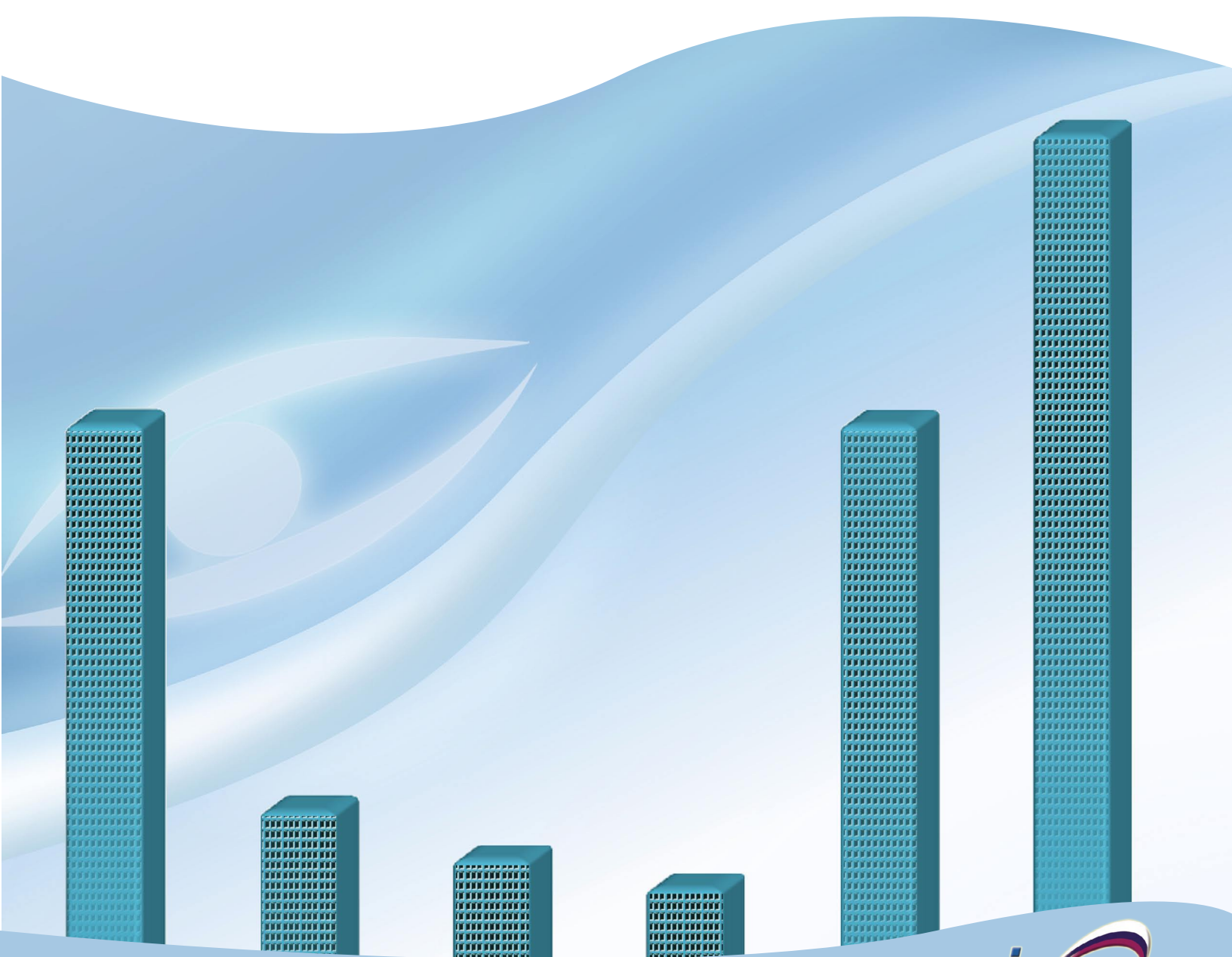
