



Changing the World from Disposables to Reusables One Meal at a Time



CASE STUDIES:
SAVINGS & SUSTAINABILITY IMPACT FROM
O2GO RESUABLE CONTAINERS FROM OZZI

OZZI CLOSED-LOOP TECHNOLOGY SOLUTION FOR SUSTAINABLE DINING



- **Closed Loop:** Our Made in the USA O2GO reusable containers can be sent back to us at the end of their life to be ground and re-made into other products. Zero Waste.
- **OZZI Collection Machine:** Our OZZI Collection Machine has a 98.5% collection rate of our O2GO reusable containers and the highest diner engagement.

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INTRODUCTION

The Problem with Single-Use

Trash has infiltrated every crevice of the planet, from Mount Everest to the Mariana Trench. Overflowing landfills, roadside litter, trash-filled beaches—we are overwhelming our planet with single-use disposable food packaging. In September 2020, food packaging surpassed cigarette butts as the most commonly found beach trash for the first time in 34 years, according to the Ocean Conservancy's report on its annual global beach cleanup. It's unsustainable if we are to call this planet home. Yet, to-go dining is here to stay—how do we co-exist?



OZZI® Closed Loop Technology Solution for Sustainable Dining

Hundreds of dining establishments are switching to reusables across all sectors of the food industry to save money, meet their sustainability goals, and stay healthy.

OZZI is a one-of-its-kind revolutionary system that is changing the world by eliminating traditional disposable take-out containers for all food-service industry segments – colleges & universities, corporate dining, military bases, municipalities, restaurants, health care facilities, and sports centers. OZZI eliminates disposable products by replacing them with 100% reusable containers—called O2GO®—Made in the USA of BPA free plastic and ECOLAB Ware tested for 1,000 washes. Here's how it works:

1. Meal placed in a clean O2GO.
2. Diner enjoys meal anywhere.
3. Diner returns the O2GO to any no-contact OZZI Collection Station, either the manual Drop N Go Box or the automated, patented OZZI Machine.
4. The O2GO is washed, sanitized in accordance with local health department guidelines, and returned for reuse.
5. Once an O2GO reaches its end-of-life, OZZI will reclaim, grind and reuse for Zero Waste.



INTRODUCTION

Measuring Sustainability

In quantifying sustainability, researchers explore three pillars – environmental protection, social equity, and economic viability – to improve the planet’s integrity and quality of life. At OZZI, we translate those pillars into People, Profits and Planet.



People

From students on campus to seniors in assisted living, people love the program and the opportunity to help save the planet.

“OZZI containers have saved us hundreds of dollars per day and the residents love them!”

–Dining Services Director, Asbury Place Kingsport, TN

“Using non-recyclable plastic containers was not in line with our Sustainability values and messaging. With O2GO containers, students were delighted that we would not be filling up the landfill more than we need to.” - Ryerson University

Profits

One O2GO pays for itself in just 17 uses compared to disposables:

- 1 O2GO costs \$5, compared to .30¢ for one disposable. O2GO container pays for itself in 16.6 uses: $\$5 / .30 = 16.6$
- 1 O2GO @ \$5 can be used up to 1,000 times. Purchasing 1,000 single-use disposables @ .30¢ costs \$300. So $\$300 - 5 = \295 Savings per O2GO used.

Planet

- Reduces landfill and ocean waste
- Reduces waste hauling costs
- Reduces dependence on fossil fuels by limiting deliveries of disposable containers
- Saves trees, reduces emissions and lessens carbon footprint
- Eliminates cost and supply chain issues of paper and foam products

BOTTOM LINE: Based on 1,000 uses per O2GO container, OZZI is responsible for eliminating more than 500 million single-use containers in single year. Here are just a few of their stories.

