



INTERNATIONAL AIR-CONDITIONING • HEATING • REFRIGERATING EXPOSITION

AHR EXPO

2012, January 23-25
McCormick Place North & South
Chicago, IL

Co-sponsors:



AIRI

New Visibility & Interactions in the Building Automation Industry

9:00 am Monday, January 23th
Jim Sinopoli PE, RCDD, LEED AP
Managing Principal,
[Smart Buildings LLC](#)
- Ken Sinclair Publisher/Owner
www.AutomatedBuildings.com



automatedbuildings.com

News

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Products

Education

About

Welcome to Chicago AHRExpo

This Unique venue/arena supplied by International Exhibition allows us take our online service/magazine off line and Face 2 Face with you

4 Free Sessions on How to Make Sustainability and Energy Visible

The New Visibility & Interactions in the Building Automation Industry

9:00 am Monday

New Open Source Technologies that are Changing the Industry

1:30 pm Monday

The Tools of Visibility and Interaction

9:30 am Tuesday, January 24th

The Visible Campus – Bringing Sustainable & Energy-Wise Designs to Focus

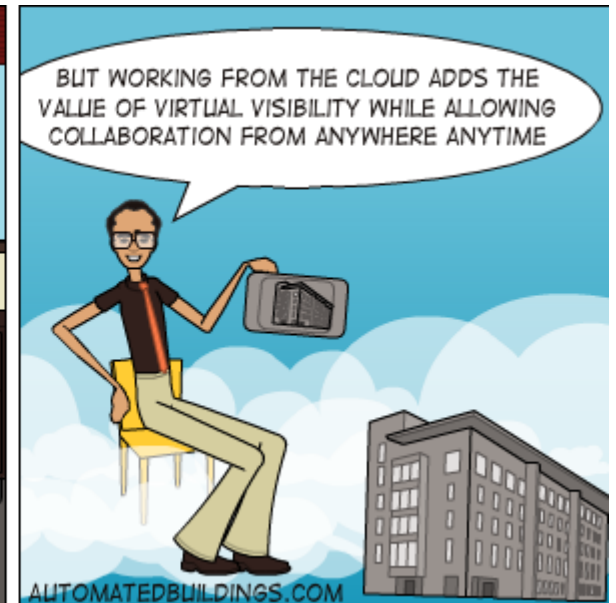
1:30 pm Tuesday, January 24th

New Visibility & Interactions

“Making the Invisible Visible” is about how we as an industry depict our invisible cornerstones of comfort, energy, and environmental impact

How can we best show what cannot be seen: Temperature, Comfort, Electricity, Performance and their relationship to sustainability, and the necessary information and interaction to maintain all ?

