

A decorative graphic consisting of a large, curved, 3D-style shape that resembles a stylized 'C' or a wave. It has a white top surface, a green inner curve, and a grey outer curve. The background of the slide is a photograph of a modern building's interior atrium, characterized by multiple levels of curved balconies with glass railings, creating a sense of depth and architectural complexity.

# Predictive Energy Optimization™

## Next Generation Energy Data Solution

NASEO 2015 Annual Meeting  
September 15, 2015  
Tim Hayes, Sales Director – Southwest

- Decision Making Cloud-based Software
- Lowers HVAC energy use, Maintains Comfort
- Learns Thermal Model
- Continuously Adapts and Optimizes
  
- Positive Cash Flow - Every Year
- Australian Origins
- Based in Foster City, CA



# Partnerships to Accelerate Adoption

## Collaborations



## Partners with Utilities for EE and open ADR



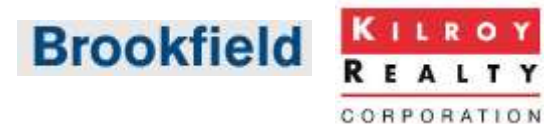
# BuildingIQ Today

- 30 + million sf
- 75+ Customers

## Representative

- **City:** Washington DC
- **Federal:** GSA, FBI
- **Hospital:** NY Presbyterian, St. Vincents
- **University:** UCLA
- **REIT:** Brookfield, Kilroy

- Awards for Innovation
- Industry, Venture and Institutional Investors



# What is HVAC Building Data?

- Consumption - Meter data
- Indoor Air – Temp, Pressure, Quality
- Chilled Water – Temp, Pressure, Flow
- Weather - Outside Air Temp, Humidity, Irradiation, Wind
- Utility Tariff – Peak, Off Peak
- Occupancy – Quantity, Heat, Patterns
- Whole Building – Total Thermal Mass

## New

- Alternative Generation
- Battery Storage

# What's Working - Broader Market

- Decision Support
  - Measure, analyze, improve
    - Dashboards, History, Predictions, Actionable Information
    - Meter data, BacNet IP, Middleware
  - Utility Programs
    - Monitor Based Cx
  - Government
    - Weather Data
    - Portfolio Manager



# What's Working - Early Adopters

- Automated control of HVAC
  - Air side
  - Chilled water
  - Software and Managed Services
- Optimized Microgrid – Demonstration Projects
  - Local storage tied with Optimization
  - More Occupancy information