University of Wisconsin-Madison

About University of Wisconsin-Madison

The University of Wisconsin is a top-ranked public land-grant research institution providing exceptional education opportunities. Founded when Wisconsin achieved statehood in 1848, UW–Madison is the official state university of Wisconsin and the flagship campus of the University of Wisconsin System. *The Wisconsin Idea* is a long tradition and UW's pledge to the state, the nation, and the world that their endeavors will benefit all citizens.

Dining Situation

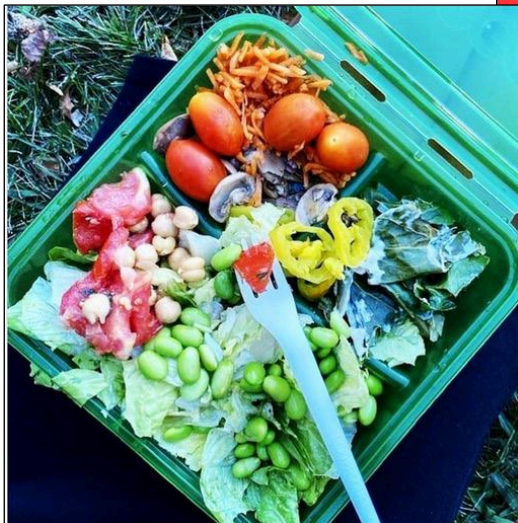
With approximately 10,000 students in university housing, take-out food containers were a popular choice for students in resident dining halls. Their program used both disposable and compostable containers, typically made from paper, plastic, or a composite. In 2018, students conducted an in-depth analysis of dining hall take-out containers, encompassing the container's lifecycle from manufacturing to end of life.

Challenges

- Increased reliance on single-use containers increased greenhouse gas emissions, consumed large amounts of water, and increased waste, which led to a negative perception among the student body.
- Even though some containers were made of plant fiber and were compostable, students failed to place them in the proper bins for composting, so their impact was limited and did not achieve the university's disposal goals.

Solution

UW-M implemented a Ticket-to-Takeout system using OZZI's O2GO re-usable container program campus wide, with five OZZI automated collection machines. Students returned used containers to the dining hall for washing and received a token for use on their next O2GO container. This system allowed for zero waste and disposal of containers as well as reduced overall number of containers used.



Results

Environmental Sustainability Engineering students evaluated the program through a decision matrix involving environmental, social and economic factors including greenhouse gas emissions, water usage and other environmental impacts. They concluded the Ticket-to-Takeout system was more sustainable than their compostable containers.

People

A survey was conducted among a sampling of students to evaluate the social pillar of sustainability, and showed an average student rating of 4.2 out of 5. Comments included:

- Liked the system's sustainability and reusability of containers
- Liked that containers were sturdy in comparison to compostables
- Liked that there is less waste generated
- Generally fast and easy to use
- Suggest card system versus token

Profits

- Each O2GO saved up to \$88.40 in disposables
- The students' analysis found that the reusables were more economically sustainable than the compostables. Factoring in the initial OZZI investment and the disposables' ongoing costs, it was determined that the dining hall would require a regular 1,730 uses of containers per year. With 10,000 students, if only one third of them use the Ticket-to-Takeout system only once, the program would surpass the breakeven level.

Planet

The OZZI program resulted in:

- 19x fewer greenhouse gas emissions
- 25x less water used

The students' Economic Input-Output Life Cycle Assessment (EIO-LCA) showed:

Container	Greenhouse Gas Emissions (kg CO2e)	Water used to Manufacture (gal)	Water used in cleaning	Total Water Used
Disposable	94.2	1,821	0	1,821
OZZI Reusable	5	66	7.5	73.5

A UC-Berkeley study closely resembling the UW-Madison program compared compostable and plastic reusable containers, and found the reusable containers only had to be used 15 times before having the same greenhouse gas emissions, energy consumption, and material waste impacts as compostable clamshells made from sugarcane residue.

Asbury Senior Living

About Asbury

Asbury Senior Living has eight continuing care retirement communities and one rental and personal care community across three states, Maryland, Pennsylvania, and Tennessee.