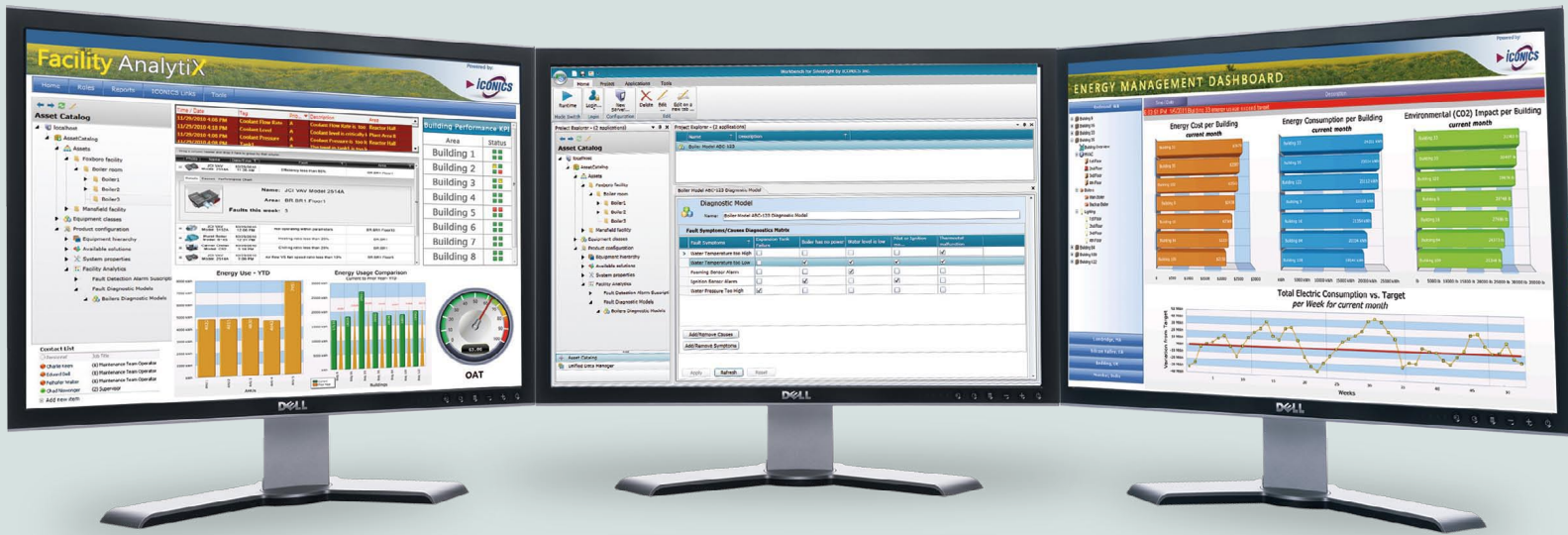


