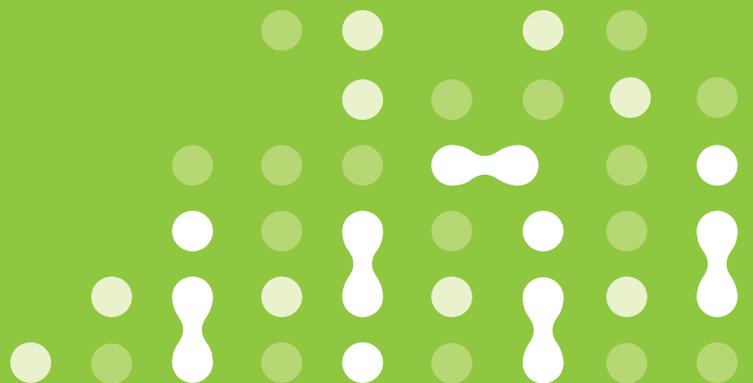
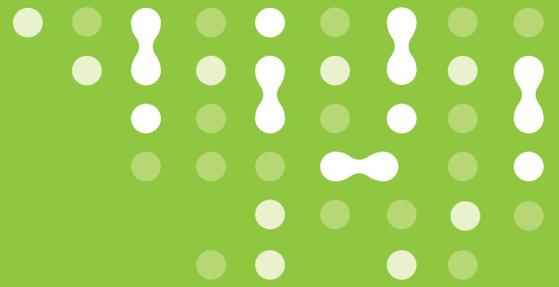




Digitally transform your retail stores

Insights-driven solutions for smart retail chain operations.





The retail industry is evolving at a rapid pace. Intense competition and pressure from online sales continue to drive retailers to explore ways to improve the customer experience inside stores. Retailers also face the challenge of managing costs. Facility energy costs and equipment maintenance costs can be significant, but can also be controlled. Managing the operations of facility equipment that span across a large portfolio of buildings is not an easy task. Optimizing the performance of a wide variety of equipment with different capabilities, of different ages and facing diverse regional weather patterns can be quite challenging.

Now, retailers can leverage data analytics and intelligent controls to simultaneously tackle the challenges of reducing costs and improving customer satisfaction. Using data to manage operations also generates many new possibilities for optimizing occupant comfort, making equipment replacement related decisions and increasing the adoption of new building technology.



Benefit from working with EcoEnergy Insights

EcoEnergy Insights offers advanced IoT-enabled analytics solutions to allow retailers to transform the way they manage the facility equipment and their operations. Our strong track record of delivering quick, positive cash-flow through award-winning solutions can help mitigate risks of program investments. We help you optimize the existing equipment in your stores, whether it be it lighting, Heating, Ventilation and Air-conditioning (HVAC) or refrigeration equipment.

Every retail store and the energy-consuming equipment within it is unique and we understand the context in which these equipment operate. The CORTIX™ platform, our intelligent IoT platform, collects data from multiple sources, analyzes it and contextualizes it. The platform then offers predictive insights and even acts on them autonomously to ensure better equipment operations and continual savings, with limited capital investment at the store level.

Retailers have worked with us to transform the management of their operations to a proactive model, and are seeing the following benefits:

Increased visibility into store operations		Proactive equipment management and maintenance	
Enhanced customer experience and temperature compliance		Increased equipment efficiency	
Sustainable energy savings		Improved productivity of store personnel	



Services that transform retail operations

Our services improve operations across formats such as department stores, grocery stores and supermarkets, warehouses, specialty retail, convenience stores and discount stores. These services can be scaled from a few hundred to a few thousand stores very quickly. We offer the following two services for retailers:

1. EcoEnergy Insights Smart Support Service

This service provides operational support for store associates and technicians visiting the store. The key objective is to ensure that the lights and HVAC equipment operate as per the business schedules, and the stores are comfortable for customers and associates throughout the different seasons. The backbone of this service is a Command Center - our team of data scientists, analysts and experts that offer remote commissioning, monitoring, diagnostics and prognostic support for building operations.

A technical service desk at the Command Center is reachable 24x7 through a 1-800 toll-free number or through an existing work-order system. Problems with store operations can be routed to the Command Center via calls or tickets and the team focuses on resolving them remotely, as much as possible. **For example, the team remotely resolved over 92% of HVAC and lighting problems reported by site staff for a big-box retailer with over 1,500 locations in North America.** The Command Center deploys planned changes to store schedules, like extending working hours during the holiday season or for special promotions and events. The team also deploys required changes when extreme weather situations occur.

The CORTIX™ building IoT platform is integrated with building automation systems to analyze data from energy meters and other sources, like weather-feed and work-order management systems. With the CORTIX platform, retailers get access to analytics-based actionable insights, which aim to improve store comfort, save energy and trigger proactive equipment maintenance to avoid failures. The Command Center resolves issues remotely when possible and through physical interventions when required. The team issues smart dispatches to field technicians and equips them with insights from the CORTIX platform. In most cases, these proactive actions are taken without the store even realizing or complaining about the problems.

