



# Building Data the New Deliverable

Market Trends for Integrated and Intelligent Building Systems and the Retrofit Opportunity

Speakers - William Rhodes, Market Analyst,  
Brad White Consultant &  
Ken Sinclair Publisher

# Building Data the New Deliverable

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

1. Our Changing Building Automation Industry and our New Deliverable Data.  
Speakers - Jim Sinopoli & Ken Sinclair AutomatedBuildings.com

2. Market Trends for Integrated and Intelligent Building Systems and the Retrofit Opportunity Tuesday January 21, 1:30 – 2:30 pm

Speakers - William Rhodes, Market Analyst, Brad White Consultant & Ken

**3. Our Building Automation industry has become Data Driven.**

**Speakers - Jim Sinopoli, Brad White & Ken Sinclair**

**4. The Connected Communities Collaboration Meeting with various industry speakers will be held Wednesday, Jan. 22, 2014 1:30pm Meeting agenda has evolved on LinkedIn open group `Connection Communities Collaboration`**

# Trends That are Driving Industry



Sites Rules Select Info

Mar-2013

Sparks (40)

Sites	Rules	Cost	Dur	Timelines	Targets
<b>Gaithersburg</b> 11 sparks	<b>KW Exceeds Target</b>		6hr		<b>ElecMeter-Main</b>
<b>Headquarters</b> 20 sparks	<b>KW Exceeds Target</b>		94.5hr		<b>ElecMeter-Main</b>
<b>Short Pump</b> 9 sparks	<b>KW Exceeds Target</b>		6hr		<b>ElecMeter-Main</b>



# Integrating Asset Management and Analytics



and a work order is automatically generated:

**proteus mms** Home Assets Inventory Personnel Providers Purchasing Reports Service Requests **Work Orders** Company Rights Settings Log Out MM

**Work Order Masters**

Employee: [Dropdown] Contractor: [Dropdown]

Job Number	Description	Priority	Work Type	Shift
DMTPRS1	PRESS IS NOT RUNNING TO SPECIFICATION	NORMAL	REPAIR OR RESET	ALL

**Schedules**

Schedule Type	Description	Summary	Next Occurrence	Last Occurrence
Monthly		Every month(s) c 6/13/2012		

[Create Filter](#)

DMTAHU1	AIR UNIT IS NOT RUNNING. ROOM IS HOT	HIGH will be addressed in 1 hour	REPAIR OR RESET	FIR:
DMTAHU2	AIR UNIT IS NOT RUNNING. ROOM IS HOT	HIGH will be addressed in 1 hour	REPAIR OR RESET	FIR:
PRS-001	TRIM PRESS INSPECTION	NORMAL	PM	ALL
GEN-001	ANNUAL GENERAL PLANT INSPECTIONS	NORMAL	PM	ALL





