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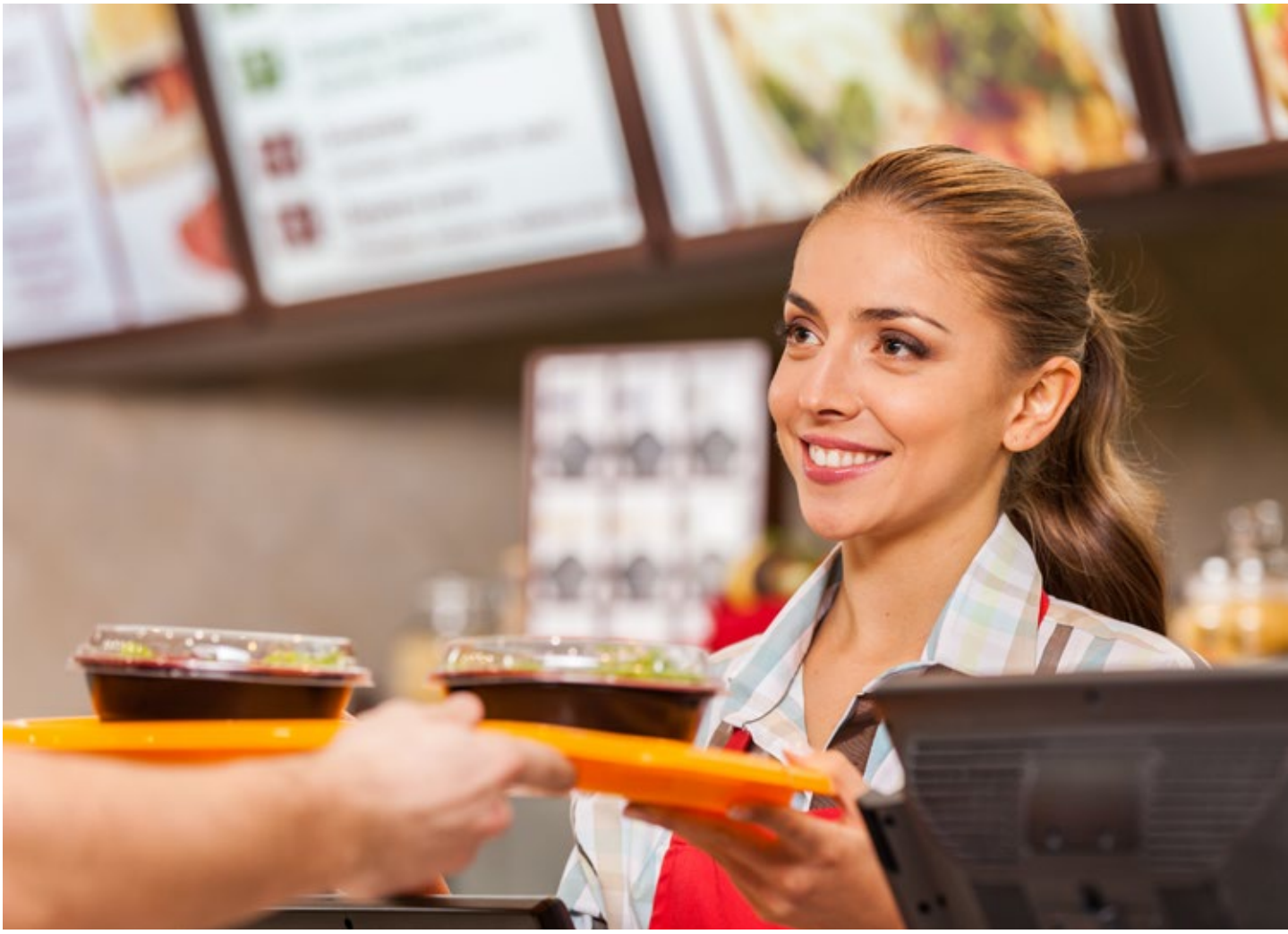
ECOENERGY INSIGHTS

Digitally transform your restaurant operations with the Connected Restaurant Program

Improve energy efficiency, improve occupant comfort and enhance food safety.