The Value of Virtual Visibility

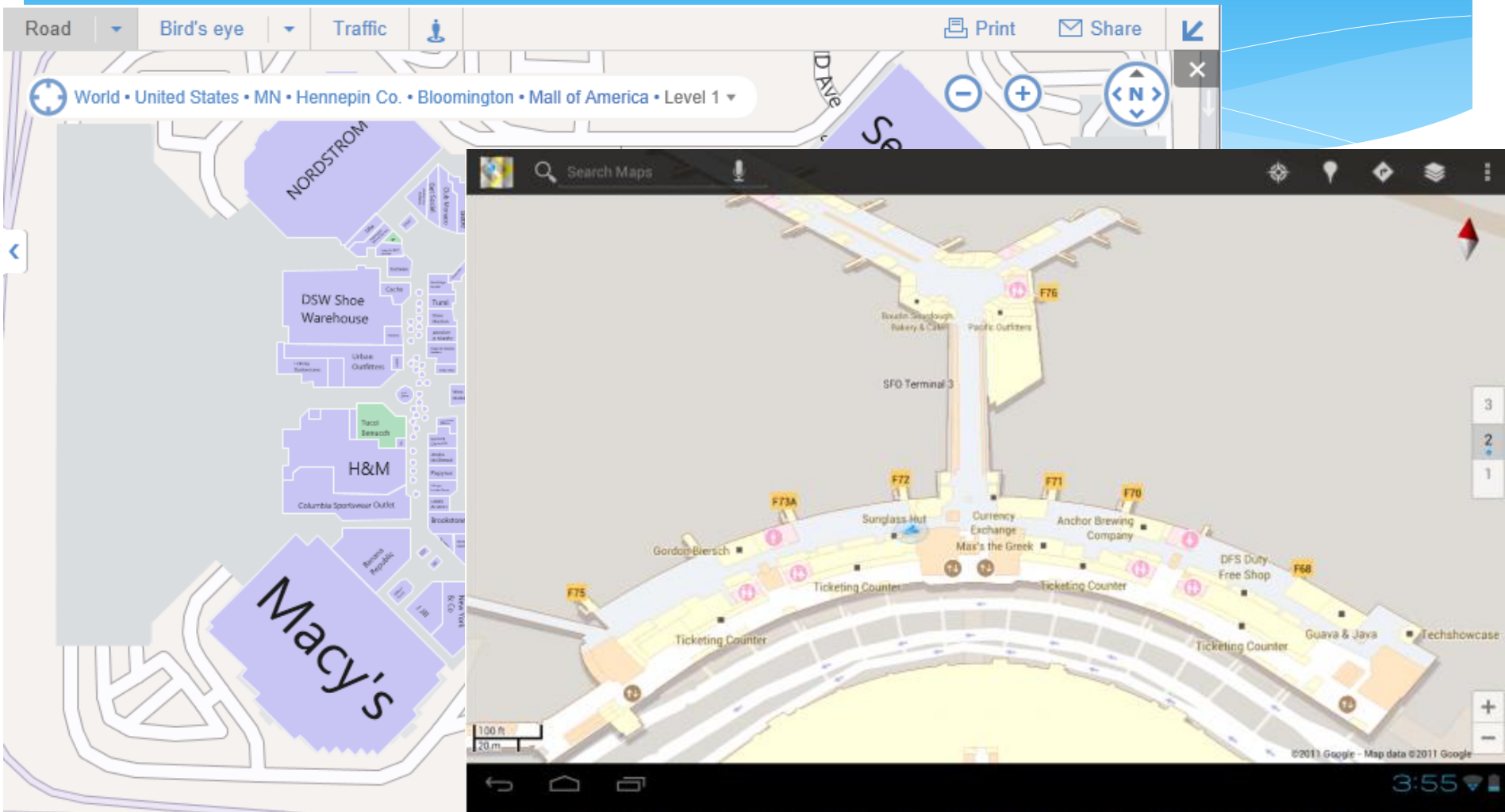


Buildings Becomes Mobile

Any Platform, Any Place, Any Time



Google and Bing take street level to our level with evolving standards



The new Maps lets airport patrons navigate sites like San Francisco International from the inside. *Photo courtesy of Google*

Our palette also grows larger



Graphics Convey a Message

Eco-Screen™

Facility Performance

DAYLIGHT HARVESTING ENERGY SAVINGS

COMPARISONS

EDUCATE

HOW IT WORKS

⏸ PAUSE THE ANIMATION

How does this effect power consumption?

VIEW MORE

63%
AMOUNT OF SUNLIGHT

37%
AMOUNT OF
ARTIFICIAL LIGHTING



HOME



GREEN
FEATURES



ELECTRICITY
USE



WATER USE



RAINWATER
COLLECTION



SOLAR POWER



WIND POWER



ENERGY AND
ENVIRONMENT



GEO THERMAL
SYSTEM



DEMAND
CONTROLLED



DAYLIGHT
HARVESTING



AIRSIDE
SYSTEM

Make the Invisible Visible



Connecting Communities is now part of building automation



Automation Turns Green



Many discussions by many on what
"Open" might mean



Creating Interactions

Wiki defines Interaction design very well -- "embedding information technology into the ambient social complexities of the physical world."



Predictions for Smart Buildings in 2012

Jim Sinopoli, PE, LEED AP, RCDD
Smart Buildings LLC

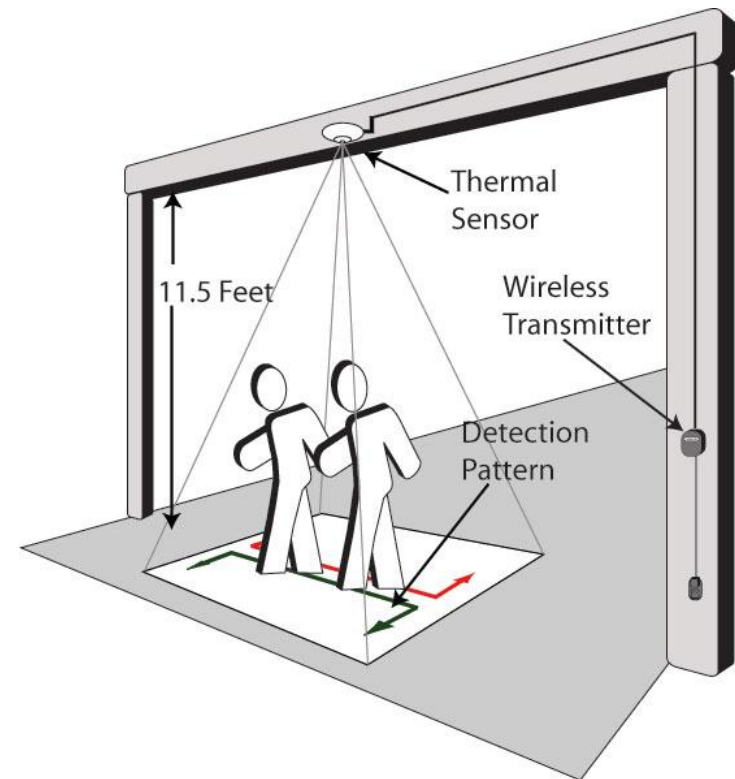
The Upcoming Evolution In Building Management Systems (BMS) Will Be Software Platforms Similar To The iPhone and Android