# Facility AnalytiX™

Predictive Software for Facilities Management



Visualize Your Enterprise™



# Automatic Fault Detection and Diagnostics

Drag a column header and drop it here to group by that column

| Photo | Name                 | Date/Time           | Fault                    | Area          |
|-------|----------------------|---------------------|--------------------------|---------------|
|       | JCI VAV Model: 2514A | 10/25/2010 11:26 AM | Efficiency less than 80% | BR BR1 Floor1 |

Details Causes Performance Chart

**Name:** JCI VAV Model 2514A  
**Area:** BR.BR1.Floor1  
**Faults this week:** 3

Fault Detection

Visualize your cost and energy savings

Drag a column header and drop it here to group by that column

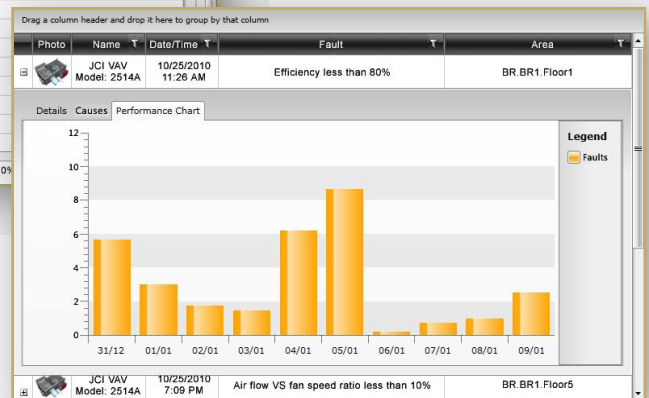
| Photo | Name                       | Date/Time           | Fault                                     | Area           |
|-------|----------------------------|---------------------|---|----------------|
|       | JCI VAV Model: 3152A       | 10/25/2010 12:06 PM | Not operating within parameters           | BR BR1 Floor10 |
|       | Hurst Boiler Model: B145   | 10/25/2010 12:31 PM | Heating ratio less than 10%               |                |
|       | Carrier Chiller Model: CS2 | 10/25/2010 3:18 PM  | Chilling ratio less than 10%              |                |
|       | JCI VAV Model: 2514A       | 10/25/2010 7:09 PM  | Air flow VS fan speed ratio less than 10% |                |

Details Causes Performance Chart

**Possible Causes**

- Tuning problem with airflow feedback controller loop
- Zone temperature sensor drift/failure
- Supply air static pressure too low
- Scheduling conflict with AHU
- Minimum airflow setpoint too high
- Inappropriate zone temperature setpoint
- AHU supply air too cool
- Damper actuator stuck or failed
- Tuning problem with zone temperature feedback control loop
- Maximum airflow setpoint too low
- Discharge temperature sensor drift/failure

Cause Diagnostics



Corrective Action



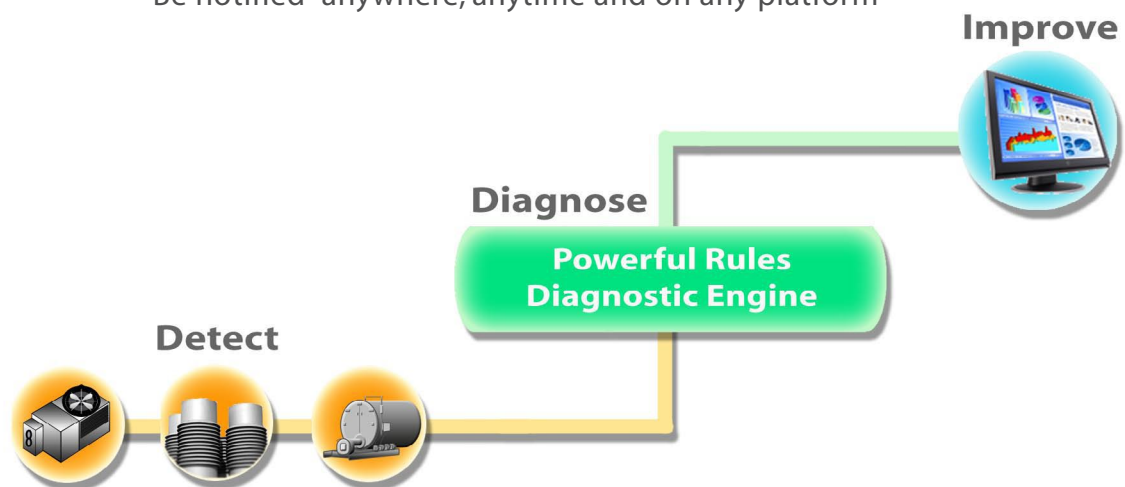
# Predict and Improve Your Operations

Fault Detection and Diagnostics technology can reduce service costs by 50%

Facility AnalytiX™ is a predictive building automation solution that uses an advanced Fault Detection and Diagnostics Engine. It incorporates algorithms that weigh the probability of a fault and advises management, operators and maintenance personnel of actions to prevent equipment failure or excessive use of energy. When equipment failures occur, advanced software technology provides automatic guidance to a list of causes sorted by probability, resulting in reduced downtime and costs to diagnose and repair. ICONICS solutions for fault detection, determination and diagnostics are based on advanced research standardized by NIST ( National Institute of Standards and Technology, USA ).