In this age of digitization and changing consumer preferences, keeping the competitive advantage is critical for restaurant chains. However, restaurant chain operators face challenges in monitoring and optimizing their operations, across the network. Although the emerging Internet of Things (IoT) technologies offer great promise, operators must navigate the complexity of technology, connectivity, data security, equipment diversity and in most cases, connecting to multiple cloud services. They must also address a portfolio of restaurant formats and a wide variety of restaurant equipment in various stages of advancement. Further, diverse regional weather patterns across restaurant sites is a variable that most operators do not manage. In the USA, most restaurants use energy-efficient lighting, and many use U.S. Environmental Protection Agency (EPA) Energy Star®-rated kitchen equipment, but staff may not have the time or skillset to understand the technology and use it correctly. Some restaurants are yet to get 'connected'. They still rely on offline tools to manage their operational costs. In other cases, restaurants are connected but operators do not have the expertise to analyze the data and generate insights that are actionable. Even those using analytics in some form, need to log on to multiple cloud platforms to access information about various equipment, making it difficult and time-consuming to manage. Additionally, there is the need to have a centralized team that can ensure implementation across the network by coordinating with employees, service partners, and equipment suppliers.



A full-stack IoT solution offering seamless connectivity, secure cloud services and actionable analytical insights, all implemented by rigorous centralized operations center is what restaurant operators need to dive into the digital age.

Connected Restaurant Program

The Connected Restaurant Program is a comprehensive IoT and digitization program that enables restaurant operators to connect and manage their facilities digitally through predictive insights. The program has a strong track record of delivering quick positive cash-flows through its context-based solutions and expertise which can be scaled from a few hundred restaurants to thousands, swiftly. The comprehensive program helps operators efficiently manage their restaurant equipment, be it lighting, HVAC, refrigeration, or kitchen equipment.This program is designed with the understanding that every restaurant chain and the energy-consuming equipment it operates are all unique. We have built a system called CORTIXedge™ that allows seamless bi-directional data connectivity of restaurant equipment with the cloud. The CORTIXedge system provides out of the box capability and compatibility with our CORTIX™ building IoT platform in the cloud. The CORTIX platform, built with our context-based approach, collects data from multiple sources, analyzes and contextualizes it. It then offers predictive insights as well as acts on them autonomously to ensure better equipment operations and continual savings. Our BluEdge™ Command Centers offer remote support and assistance to act on those predictive insights.

Across the globe, restaurant operators have partnered with us to transform their operations from being reactive to proactive, leading to the following transformational benefits:

Reduced operating cost

Improved guest comfort

Improved energy efficiency

Enhanced food safety

Improved crew accountability

Informed decision making on menu changes

Optimized utility procurement

How we do it

The Connected Restaurant Program uses the CORTIX IoT suite. The in-restaurant part of the solution consists of the CORTIXedge system which is an intelligent kit of robust IoT hardware modules. It includes meters, sensors, controllers, and gateway that is quick, simple and easy to install. The CORTIXedge system is also provided with regular software, firmware, and intelligence updates. It offers a simplified interface that integrates nearly all information from the IoT and Building Management System environments into a single view. Operators then have the task of prioritizing actions across the network and arriving at the best course of action. Typically, operators tend to respond to problems only after they occur. With our context-based approach and CORTIX platform, they can now run operations in a proactive manner. These predictive insights on process and equipment irregularities, enable managers to prioritize actions, sometimes even 2-4 weeks in advance.

The insights from the CORTIX platform are conveyed using the CORTIX web portal and mobile app which enables restaurant operators to have all the equipment performance information at their finger-tips. It is an effective operations tool that displays insights through simple actionable visualizations. The insights cover a range of connected equipment typically installed at restaurants, from ovens, to walk-in coolers, makelines, holding cabinets, aircon units, and lighting, to name a few. The insights on this equipment are offered in the following categories:

Availability: Allows restaurant operators to plan activities and ensure operations are not affected by equipment downtime.

