



January 28-30, 2013
Dallas Convention Center
Dallas, TX



Market Trends for Integrated and Intelligent Building Systems

Monday January 28, 1:30 – 2:30 pm

William Rhodes, Senior Market Analyst,
Building Technologies, Security & Fire
[IHS/IMS Research](#)

Ken Sinclair Publisher/Owner

www.AutomatedBuildings.com



automatedbuildings.com

[News](#)

[Resources](#)

[Products](#)

[Education](#)

[About](#)

Welcome to Dallas AHRExpo 2013 Trends and Direction of Smart Green Building Automation

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

Our Changing Industry and Connection Communities for BAS

Speakers - Jim Sinopoli & Ken Sinclair

Monday, Jan. 28, 9:00 – 10:00 am

Market Trends for Integrated and Intelligent Building Systems

Speakers - William Rhodes, Market Analyst, & Ken Sinclair

Monday January 28, 1:30 – 2:30 pm

Community, Convergence, & Collaboration from Cloud Data for BAS.

Speakers - Jim Sinopoli & Ken Sinclair

Tuesday Jan. 29, 9:00 am

Why we need to be part of several Connection Communities

Ken Sinclair, Moderator with Various Industry Leaders

January 29th, from 2:00 - 3:30 pm.

Open Connection Communities

My overall takeaway from AHR Expo 2012 Chicago was the growing importance of being part of several strong Open Connection Communities. Who we are connected to and the value they bring to our products and services defines who we are and likely who we are to become. Open Connection Communities will shape building automation's future



Interacting With Energy

Cloud computing to replace the personal computer as the 'device' of choice by 2014



market definition size, shape and general trends

Will and Ken will provide an update on evolving market size, shape and general trends that are changing our industry.

Wireless, cloud and deep integration and the change they bring will be discussed.

We hope for a lively question and answer session after the presentation.

Happy New "Era"

Our industry is rapidly being drawn into this new Era where the what and how of our industry is being exposed and questioned.

The connection communities that we are part of, new feature rich products with new methods of providing their information to these connections, and daily evolving web services presented on several flavours of displays, with interaction with Bring Your Own Devices (BYOD) are all creating this new Era.

Future Building



As we transition to more complex, higher performing, and energy efficient buildings, it is apparent that traditional building management systems are not up to the task of monitoring and managing today's building operations.

What are the shortcomings of the legacy BMS?

The list is quite long but the major items include limited integration capabilities, inadequate and elementary analytic tools, proprietary programming languages, a dearth of software applications and legacy user interfaces.

Ken's Simple understanding

Several studies and market projections all agree that “the market” is growing rapidly and it is huge.

“The market” is a moving target that become more difficult everyday to define and quantify.

The nature of convergence has us all arriving at the same spot competing for the same market which maybe a market that did not exist a few years ago.



Market Trends for Integrated and Intelligent Building Systems

William Rhodes; william.rhodes@ihs.com
Senior Market Analyst; Building Technologies, Security & Fire

