



transformative**wave**
CATALYST

If your facilities
rely on RTUs,
you've got
to see this

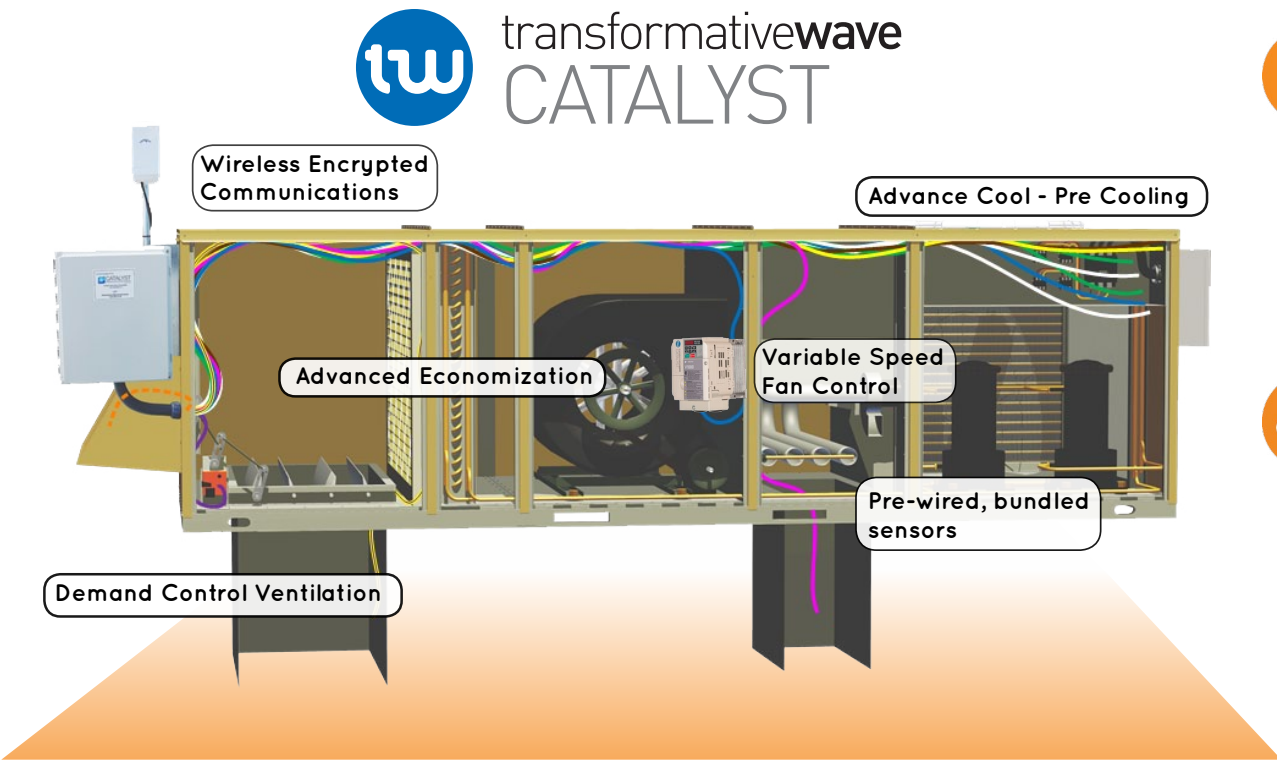


The CATALYST Transforms HVAC Assets Into Smart, Energy Saving Machines

Intelligent Solution for RTUs
The **CATALYST** reduces RTU energy use by 25%-50% through a combination of fan speed control, sensors, hardware, and intelligence. Integral diagnostic features adjust airflow to protect the HVAC equipment in different operating modes. The **CATALYST** does not take energy savings at the expense of comfort, indoor air quality, or equipment integrity.

Extends the Equipment Life
The **CATALYST** provides a soft start on fan motors to reduce belt, pulley, and motor wear. Advanced economizer techniques reduce compressor runtime allowing the equipment to last longer.

Qualifies for Utility Incentives
The **CATALYST** enjoys widespread support from utilities across the U.S. and Canada. Most offer financial incentives that reduce the capital cost of the improvement. In many markets these subsidies will cover 50%-70% of the project cost.



Better for the Occupants
The **CATALYST** has many non-energy related benefits including improved occupant comfort, indoor air quality and a quieter environment. The reduction in fan speed during the cooling cycle reduces the humidity in the space. Slower fan speeds create less air noise from vents and drafts are eliminated. Occupancy sensing via CO₂ assures proper ventilation and code compliance.

Evaluated by Experts
The **CATALYST** controller has been tested and validated by multiple utilities and third-party efficiency organizations. A landmark multi-site study conducted by the Department of Energy found that the **CATALYST** reduced electrical energy use by 57%.

*U.S. Patent 8,965,584 and U.S. Patent 8,965,586

Gain Important HVAC Asset Management and Insight with the eIQ Platform

Something for Everyone
RTUs are the most common commercial HVAC system and serve many different types of customers with diverse needs. Transformative Wave developed the **eIQ Platform** to serve small customers with only a few RTUs and large national retail chain customers with thousands of buildings and RTUs. When it comes to RTU efficiency and control, there is no peer.

Seeing is Believing
RTU's are often out-of-sight and out-of-mind. The **eIQ Platform** enables CATALYST-equipped RTU's to become visible via any browser, smart phone or tablet. It combines CATALYST controllers into a wireless network connected to the Internet. RTUs can then be monitored, controlled, and visualized over the web with the **eIQ Platform** software interface.



Enables Service Providers
The **eIQ Platform** provides advanced fault identification algorithms to identify and report equipment problems and deficiencies. Remote notification and alerts inform users before comfort complaints occur. Diagnostic tools allow service providers to reset unit functions remotely and determine if field service is actually necessary before responding.

Data that Works for You
The **eIQ Platform** collects 30-40 points of information from each CATALYST controller and uploads it to the cloud. This high-resolution data is then analyzed and translated into meaningful graphical information and reports for users. Information is organized, consolidated, and displayed on multiple levels to serve the enterprise.

Lower Total Cost of Ownership
The combination of the CATALYST and **eIQ Platform** lowers the total cost of RTU ownership. The **eIQ Platform** highlights service issues sooner to protect the equipment from downtime and supports the energy efficiency and performance of the system.

Making smart... simple

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