The responsiveness and effectiveness of the Smart Support Service is measured by metrics that include response time, resolution time, repeat problems, number of proactive dispatches and ratio of remote resolution versus the total number of issues reported to save costs.

The problem management function within the Command Center ensures that the quality of service is maintained and continuously improved over the duration of the contract by finding the root cause of frequent issues.

2. EcoEnergy Insights Smart Save Service

This is a comprehensive service that includes services rendered under Smart Support with the aim to offer energy and operational savings to retailers. It offers the combined power of human and machine intelligence. Insights-driven strategies are deployed to enhance policies and equipment operations. Equipment inefficiencies are detected and most of the corrective actions are taken remotely, where possible, lowering the number of site interventions significantly. When site interventions are necessary, they are done through combining multiple work orders and prioritizing technician dispatches so that a retail store does not have to face equipment downtime. The savings provided are based on measurement, and verification is done based on adherence to international performance measurement and verification protocol.

We have delivered 4.8% to 18% in annual energy savings to multi-site customers. These customers have worked with us for over a year and each have more than 100 sites.



How we do it?

Insights from the CORTIX™ platform

Retailers typically face difficulties in locating problems, and then arriving at the best course of action across the enterprise. Commonly used technology like alarms are suitable to respond to incidents after they have occurred. However, the CORTIX platform provides predictive insights on equipment performance in advance, before it impacts the service.

The insights from the CORTIX platform are made available via simple visualization on the CORTIX web portal and mobile application. The insights on equipment are offered in the following categories :



Availability: allows retailers to plan activities and ensure store operations are not affected by equipment downtime.



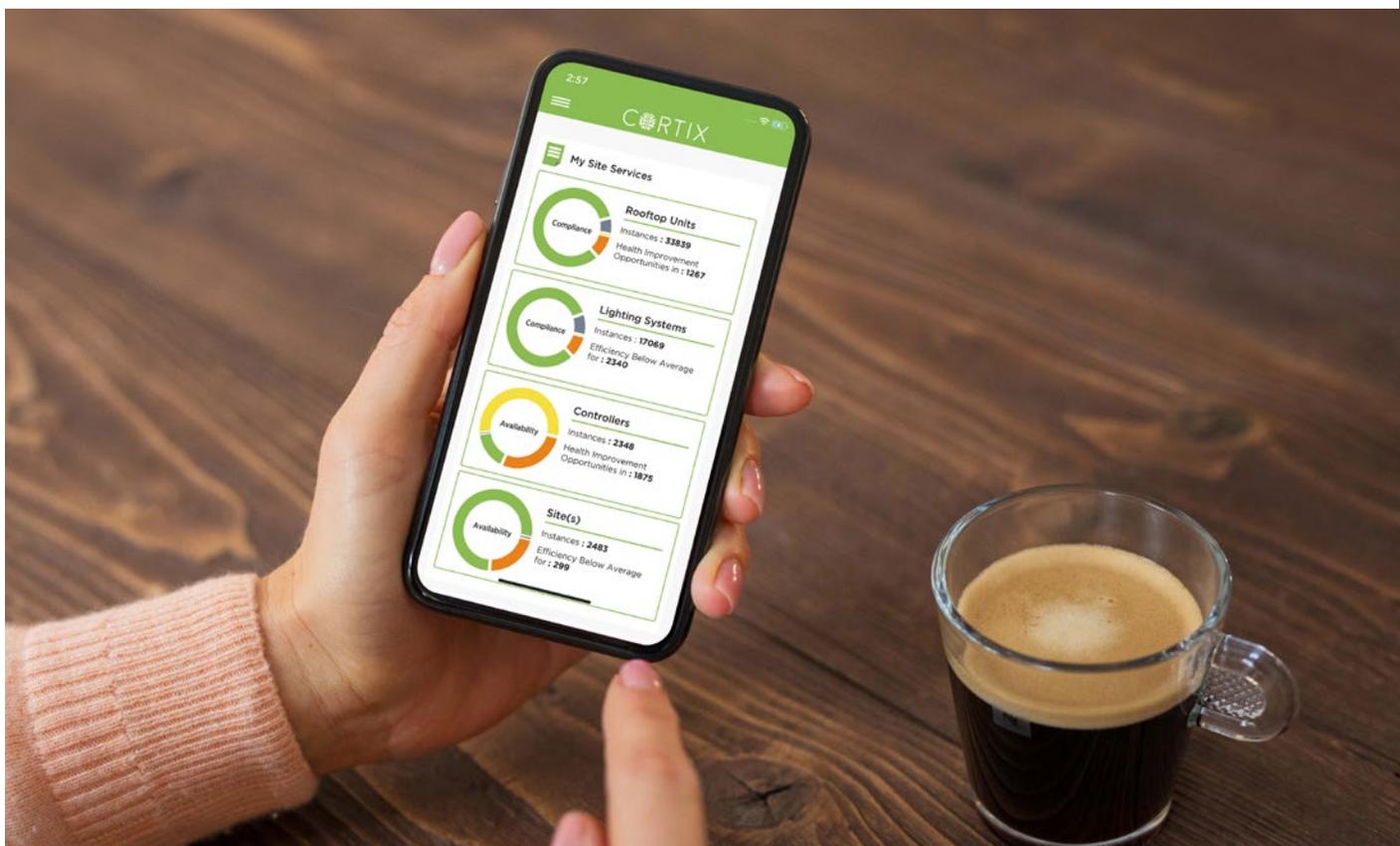
Compliance: empowers retailers to maintain specifications, ensure temperature compliance, for example, for refrigeration equipment and manage occupant comfort in the stores.