AHR Expo 2013, Dallas TX
28th January 2013

Today's Presentation

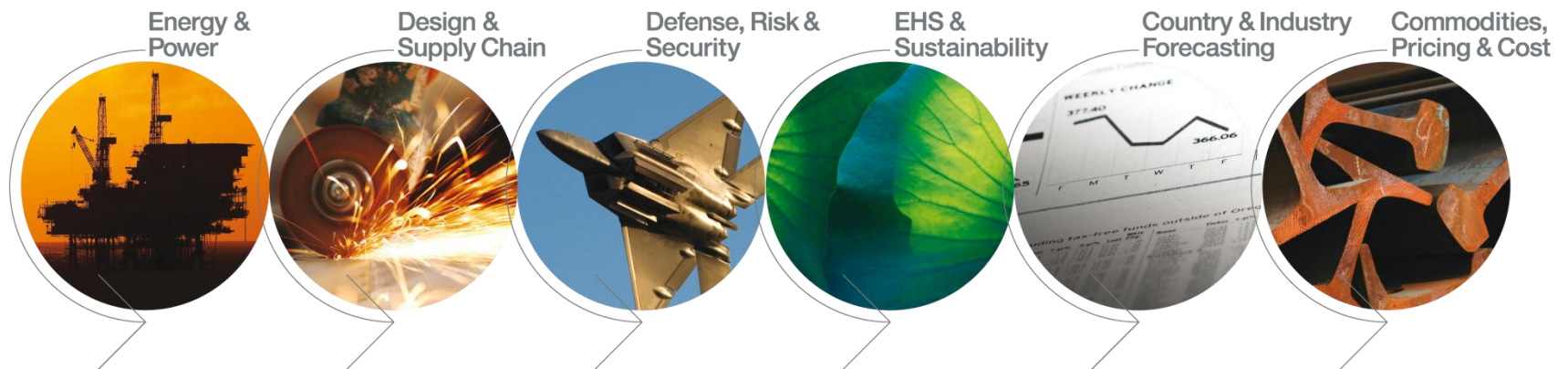
- Introduction to IHS / IMS Research.
- Smart Building Market Overview.
- Integration of Building Systems.
- End-Users.
- Technology Developments and Trends.
- Q and A.

Introduction to IHS & IMS Research

A leading information provider.

We are more than 6000 people, in 31 countries, speaking 50 languages.

Areas of Expertise & Content



Helping our customers drive critical processes and make high-impact decisions with speed and confidence.

What is a smart building?

Different stakeholders have different definitions. Key points include:

- Integrated Control.
- Reduce Energy Consumption.
- Provide Business and Operational Efficiencies.
- (Interact with the Smart Grid).

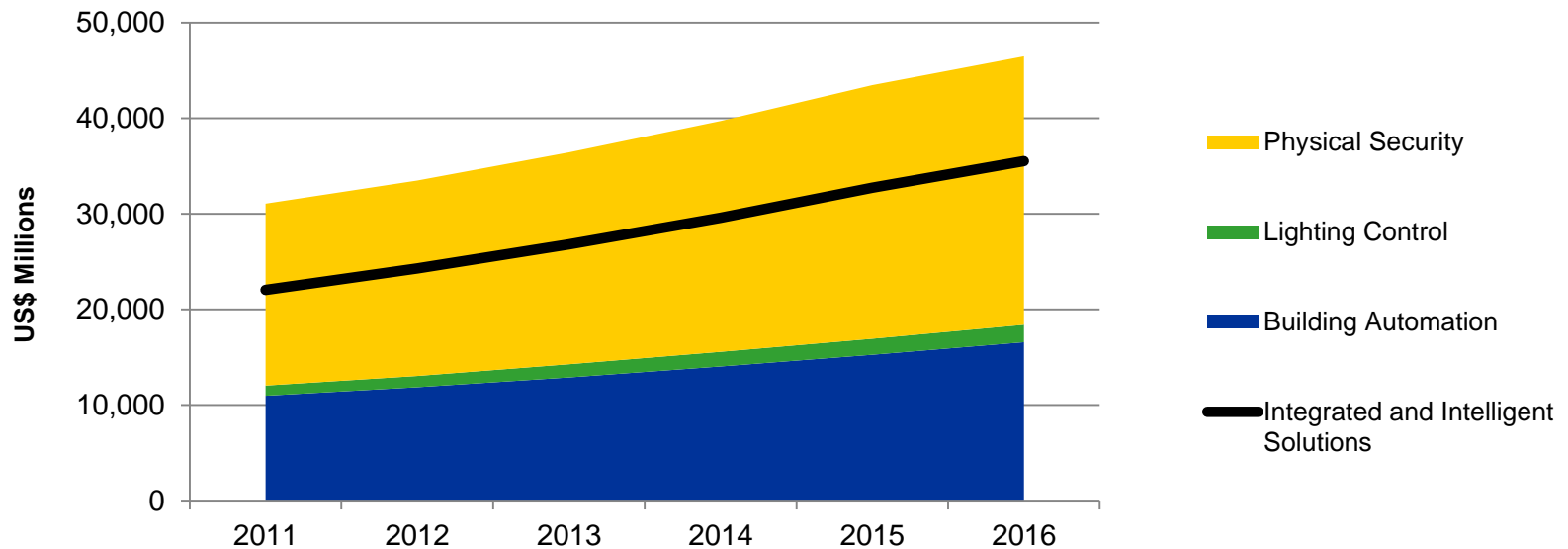
IMS Research defines as:

The integration of the building automation system, lighting control system and physical security equipment.



