

Energy Conservation Grows Up-- Welcoming the Age of Full Building Control

April 2015

While pictures tell a story, numbers may foretell our future. Navigant Research predicts global revenue from lighting control equipment in commercial buildings will grow from \$1.7B to \$5.3B in only seven years (2013-2020). The U.S. DoE predicts that by 2030 roughly 74 percent of all lights will be highly controllable - and network attachable -- LEDs. Because of the longer lifespan of the LED technology - and their use encouraged as part of Title 24 - the replacement cycles for lighting are going to stretch. This will encourage commercial buyers to focus less on the discrete products that reduce energy consumption and more time assessing networked solutions. Once simple conversations about lighting and energy savings are going to quickly move well beyond rudimentary equations measuring energy conservation.

TURNING BUILDINGS INTO SILENT PARTNERS

The magic of LED lighting - profiled in a recent issue of *Insights* - lies in the chip that each "bulb" contains. This chip is essentially a circuit board that is Internet-connectable and then remotely and wirelessly controllable from Smartphones, computers, even your TV. This will undoubtedly create revolutionary benefits and opportunities. Without the added expense of additional wiring, the LED bulb is dimmable, can shut down when people leave the space or at pre-set times, and function as anonymous sentries with their ability to gather data on temperature, humidity, occupancy and the surroundings - in real time and with historical views.

Rich data such as this creates abundant opportunity for the building to become a sort of administrative partner. For example, tenants and owners plan better and make better decisions when they know which departments, functions or resources are used or not. Occupants will be able to deploy a simple phone app that performs a way-finding service inside the building or could even easily ID empty meeting rooms. The possibilities for buildings as utilization planning partners or

**With the new
digitization of
light, we have
only begun to
scratch the
surface on how
we can control it,**

strategic growth forecasters are now only bound by our programming creativity.

As MIT Technology Review proclaimed in May 2014, "Electric lights are 135 years old. The Internet is 45. They're finally getting connected."

**integrate it with
other systems,
and collect rich
data....**

**Brian Bernstein, Philips's
global head of indoor lighting
systems**

Design Resources

Advanced Buildings |

www.advancedbuildings.net

Energy Design Resources |

www.energydesignresources.com

Savings by Design |

www.savingsbydesign.com

Architecture at Zero Design Competition |

www.architectureatzero.com

Connected Lighting Alliance

Industry giants such as GE, Lutron, Philips, Panasonic, Toshiba and others share the vision that industry standardization -- a unified approach towards connectivity and interoperability - for lighting control will be better for buyers and kick up widespread, global adoption.

These lighting leaders have banded together to form **The Connected Lighting Alliance** to encourage future where one can buy a lamp from company A, put it in a luminaire from company B, use a control from company C or a wireless switch from company D and have a workable solution. The more an open standard is used, the better the economies of scale related to the components and the faster the cost decreases.

TITLE 24 and ARCHITECTS

Recently we hosted our first presentation exclusively for architects. The intent...clarify how the July 2014 changes impact design professionals and share best practices. Joining us were specialists from Savings by Design and SCE. Our short presentations with robust Q&A over breakfast or lunch enable your team to learn more about the issues the code raises. Host one of your own by calling Doug Bassett or Jim Roy at 714-255-2700.

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Insights is an electronic briefing created to provide developers, commercial brokers, architects and property managers with a review of practical strategies and best practices as they plan, design, construct and deploy technology in their tenant improvements projects.

IN A NOISY WORLD...WE ACTUALLY LISTEN

How can the Caliber Construction team help you create a 2015 that outperforms 2014? What are the thorny issues that you want us to demystify, deconstruct and shed light on?

Your ideas and feedback help us plan for the most beneficial Insights and help us create the conversations that matter.

Call us at 714-255-2700 or email ideas to Doug Bassett at DBassett@caliberconst.net or Jim Roy at JRoy@caliberconst.net