With Web-based configuration, Facility AnalytiX is easy to setup and deploy, integrating with most popular BAS, SCADA and building systems. An extensive library of standard HVAC equipment diagnostic models of commonly recurring building system equipment faults speed setup and configuration, while a rules based editor lets you easily customize and add new equipment diagnostics models.

- Predict, reduce and eliminate equipment downtime
- Automatic Fault Detection and real-time notifications
- Reduce Maintenance and Determine probable causes
- Improved Reliability and Control
- Improve overall Environmental Quality
- Be notified “anywhere, anytime and on any platform”





## Optimize Your Assets

### **Rich Visualization and Reporting**

Create rich visualization and collaboration dashboards implemented with Microsoft Silverlight® providing secure user roles for any browser or PC platform. Standard reports and charts such as Fault Detection, Diagnostic Causes and Corrective Action help to visualize your operation and address inefficiencies in equipment performance before they impact your bottom line. Automatic notifications alert facility management, operators and maintenance personnel that corrective actions should be taken to prevent equipment failure and excessive use of energy.

### **Flexible, Open Standards Connectivity**

Facility AnalytiX's innovative universal connectivity design is built on industry open standards such as OPC Classic, OPC Unified Architecture, BACnet, SNMP, Modbus and Web Services. With open connectivity you can simply plug Facility AnalytiX into any existing BAS, SCADA or Control network. As your enterprise grows, Facility AnalytiX will flexibly scale to your needs. Automatic device discovery makes it easy to point to your equipment, and start realizing value. Adding power and energy meters is easy as most equipment manufacturers support the standards including OPC, BACnet or simple Modbus.

# Eliminate Equipment Inefficiencies



## Cooling Towers

- Fans cycling too frequently
- Poor fan temperature control
- Small range causing issue with heat rejection
- Fans and condenser pumps not interlocked properly

## Chillers and Air Handling Units

- Compressor cycling on/off too frequently
- Water pumps are not interlocked properly
- Compressor and condenser fans are not interlocked properly
- Too many mode switches per hour
- Outside air enthalpy too low for mechanical cooling



## Boilers

- Boiler is running when it should be shut down
- Hot water pump not synchronized properly with boiler
- Boiler is cycling on/off too frequently
- Hot water supply temperature is too low/high

## Benefits

- Scalable from single location to multi-site campuses
- Universal Connectivity – OPC, BACnet, SNMP and Web Services
- Rich Visualization via the Web using Microsoft Silverlight®
- Standard Fault Diagnostic Models for Popular Equipment:
  - Air Handling Units
  - Boilers
  - Chillers
  - Cooling Towers
  - Wind Turbines and Farms
  - Or define your own!
- Optimize the efficiency of your operations
- Predict equipment failure through early diagnostics
- Improve occupant comfort by identifying problems
- Certified for Windows 7® and Server 2008®
- Helps to meet LEED certification

## Applications

- Building Controls and HVAC
- Air Conditioning and Lighting
- Wind Turbine and Wind Parks
- Utilities and City Heating Stations
- Solar Facilities
- Geo Thermal and Bio Gas Power
- Water and Wastewater
- Heating and Cooling
- Oil and Gas
- Conveying and Packaging
- Pharmaceutical
- Heavy Industry

# Further information:

[www.iconics.com/facility](http://www.iconics.com/facility)



Founded in 1986, ICONICS is an independent software developer with over 20 years of experience in Building Automation and Manufacturing markets. It's a leading provider of solutions which deliver real-time visibility for its Manufacturing and Building Automation customers. ICONICS' award winning real-time visualization, data historians, manufacturing intelligence, facility management and suite of analytics software solutions are installed in 70% of the Fortune 500 companies around the world, helping customers be more profitable, agile, efficient and sustainable.

ICONICS is a long time Microsoft Gold Certified Partner and Partner of the Year Winner, providing advanced software for many end users, building integrators and OEM equipment and technology suppliers. ICONICS has over 250,000 applications installed in multiple industries, with over 40,000 building control applications worldwide.

ICONICS cultivates an international culture of innovation, creativity and excellence in product design, development, technical support, sales and service. World headquarters are located in Foxborough, Massachusetts, USA.

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