Dining Situation

As COVID-19 swept across the nation in early 2020, Asbury Communities faced logistical challenges as they shifted from dining room and bistro meals to in-home dining for health and safety concerns. Their dining management company, Sodexo, aimed to maintain quality of service delivering directly to residents in carryout style.

Challenges

- Required a significant increase in use of disposable containers
- Stress on the supply chain in obtaining containers
- Dry storage space issues
- Increase in waste from disposables
- Non-centralized dining across eight communities

Solution

Sodexo partnered with OZZI to deliver cost savings, increased sustainability, and improved operations. Each community assessed their demand and worked with OZZI and Asbury to implement OZZI's reusable container program. They chose three types of O2GO containers: 3-compartment large container, small container, and soup container. Prepared meals in O2GO containers were delivered to resident's doors in OZZI's washable tote bags and hung on hooks for a complete no-contact experience. After mealtime, containers were collected in similar fashion and brought back to the kitchen for cleaning. Dining directors understood the importance of supplemental equipment such as drying racks, collection carts, door hooks and communication to residents to ensure a smooth rollout.



Asbury -2

Results

People

Residents expressed their excitement for the environmental benefits through the reduction of single-use products and waste. Asbury's Kingsport, Tennessee residents were especially receptive as they moved away from using foam containers.

- “The OZZI reusable containers are an intuitive, simple program providing cost benefits to our client, reducing supply chain risks, and improving resident satisfaction. All while delivering tangible environmental benefits in the uncertain time of a pandemic.” -Jeanie Johnson, Energy & Sustainability Manager, Sodexo
- “Social accountability is vital for the future of the planet, utilization of the OZZI containers is a great step in the right direction, plus allows us to reduce our waste every day.” – Todd Andrews, President, CCRC Division, Asbury
- “The reusable container program is a triple win: for sustainability, for our food service operations through COVID-19, and for the Asbury residents - they love the initiative.” – T’Shana Tedder, Asbury Senior Area Manager



Profits

- Saved approximately \$918,000 by not purchasing 3,060,000 single-use containers
- Reduced waste hauling expenses

Planet

- Asbury's eight communities purchased over 10,000 reusable O2GO containers which eliminated the purchase and disposal of approximately 3,060,000 single-use containers. As a result, the reduction in waste at Asbury Methodist Village facilities is expected to exceed 119,347 cubic feet – or enough to fill approximately 1.50 Olympic-size swimming pools.
- At Kingsport Tennessee facility, using O2GO containers prevented approximately 3 cubic yards of foam container waste from entering the landfill each week.

Northwestern University

About Northwestern

A private research university with the main campus located in Evanston, Illinois, Northwestern is committed to excellent teaching, innovative research and the personal and intellectual growth of its students in a diverse academic community. Northwestern had 8,327 undergraduate and 13,619 graduate students in the fall of 2019. In the fall of 2020, pandemic challenges caused the university to open up to just graduate students and roughly 500 undergraduates.

Dining Situation

Pre-COVID, the dining program used a 3-compartment compostable molded fiber container for their to-go program. In March of 2020 when the state went into lockdown, dining transitioned to an all to-go operation using the same compostable container. Most classes were moved online and the only students invited back were those whose classes could not be moved online.

Challenges

- The more liquid meals and increased time between filling and eating posed a problem for the structure of the compostable containers and created a negative customer experience.
- The university was unable to capture the used containers for composting, negatively impacting sustainability goals.
- Based on original estimations, if 1,000 meals were served, there would be an additional 960 gallons of waste produced per day at a single location from the clamshell containers. This would create substantial waste management problems and result in substantial additional costs in terms of materials and waste removal services.
- With eyes on a fall 2020 re-opening, the university set out to find an option that minimized COVID transmission for students and staff, provided a positive customer experience, prioritized re-use, was cost-effective and simple to integrate, and minimized waste.

