







## Transformative Wave's CATALYST is North America's Leading Efficiency Solution for Constant Volume HVAC Systems

The **CATALYST** is more than a variable frequency drive (VFD). It is a comprehensive HVAC energy efficiency upgrade that converts RTUs into dynamic part load systems, matching the energy use to the true needs of the occupied space. When applied, it is proven to radically lower energy use and improve the overall performance of Rooftop HVAC Units (RTUs). The **CATALYST** uses unique logic and sequences to assure proper ventilation, maximize the use of outside air for free cooling beyond standard economizer logic, and reduce fan energy use by an average of 69%. Transformative Wave has five years of success in the field and multiple independent third-party trials have demonstrated the product's effectiveness. The **CATALYST** is shipped as an easy-to-install pre-wired kit that includes everything required for a complete installation.

**CATALYST**-equipped RTUs are typically interconnected with the companion **elQ Platform**, a wireless rooftop network that allows each RTU to be monitored and controlled over the web in real-time from any browser, smart phone or tablet. Features include: efficiency and performance verification tools, historic reporting, embedded and server-based fault detection, remote diagnostics, alarms, alerts, and email notifications. The **CATALYST** and **elQ Platform** combine to provide the most comprehensive RTU retrofit product on the market, offering unrivaled savings and unprecedented intelligence.

Transformative Wave has developed the **CATALYST** and **elQ Platform** as pre-engineered and pre-programmed products based on the industry's leading open-source automation standards. It delivers both energy savings and demand reduction in a single solution and is capable of Automated Demand Response (ADR). The **elQ Platform** is a full-featured open-source building management system (BMS) that is powered by the Niagara Framework® and can be integrated with most modern automation systems.

Transformative Wave's **CATALYST** with **elQ Platform** has been applied to the HVAC systems of some of the world's largest and well known retailers, institutions, and commercial building operators. The **CATALYST** is cost effective, fully commercialized, funded by utility incentive programs across the U.S. and Canada, and the only solution field-tested and the only solution validated by the U.S. Department of Energy as part of its Advanced Rooftop Campaign.

30-50% ENERGY SAVINGS
PRE-PROGRAMED
PREDICTABLE

To learn more about the **CATALYST**, and **eIQ Platform** visit Transformative Wave's website at **http://transformativewave.com** 

## **CAN YOUR BUILDING AUTOMATION SOLUTION DO THIS???**

The CATALYST and eIQ Platform provide an unprecedented level of monitoring, control, data collection and savings verification for commercial operators relying on packaged rooftop HVAC systems. Transformative Wave has developed the CATALYST and eIQ Platform to be the most comprehensive and robust product available on the market. The CATALYST energy savings are verifiable and predictable. The depth of control and system intelligence is unmatched with 40 points of RTU data collected and stored in one-minute interval histories. The eIQ Platform leverages this data into powerful fault identification and energy analytic tools for facility operators that can be delivered across the enterprise in a manageable and meaningful manner.

The products work together as a vigilant watchdog over HVAC assets automatically notifying operators of any equipment performance issues or compromised efficiency. This allows for quick remedy of problems before occupant comfort suffers and energy costs skyrocket. It also provides assurance

that the anticipated savings are being achieved and sustained. It is difficult to imagine a more thorough and well-developed resource for facilities that rely on rooftop packaged HVAC units.

Advanced Fault Detection techniques detect and communicate conditions such as fan belt slippage, filter performance, heating and cooling failures, economizer failures and other operational indicators. This information can allow operators to conduct maintenance on an as-needed basis, resulting in reduced overall maintenance costs.

Dillet Mechanical Service is a proud Affiliate of Transformative Wave.



## Industry Buzz

Validated to reduce overall HVAC energy use by an average of 57% U.S. Department of Energy

Top Technology Deployment of the Year

Association of Energy Service Providers (AESP)

#1 Game-Changing Technology of 2013 E Source

Two-time Consecutive Winner in the "Defense Energy Technology Challenge

Clean Technology and Sustainable Industries
Organization (CTS)



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"Based on the demonstrated energy savings and generally favorable payback, we believe the CATALYST is now a viable option for utilities to consider for inclusion in incentive programs." Spencer Sator, Product Manager E Source Technology Assessment Service

"We're excited to see these types of innovative energy efficiency solutions for commercial and industrial customers. As we look beyond lighting to the next level of energy conservation for commercial buildings, HVAC system upgrades hold great promise."

Suzanne Frew, Manager EE Engineering Snohomish PUD

"We definitely are fortunate to have such an effective and committed partner like Transformative Wave. I'm definitely looking forward to the next demonstration with BPA and seeing the capability the CATALYST and eIQ can do regarding demand response."

Mechanical Engineer II – from a nationally recognized energy laboratory

"Through the test installations, BJ's has confidence in the operational concept that Transformative Wave provided and the energy monitoring backs up the savings claim."

Kevin Moran, Manager of Utility and Energy Services BJ's Wholesale Club

"We highly recommend the CATALYST technology for anyone who has HVAC units. We have a retail location so comfort and uninterrupted service is important, as well as any costs savings realized."

Jim Powers, Owner/ General Manager Lynnwood Motoplex