- * Open-source platforms
- * Third parties developing a plethora of applications
- * Base software platform
- * “meta” database”
- * “Building Apps Store”
 - * fault detection
 - * energy management
 - * demand response
 - * alarm management



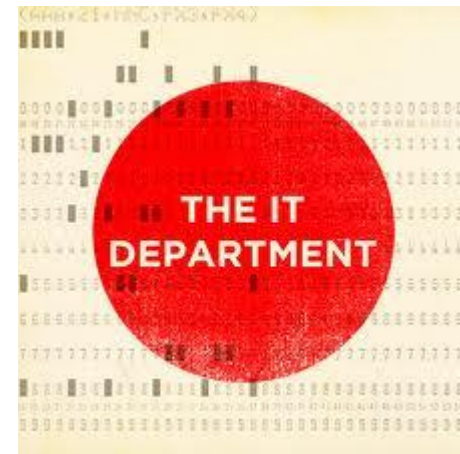
Data And Metrics For Building Occupancy Will Finally Move To The Top Of The Agenda As Key Indicators

- * Energy consumption aligned with actual building occupancy.
- * Few building owners know how many people occupy their building, where they go, when they're there, etc.
- * A variety of means for gathering occupancy data
- * Occupancy data will drive energy management and curtailment strategies for demand response and space planning.



The IT and Facility Management Departments will Sort Things Out

- * Several IT companies overreach into areas that looked like the “next big thing”
- * Found out that they had little or no credibility when it came to the technical details of building and energy systems
- * Building personnel see the IT infrastructure penetrate the daily operations of building systems.
- * IT departments are seen as a strategic service group
- * Facility personnel now understand the unrelenting advances in the technology
- * Tighter coordination and improved building performance.



Energy Procurement Will Become As Important As Managing Energy Demand for Building Owners



- * Primarily focused on energy conservation measures
- * “Discover” cost savings in improved and more sophisticated procurement transactions.
- * Third party aggregators or co-purchasing agreements
- * Energy procurement software that can profile energy loads and then identifying optimum energy purchasing.

The Use Of Building System Technology Will Finally Play A Part In Green Building Certifications

- * Ignored for years in the certification process
- * USGBC endorses an FDD software application and opens an “Apps Lab”
- * Large technology industry organizations that have been clamoring for years for LEED credits related to technology and were rebuffed.
- * Have started their own sustainability and energy certification processes
- * Smart Building Institute, has taken a different approach, providing certification for use of advanced building system technology and integration
- * Operation of a high performance building will depend on building information facilitated or enabled by technology



The Smart Buildings Institute

2012 Will Be About Open Source Programming Languages, and Standards For Naming Conventions, Building Systems and Integration.

- * “Bottoms up” grassroots campaign
- * Flexibility and choices as to how to setup and maintain their BMS.
- * The push for standardized naming conventions
- * Large organizations have entered the “standards” fray.
- * ISA has initiated the development of a standard titled ISA 111 Unified Automation for Buildings.
- * NIST - industry standards for automation and controls - interoperability standards between buildings and the smart grid.
- * Reflects the penetration of IT in building systems
- * Increased complexities in high performance buildings and the increased need for data and data management.



A New Benchmark for The Integration of Building Systems will Occur In 2012



- * 277,000 sq. ft.
- * LEED Platinum
- * 45% daylight harvesting
- * 55% percent less energy
- * 32% less electricity demand
- * 3 roof tops of solar panels
- * Water Reclamation system
- * Wind turbines
- * 13,500 data points
- * 460 Dashboards
- * Middleware

Nascent Initiatives Outside The Realm Of Facility Management Will Eventually Have A Significant Impact On Building Systems

- * Pervasive hyperactive connected world of people and objects.
- * “Internet of Things”
- * “Ambient intelligence”.
- * Building space, sensing and responding to people based on analysis of data
- * Automatically adapting, anticipating and even personalizing the space environment.
- * Botanicalls
(<http://www.botanicalls.com/>)
- * Twine



Contact Information

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Additional Resources

“SMART BUILDING SYSTEMS FOR ARCHITECTS, OWNERS, AND BUILDERS”

ISBN 978-1-85617-653-8

2012 AHR Expo Innovation Award Winners

Building Automation

The ORB Heat Pump Controller from Geofinity Manufacturing offers complete operating, monitoring, control and diagnostics capabilities. It features an LCD touchscreen, a commissioning menu, system settings for components and a complete system diagnostic management tool. It also has a system maintenance/alarm history data storage tool, an electric heat economizer and direct PC communication via TCP/IP. Booth 6683



Honorable Mention for Building Automation

American Auto-Matrix AspectFT Product Family energy management ;

Delta Controls Inc. Delta Controls DVC-V322PoE BACnet advanced application controller

Emerson Climate Technologies Copeland Scroll Compressor

Gridwise Education Sessions at AHR Expo

11:00 am Monday

**Smart Grid, Building Automation and Interoperability.
How you can benefit.**

11:00 am Tuesday

**Electricity Markets and HVACR with DR, ESCO 2.0
GridWise™ Architecture Council (GWAC)**