Solution

A pilot OZZI program had been introduced in 2018, using a \$5 deposit system for an O2GO container. The university used the pilot as a template to build a full program for re-opening in fall of 2020, eliminating the deposit. Uncertain of how many students would return, 10,000 purple NWU-branded polypropylene O2GO containers were purchased with the intent of giving one to each student. This would allow for a one-for-one exchange of a dirty container for a clean one every time the student visited a dining commons.



In fall 2020, the dining program re-opened with limited capacity after a two-week quarantine, during which time meals were delivered to the students. At the end of quarantine, students were introduced to the OZZI program and given a purple O2GO container to bring to their first meal in the dining room. The portable nature of the containers gave students the option of eating in or taking food to-go. Staff served students without ever touching containers to prevent possible transmission. Used containers were returned to the carousel dish return for cleaning. At their next meal, students tapped their meal card at the cashier and received a clean O2GO and disposable cutlery.

Northwestern - 2

Results

The program has been a success, with 99% of meals served in an O2GO container, and only 21% using an additional compostable container for additional food or to keep food separate for allergy reasons. On average, 819 meals per day were served between two residential dining commons on campus. Each week 4,533 meals were served in the O2GO containers.

People

- “We have not had any major concerns from customers and those who are concerned have the option of using the compostable clamshells instead.” -Sarah Levesque, Sustainability Director
- “The administration was confident in our ability to safely provide reusables to our students thanks to the pilot program. Students were appreciative of the opportunity and creating new social norms became part of the conversation.” -Sarah Levesque, Sustainability Director

Profits

- The university experienced a six-month ROI after an initial investment for 10,000 containers
- Estimated annual savings of \$36,000 in the first year in purchasing containers
- Cost of labor for stocking and handling the disposables was reduced
- Cost of waste management was reduced



Planet

- Prevented an estimated 3,788 pounds of food service waste on campus during the ten-week quarter
- Reduced need for inventory space for disposables, reduced supply chain stress
- Reduced environmental impact of transporting disposables and lowered carbon footprint

U.S. Army - Brooke Army Medical Center

About Brooke Army Medical Center (BAMC)

BAMC provides compassionate, patient-centered care for more than 240,000 military beneficiaries living throughout the greater San Antonio, Texas area. Both inpatient and outpatient services are provided by approximately 8,500 staff members, including active duty military personnel from each of the uniformed services, federal civilian employees, contractors and volunteers. As the sole Level I Trauma Center within the Military Health System, it serves as the premier medical readiness training platform for both the Army and the Air Force.

Dining Situation

The hospital has one main dining room serving all staff, which was using single-use disposable containers for to-go meals.

Challenge

In 2016, BAMC was spending \$614,456/year on disposable food containers and was looking for a less wasteful, more cost-effective program.



Solution

BAMC partnered with OZZI and purchased 10,000 O2GO containers and three fully-automated OZZI Collection Machines. They purchased a variety of sizes: 9x9 single entrée, 6x9 single entrée, and soup/noodle containers. When ordering a meal, the diner asked for a re-usable container and paid a \$5 fee for their initial container. Diners returned their empty container to the OZZI machine and received a token to use for their next container. Nutrition staff removed soiled containers and washed them for re-use. BAMC provided educational materials and an introduction to the program via internet, plus posted staff at each machine during lunch to ensure a successful program launch.

U.S. Army – BAMC-2

Results

People

- OZZI received positive feedback from both staff and leadership, citing quick return on investment and the opportunity to contribute to the hospital's sustainability efforts.

Profits

- BAMC achieved a break-even point at 3.5 months.
- Previously spending \$51,204/month on disposable containers, with just 50% participation monthly costs were reduced by \$25,602, for an annual savings of \$307,224.

Planet

- BAMC experienced a corresponding reduction in waste going to the landfill and reduced fossil fuel use in hauling trash.