Compliance: Empowers operators to maintain specifications, ensure temperature compliance and enhance customer experience as well as staff performance.

Health: Enables the detection of equipment health issues proactively before they deteriorate and lead to urgent maintenance dispatches. Restaurant operators can also reduce maintenance costs and address compliance and efficiency issues arising from poor equipment health.

Efficiency: Operators can improve equipment operation efficiency leading to energy cost savings on both demand and supply side.

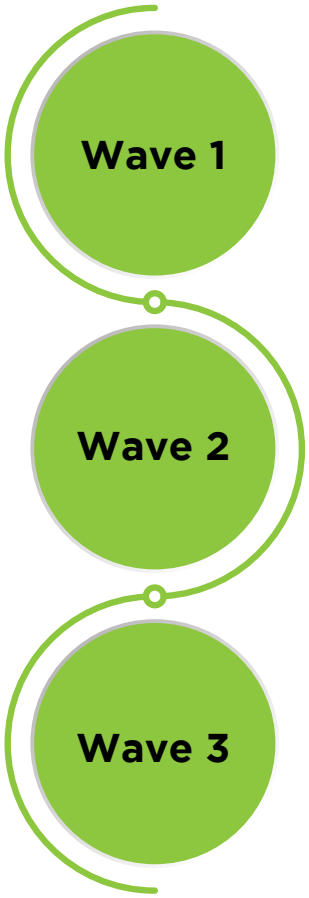
Given that restaurant operators need to be more focused on their customers than numerous insights from the platform, the day to day implementation rigor and responsibility is taken up by our BluEdge™ Command Centers. The BluEdge™ Command Centers consist of teams of domain experts, data scientists, analysts, controls engineers who manage requisite interventions, define action plans and ensure their comprehensive completion in a timely manner. The team ensures that the predictive insights are deployed to proactively intervene on issues before they develop into major problems. They also look at the trends of developing problems and work with the operators to ensure that necessary technology and process changes are carried out to improve operations and equipment performance.

A case in point is how we reduce energy consumption for restaurants. As per the EPA, restaurants are extremely energy-intensive, using about 5 to 7 times more energy per square foot than other commercial facilities, such as office buildings and retail stores. High-volume quick-service restaurants (QSR) may even use up to 10 times more energy per square foot than other commercial buildings! Beyond the energy demand created through heating, cooling, and lighting, the cost of sanitation and the utilities required to run cooking equipment add to the energy spend and make up a significant portion of the operating expenses.

To drive down energy costs, the CORTIX platform uses our patented Service Window™ framework and understands the correlation between energy consumption patterns and operations patterns across restaurants. Service windows are the unique energy profiles of a typical restaurant during its daily operations. The energy profiles are results of business volume, weather, equipment usage, etc. Energy profiles for each of these service windows (crew setup, peak business hours, lean business hours, crew shutdown hours, and non-operational hours) are different. They are repeated every day with a fair degree of consistency. Based on effective monitoring of energy consumption in these service windows, we identify opportunities to optimize and act on them proactively. This focus, across service windows, leads to operational improvements and savings.

3 Waves Approach

Our proprietary 3 Waves approach is a comprehensive, 3-step digital transformation process that enables us to maximize efficiency, minimize maintenance costs, enhance guest comfort, and ensure occupant safety.



Our CORTIX™ building IoT platform has been working for almost a decade, processing data from over 300,000 energy-consuming units of equipment across 18,000 sites. The entire knowledge bank developed by this platform is deployed for the equipment and stores from day 1. We apply proven strategies to optimize and enhance restaurant operations.

The improvements in operations and energy efficiency, achieved in Wave 1, are expanded in Wave 2 through detailed understanding and specific insights of the restaurants. The CORTIX platform predicts and addresses anomalies either autonomously or through assisted interventions. The platform is equipped with learning capabilities and decision making based on the insights becomes embedded in every part of the process making a smarter ecosystem.