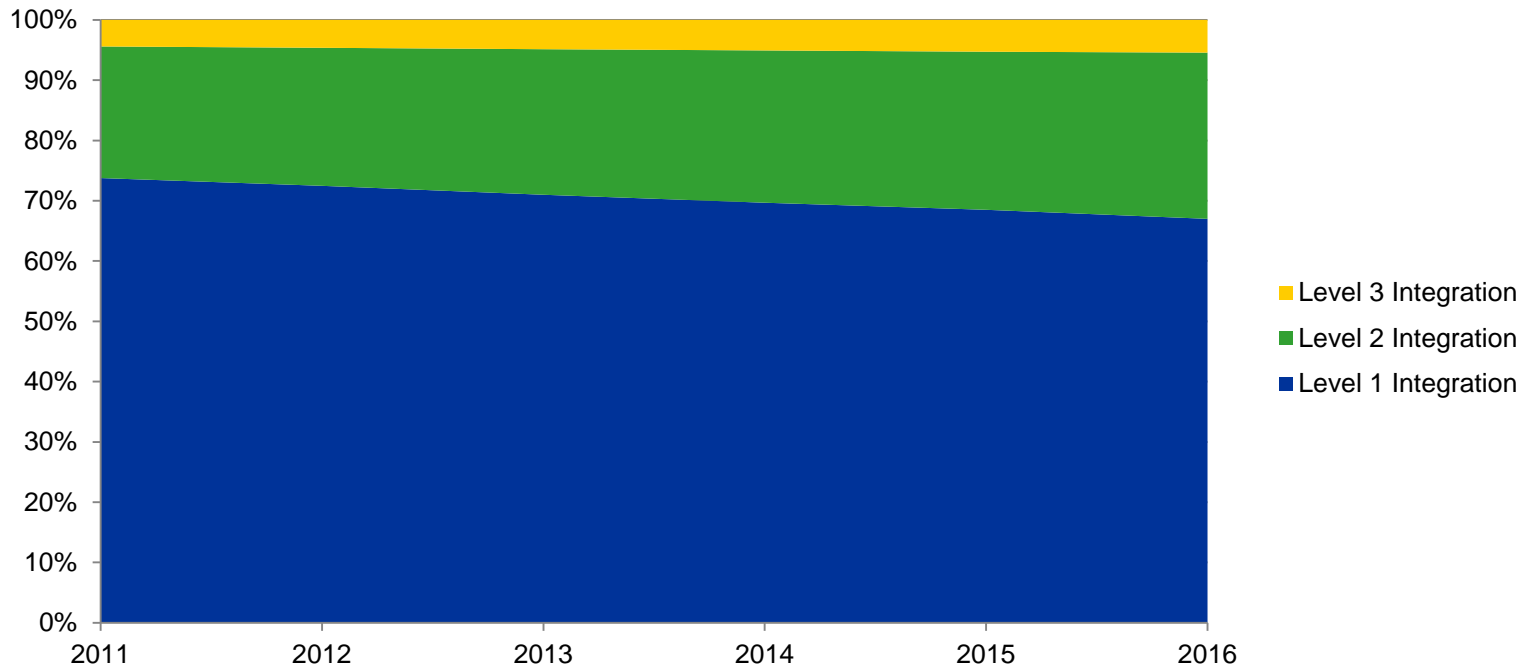
Market Size and Forecast

- Americas market \$33 billion in 2012, \$24 billion for integrated and intelligent solutions.
- Majority of the market is physical security equipment.
- Fastest growth likely from building automation and lighting control systems.



Integration Level

- Majority of systems are independent.
- Movement towards more highly integrated solutions.
- Requirements for the highest level of integration will remain for predominately enterprise buildings.



