Hand's operations but essential to the quality of its meals and the integrity of its mission.

Reliable data at the ingredient and bowl levels

Beyond measuring yield and consistency for each ingredient, the Project Open Hand team receives real-time, reliable data at the bowl level, ensuring precise, repeatable deposits for every meal. This new level of visibility supports better demand planning and process optimization across the organization's entire operation. It also lets the Project Open Hand team more accurately predict the computed nutritional values of each meal.



Project Open Hand driver delivering meals

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

chefrobotics.ai/contact-us

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