Wave 3 delivers a comprehensive digital transformation of restaurant operations. The advanced analysis of data maximizes the effectiveness of the insights usage in all processes and enables the identification of new opportunities to improve. This also helps unravel strategic insights to make informed decisions on design and process improvements.

Business outcomes delivered to industry leaders across formats

The American West Restaurant Group (AWRG) set a goal in 2015 to reduce energy consumption by 15% over its 2014 baseline consumption by 2018. The group owns a network of over 300 Pizza Hut restaurants in Southern California and Utah. In 2 years, we helped AWRG save over 6 million kWh which resulted in a 15% reduction in energy consumption over the 2014 baseline, including a 90% reduction in unoccupied load for approximately 90% of the restaurants. Moreover the performance of HVAC, refrigeration and kitchen equipment is continuously monitored to address all identified inefficiencies. As a result, the RTU performance improved by 30% and zone temperature compliance improved by 40%. There was a 30% reduction in the door opening of walk-in-cooler and walk-in-freezer as well as proffer performance improved by 10%. This project won a 2018 Environmental Leader Top Project of the Year Award.

Jubilant FoodWorks Ltd. (JFL), deployed our enterprise-wide IoT and analytics program to save and sustain savings across hundreds of restaurants. The solution-focused on areas such as efficiency, guest comfort, HACCP deviation management, policy compliances, proactive detections, equipment lifecycle enhancement, and food safety. The Connected Restaurant Program enabled sustained multi-year savings of over 6% at 440+ restaurants across kitchen, dining and refrigeration loads. We also helped the chain achieve an improvement of 18% in walk-in-chiller compliance and 83% in guest area thermal compliance over 3 years of the engagement. Jubilant FoodWorks Limited awarded EcoEnergy Insights with a Breakthrough Innovation award in 2021.

Speciality Restaurants Limited partnered with us for an IoT and Analytics initiative across 25 of its fine and casual dining restaurants in India. The objectives were optimizing the energy spend, enforcing thermal compliance policies in dining areas, and enabling central real-time visualization of energy usage. The Connected Restaurant Program enabled sustained average multi-year savings of more than 13% across kitchen and dining loads. In addition, we helped the operator achieve an improvement of 5% in guest area thermal compliance and 27% in employee area thermal compliance over 3 years of the engagement.

Restaurant operators are increasingly looking to minimize energy waste, ensure food safety, improve equipment performance and reduce operational costs. Our Connected Restaurant Program is a compre-hensive solution that is designed to help restaurant operators succeed.

The Connected Restaurant Program is an award-winning service from EcoEnergy Insights – an award-winning AI and IoT solutions provider.

IoT GLOBAL AWARDS 2020 WINNER

EcoEnergy Insights won a 2020 IoT Global Award for the Connected Restaurant Program in the Retail, Marketing and Hospitality category

AI BREAKTHROUGH AWARD 2021 BEST PREDICTIVE ANALYTICS PLATFORM

EcoEnergy Insights won the 2021 "Best Predictive Analytics Platform" award for the CORTIX™ platform

IoT BREAKTHROUGH AWARD 2021 OVERALL IOT COMPANY OF THE YEAR

EcoEnergy Insights Named "Overall IoT Company of The Year" for 2021

EcoEnergy Insights is a global leader in providing AI and IoT solutions for building and equipment operations. Their CORTIX™ platform collects data from multiple sources, analyzes it, acts on defined deviations autonomously and offers predictive actionable insights. The platform, combined with expert human analytics, has been delivering award-winning outcomes in comfort, maintenance and energy efficiency across multiple industries such as retail, hospitality and banking. EcoEnergy Insights is a part of Carrier, the leading global provider of healthy, safe and sustainable building and cold chain solutions.

For more information on EcoEnergy Insights and the CORTIX™ platform, visit www.ecoenergyinsights.com and www.cortix.ai.

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