Integration Level

Costs /
Disadvantages of
Integrated
Solutions

Benefits /
Advantages of
Integrated
Solutions

Experience of early
adopters

Requirements of
solution

Capital costs of
integration

Single management
platform

Operational savings

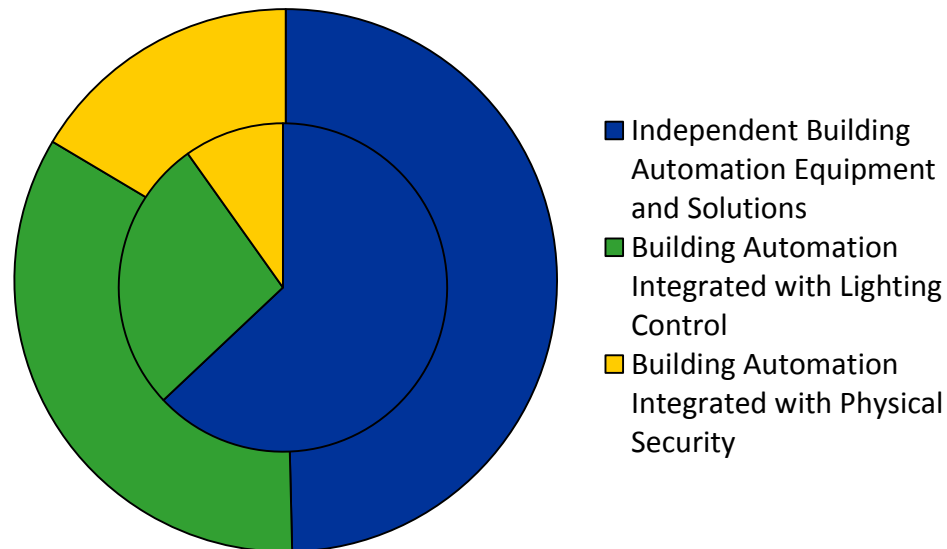
Reduced cabling
and installation
costs

Energy Savings



Building Automation

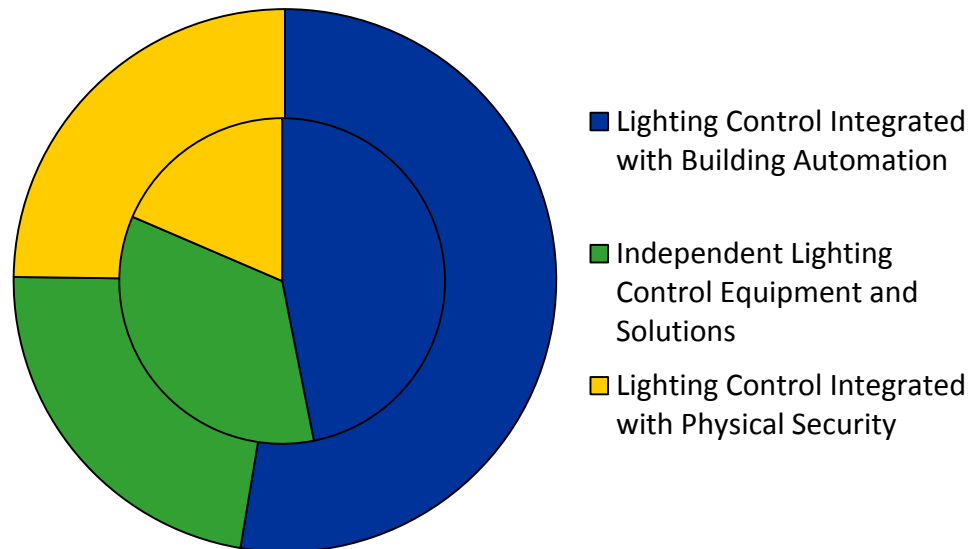
- Majority of building automation systems are independent.
- Increasing integration between building automation and lighting control.
- Benefits of physical security integration limited.



Inner circle:
Americas market in 2011
Outer circle:
Americas market in 2016.