Health: enables retailers to identify equipment health issues proactively before they deteriorate to an extent that an urgent technician dispatch is required. Retailers can save on maintenance costs and address compliance and efficiency issues arising from poor equipment health.



Efficiency: offers retailers a list of actions to be taken to reduce energy consumption and costs.





The Command Center

The CORTIX™ platform provides hundreds of recommendations to optimize equipment operations for a large multi-site portfolio, some of which are automatically corrected by the platform while others require remote or on-site action. Our 24/7 Command Center manages operations and supports store associates and vendor partners of the retailers.

Support processes are centralized and a complete documentation of Standard Operating Procedures is created. This ensures that the enterprise operations are managed as per standard processes and not on an ad-hoc basis. The Service Desk standardizes store set points, operating schedules and equipment operation logic.

Process Transformation

One of the most transformational aspects of our proposition is the proactive service model. With our proactive service model, the Command Center does not wait for equipment to fail or for complaints to come in. The team anticipates and solves problems using the predictions from the CORTIX platform.

The second part of process transformation involves field service. The Command Center carries out proactive dispatches when multiple pieces of equipment in the store have health problems like broken dampers or inefficient compressors. When field interventions are required, the Command Center uses the insights to combine work orders for a given site and carries out the field dispatches. The repair feedback is completed by checking the equipment condition using the CORTIX platform once the repairs have been carried out.

These two aspects enable a high equipment up-time, improved temperature compliance and reduced site dispatches.





Tangible, award-winning results delivered to industry leaders

For a leading big box retailer in the U.S.A., we helped save **over 11% in energy across over 2,000 stores in consecutive years**. In addition, we saved over 4% of the maintenance costs in 4 years. We also rationalized the number of forklifts per store by installing sensors and computing the average utilization. **This project won a 2017 Environmental Leader Top Project of the Year award.**



Through our data driven services, a large retailer in the U.S.A realized **an average of 13% in annual savings on energy expenditure in 5 years, across 1,200 stores** that covered over 40 million sq.ft. of retail space. The retailer has been recognized by the CDP (formerly Carbon Disclosure Project) as an environmental leader on the Climate A List.



We achieved savings of **over 8% in energy consumption across almost 1,500 stores** of a leading pet supplies retailer in a year. Over 83% of store complaints for lighting and HVAC were resolved remotely. **This project won a 2018 Energy Manager Today Top Project of the Year award.**



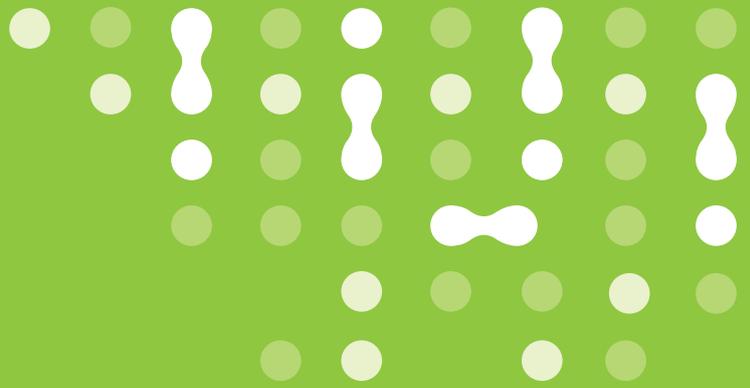
We achieved energy savings of **almost 8% over 1,200 stores** of an office supplies retailer in a year. We remotely diagnosed and resolved 82% of store issues related to lighting, HVAC, and occupant comfort, and thus minimized technician field visits. **This project won a 2019 Energy Manager Today Top Project of the Year award.**



A chain of hypermarkets and supermarkets in South Asia with over 170 stores deployed our services for managing their HVAC, refrigeration & lighting equipment. We enabled **a 44% decrease in equipment breakdowns per store, per month and a thermal compliance of 96% across the stores.**



Write to us at info.ecoenergy@carrier.com and transform your retail chain today. Your store of the future is just around the corner.



About EcoEnergy Insights

EcoEnergy Insights is a leading provider of AI and IoT-enabled solutions to digitally transform 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 Global Corporation, a leading provider of innovative HVAC, refrigeration, fire, security and building automation technologies. For more information on EcoEnergy Insights and the CORTIX™ platform, visit www.ecoenergyinsights.com and www.cortix.ai.