## NYC Office Tower



**\$1.6 Million Saved**  
**Over 4 Years**

**HVAC Spend**  
**Annual Reduction = 17%**

**Largest Gold LEED-EB in NYC**  
**2.5 million square feet**



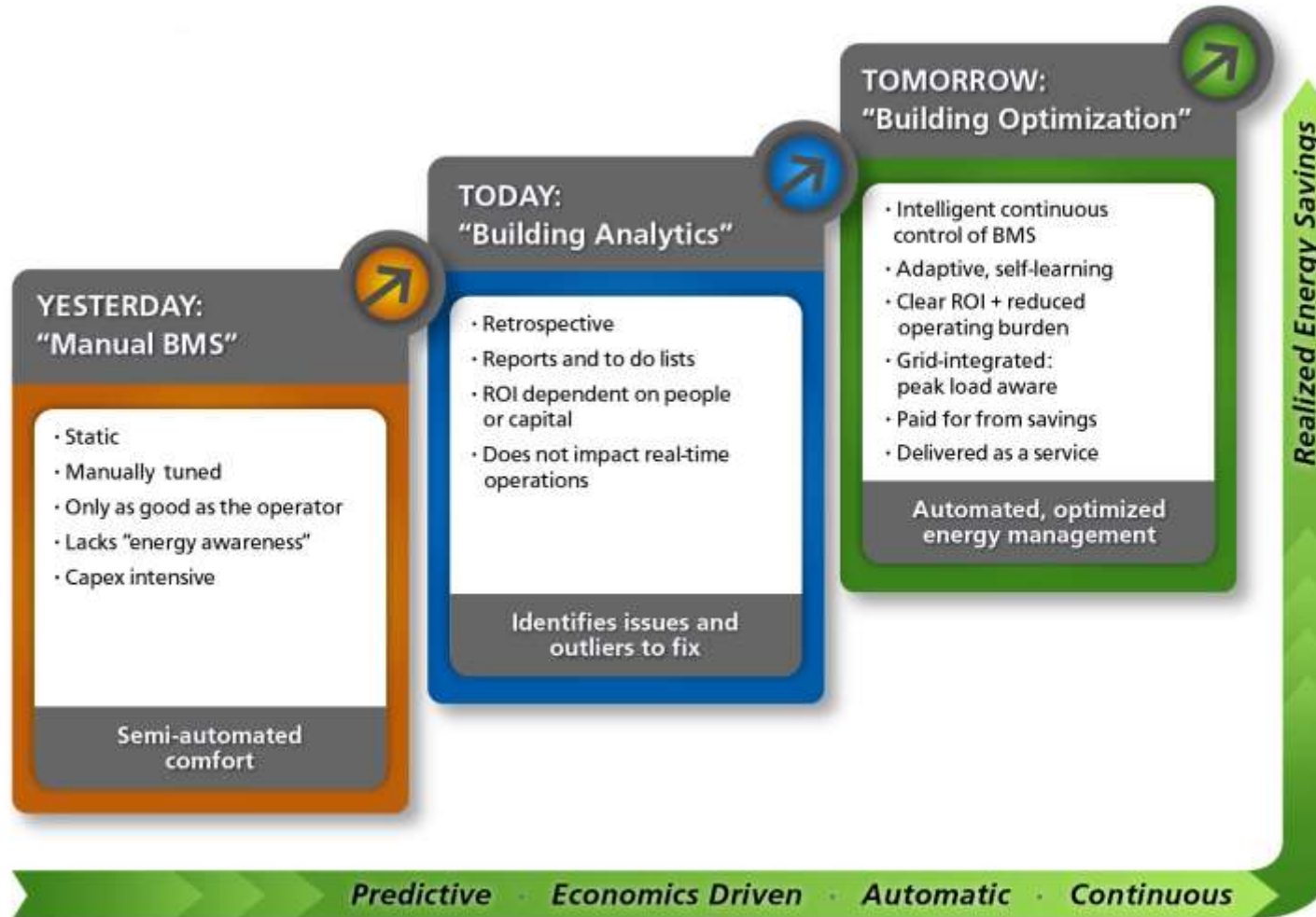
108 DR events Las Vegas area. portfolio of buildings including office and casino properties achieved a 17% reduction in peak demand



# Biggest Obstacles

- Replacing physical things
  - pneumatic air handlers, roof top units
- Slow adoption by an aging workforce
  - Chief Engineers, Director of FM ( construction background)
  - Concerns over automated control
- IT / Facilities divide
  - Cyber Security, Internet Access
- Shared/Open Standards still a WIP
  - BMS, Lighting, Others need to speak a common language
- Rebate tools lagging behind solutions
  - Mechanical based v Operational Intelligence based

# Moving Past Analytics

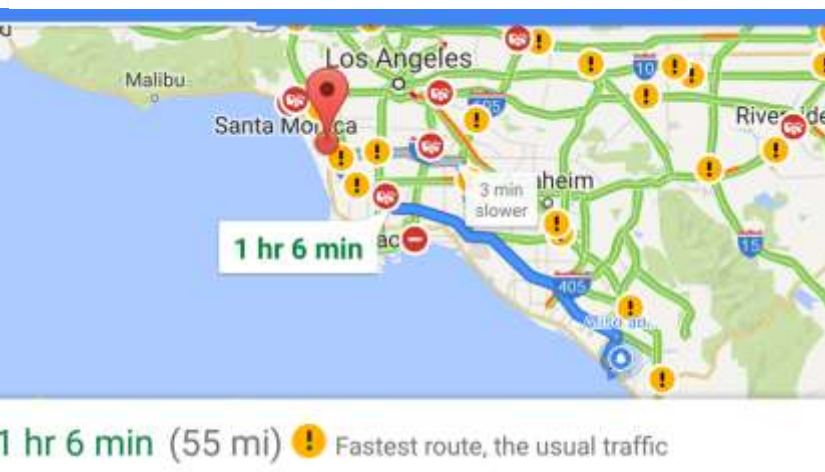


# Future: Truly Intelligent Building

- Auto awareness, continuous decisions
- Interoperable, Part of the grid
- Decision Support, Preferences, Decision Making
- Self Operating

Traffic incident on CA-57 N/Orange Fwy.

Reported via Waze app



# THANK YOU!

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