Lighting Control

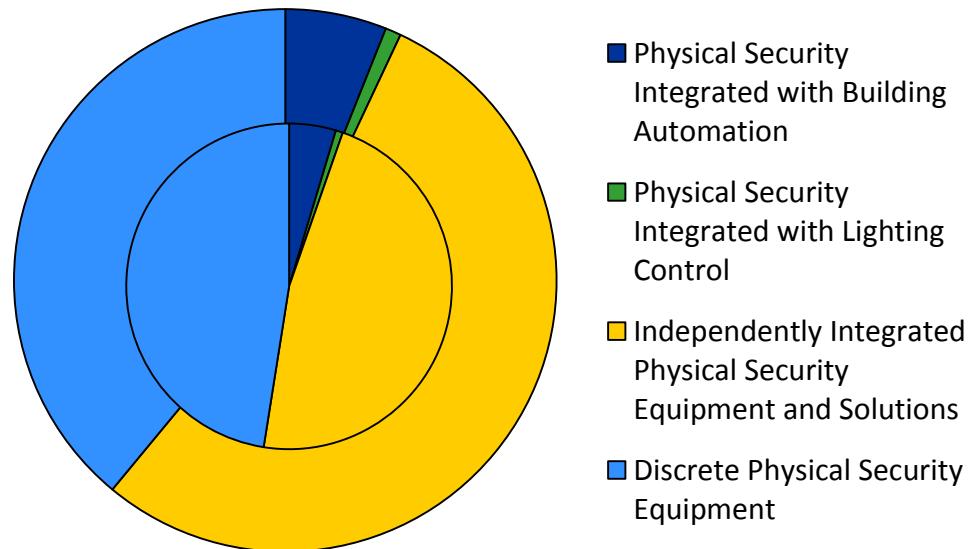
- Independent lighting control systems are less common than independent building automation systems.
- Similar trend towards higher level integration.
- Different routes to market may create ongoing barrier to increased integration.



Inner circle:
Americas market in 2011
Outer circle:
Americas market in 2016.