A robust educational campaign helped BAMC achieve break-even at just 3.5 months.

UC San Diego: Bold Action on the Journey to Zero Waste

The University of California San Diego is one of the top 20 research universities in the world, located in La Jolla, California with nearly 43,000 undergraduate students. Their dining service is a restaurant style cooked-to-order model, in which students can order meals through an app called Triton2Go.

As part of a bold University of California system-wide sustainability initiative, UC San Diego leadership committed to achieving ZERO WASTE campus-wide, and they needed to find a way to divert tons of waste from landfills or incineration. Even with the majority of food served on china plates, dining services threw away *four million* single-use containers (SUC) in the 2018 academic year. Two previous attempts at a self-managed reusable system had less than ideal results, and the university brought in Jeffrey Palmer, the director of dining services with UC San Diego Housing, Dining and Hospitality (HDH), to spearhead a transformation.

Jeff and his team toured other schools, one using OZZI and one using a self-run program, but they weren't all-in approaches and waste was still piling up. "That helped us realize what we wanted from our program. We cut the 4 million in half by increasing use of ceramic plates, but we still had to eliminate 2 million single-use containers. OZZI enabled us to achieve that."



The branding defined the program and defined what it meant to the students, the campus, and the environment. They made it exciting and fun, and really changed the culture on campus. They created videos, social media campaigns, table displays, and kept the word of mouth going."

Student Support

There was a very ambitious approach, but Jeff and UC San Diego students were all in. "We knew it was something we wanted to do, we just had to find a way to do it. Our goal was to *eliminate* plastic waste, not just reduce it, and build a program that the student body would support."

To do that, Jeff and his team worked with the Student Sustainability Collective, the Student Senate, Dining Ambassadors (students who work for HDH) and the Econauts (a group of student workers in the HDH Sustainability department who focus on spreading awareness about sustainability around campus).

"It was a collaborative effort. They led the branding and outreach efforts and were responsible for naming it Triton2Go Reusable to tie in with our ordering app."



UC San Diego-2

Their energy, passion and results led to UC San Diego being named the Grand Prize Winner of OZZI's 2021 Earth Day Contest. "I really have to credit Jeff, his team and the students for their high level of commitment to sustainability," said Thomas Wright, OZZI's CEO. "Even during the pandemic when others simply used more SUCs, they stayed true to their bigger goal and we were excited to be a part of their vision."

Grand Prize Winner 2021 OZZI Earth Day Contest

University of California
San Diego



Keys to Success

"One key benefit of the OZZI program is that it allowed us to build in a deposit system and assign value to the boxes, which meant we got them back regularly. The students needed to commit to use and return the boxes and get their deposits back, so it was an essential ingredient," Jeff explained.

As with any start-up, it wasn't all smooth sailing but Jeff and the Econauts dug in and rallied the students, aligning the university residential dining program with the OZZI reusable container system. As best practice, Jeff recommends thorough testing before rollout, transparency, and consistent support for students.



Zero Waste in Sight

The program launched on November 10th, 2020 and within five months UC San Diego had diverted over 250,000 SUCs from the landfill, all during a pandemic. And they are on track to divert over 1.25 million single use containers by this time next year. During COVID, the university had half the number of students on campus and a carryout-only program. With that cohort, they were fully implemented with OZZI. Now as they transition to full capacity, they're buying more O2Go containers and ramping up. UC San Diego student retention and collection rates are now an impressive 99%, OZZI's most successful program.

"We're saving money and not throwing away containers, an amazing achievement during COVID," Jeff said. "It has absolutely paid for itself, and it's become a part of our culture and geography here on campus. It's really cool to see students walking around with the bright green containers. It's not just about food for us. It's about creating a student experience and supporting student vision for this generation and the next. That's where my passion comes from."

His advice to others? "Just do it! An all-in approach is how sustainability will get better. It won't get better just doing a little bit. Don't be afraid to do something different, and don't be afraid to challenge your team."



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