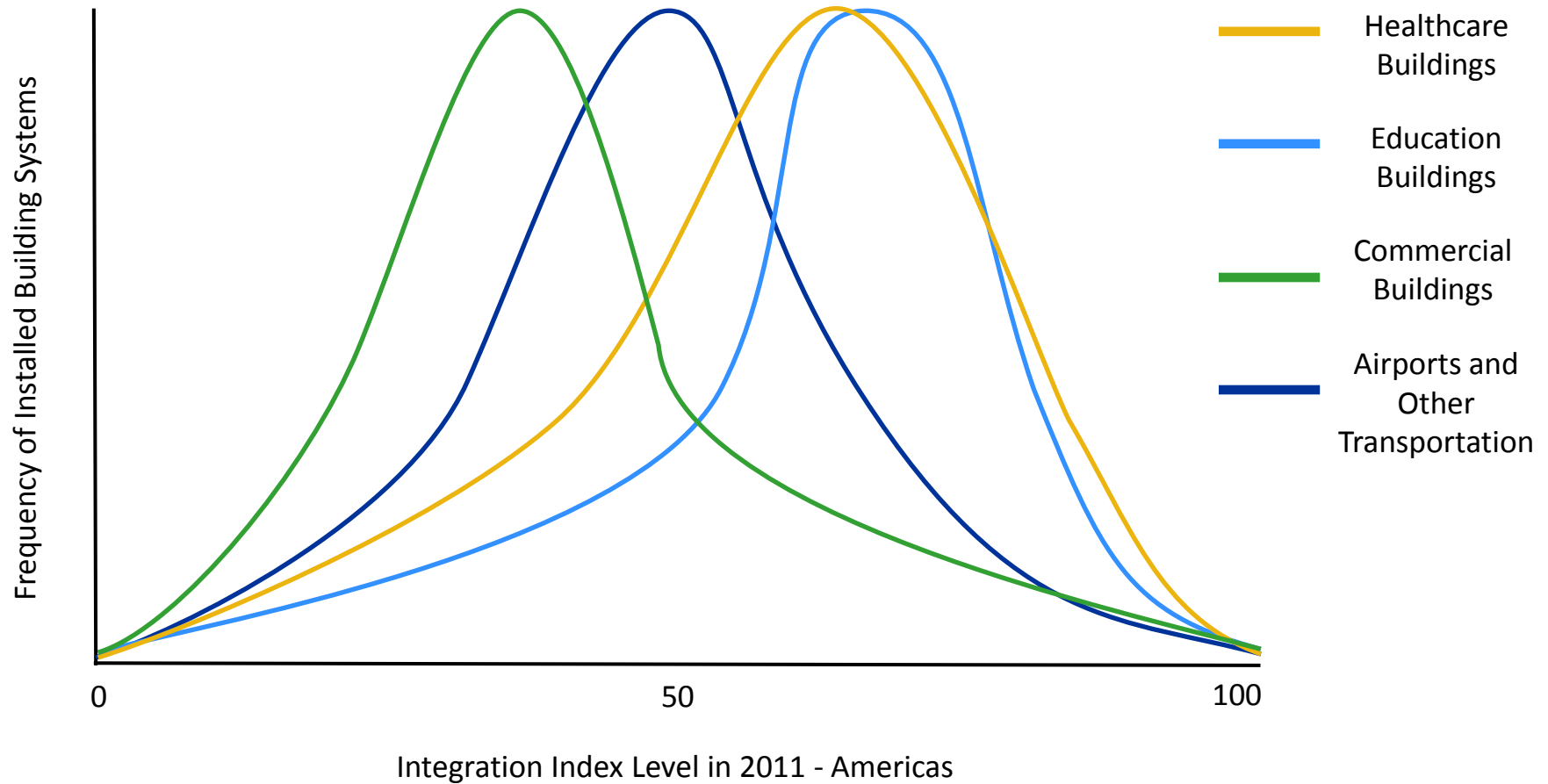
Physical Security

- Majority of the market is independently integrated security equipment.
- Little integration of security equipment with lighting control.
- Small but growing proportion of systems integrating with building automation.



Inner circle:
Americas market in 2011
Outer circle:
Americas market in 2016.

End-User Analysis



Technology Developments and Trends

- IP
- Smart Grid
- PSIM
- Cloud and Building Analytics
- Dashboards and Visualisation



IP

- IP is becoming de-facto across many building systems.
- Provides a flexible and scalable solution for the future.
- Despite benefits, it is costly. Field units will remain twisted pair or low-power bus networks.
- Concerns about network security.
- Integrator knowledge is an ongoing barrier to growth.

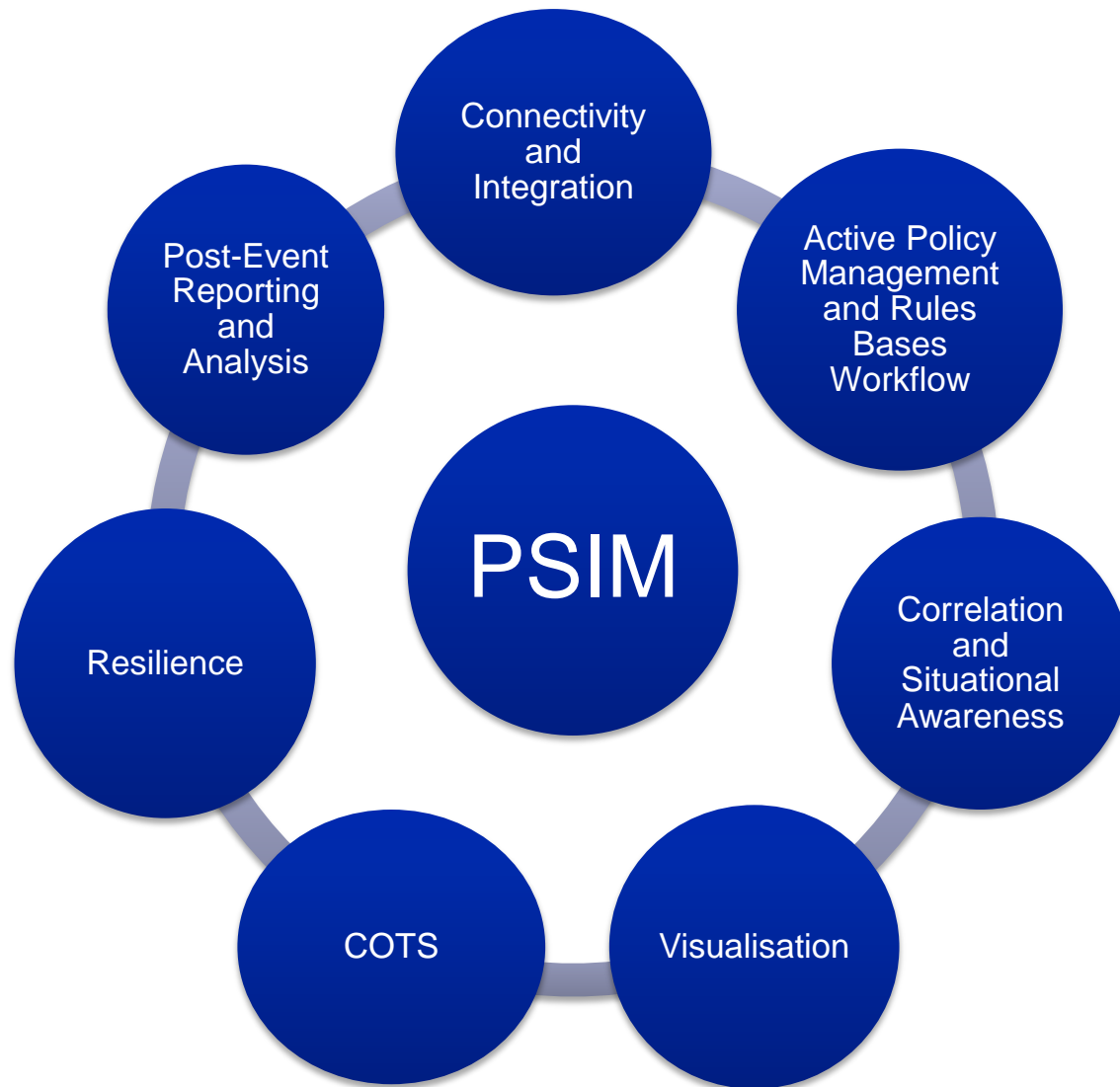


Smart Grid

- Intelligent buildings will increasingly become an important part of the smart grid.
- Integrated and intelligent systems are required within the building for the most effective automated demand response programs.
- How the grid will communicate with the building is still unclear.
- Knowledge and awareness of the 'smart grid' will continue to be a barrier.



PSIM



Building Analytics

- Analytics offer added value to ‘traditional’ integrated systems by running diagnostics to improve the operation of a building.
- Three main types:
 - Energy Diagnostics.
 - Fault Detection Diagnostics.
 - Building Optimization Diagnostics.
- IMS Research estimates that up to 25% of new deployments of analytics use cloud or SaaS.
- Stand-alone analytics or building analytics combined with remote monitoring services.
- GSA announced largest cloud based building solution in May 2012.
- Awareness of solutions and uptake of analytics remain limited.



Dashboards and Visualisation

- Provides a graphic 'snapshot' of the key statistics from the building.
- Used by facility managers to help reduce costs and compare buildings across a portfolio.
- Sometimes information is presented in receptions / lobbies to demonstrate energy savings being achieved.
- Can sit above the management system providing alerts.
- Increasingly installed but using visualisation has little effect to long term behavior.



Summary

- Building systems are increasingly becoming integrated. 2012 was not a major turning point but certainly a year where solutions started to become main stream.
- Integration between lighting control and building automation is likely to become the norm.
- IP technologies allows easier integration of systems but knowledge and education is slowing adoption.
- The integrated building will play a crucial role in the smart grid but not in the short-to-medium term.
- Analytics, dashboards and cloud solutions add value to 'traditional' systems.



Any Questions?

If you wish to receive a copy of this presentation please hand me your card or send me an email.

William Rhodes, william.rhodes@ihs.com
Senior Market Analyst
Building Technologies, Security & Fire