# Achieving Results

## Your People

Building Operator

HVAC Contractor

Energy Manager

Executive Team

IT Department

## Your Technology

Real Time Energy  
Monitoring

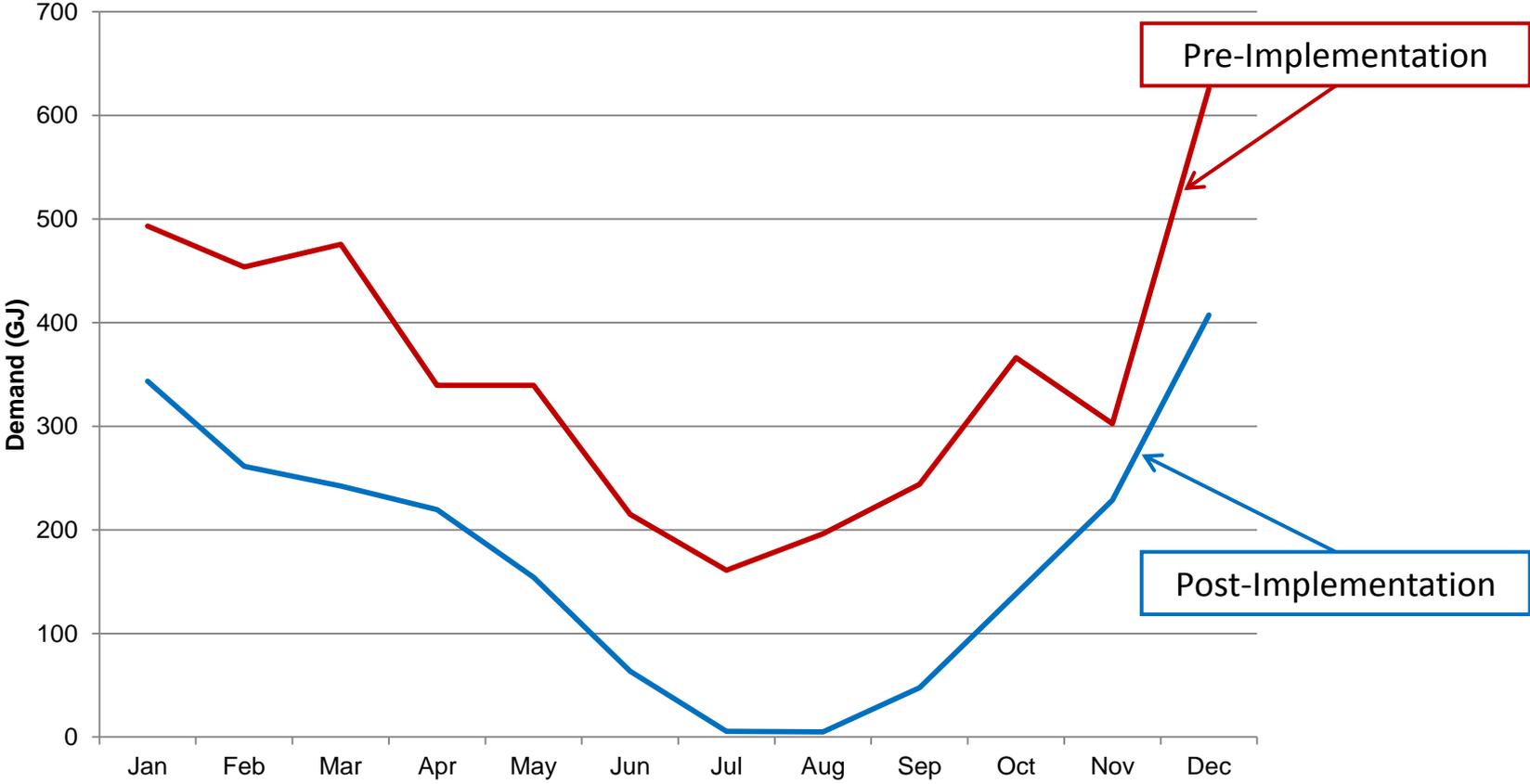
Robust BAS

Fault Detection Analytics

Cloud Services

# Before and After Retrofit and Recommissioning

## Natural Gas Consumption





Breaking Down the Siloes



Leveraging the Cloud



Meaningful  
Results



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# Integrated and Intelligent Building Systems

Will Rhodes  
Research Manager  
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# Today

- IHS
- What is an Integrated and Intelligent Building System?
- Critical Success Factors
- Stakeholders and Project Champions
- Market and Technology Trends
- Market Statistics

## AEROSPACE & DEFENSE

100+ years' experience delivering unrivaled news, insight and intelligence on defense and security equipment, markets, industries and risk

## CHEMICAL

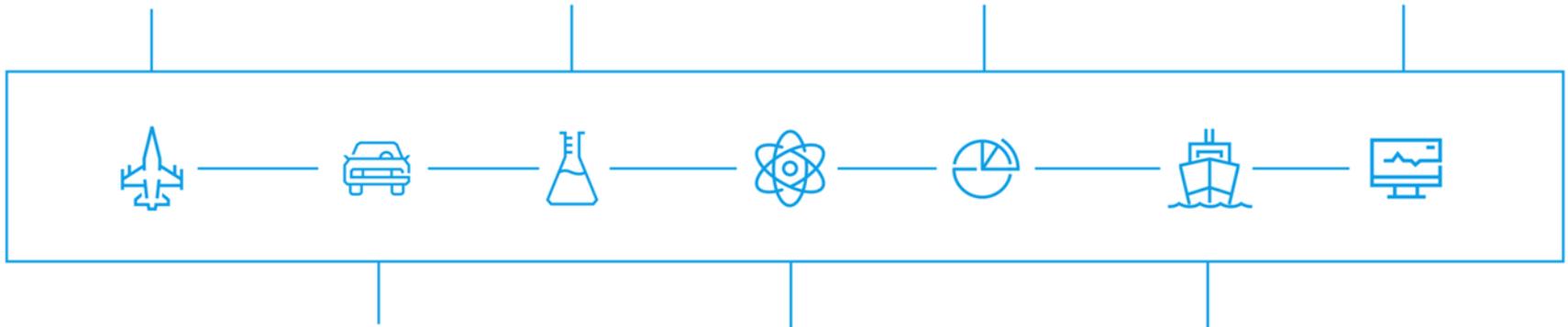
Over 200 leading industry authorities creating integrated views and analysis across more than 300 chemical markets and 2,000 processes for 95 industries

## FINANCE

Research on 200+ countries and territories with harmonized indicators from IHS analysts and economists

## TECHNOLOGY

World's largest electronics component database with more than 350 million parts



## AUTOMOTIVE

The world's largest team of automotive analysts with hundreds of experts located in 15 key markets around the world covering the entire automotive value chain

## ENERGY

Extensive Oil & Gas well information on 5.5+ million wells worldwide dating back as far as 1860

## MARITIME

World's largest maritime database with an information gathering heritage of 250+ years with comprehensive information on all vessels 100 GT and over

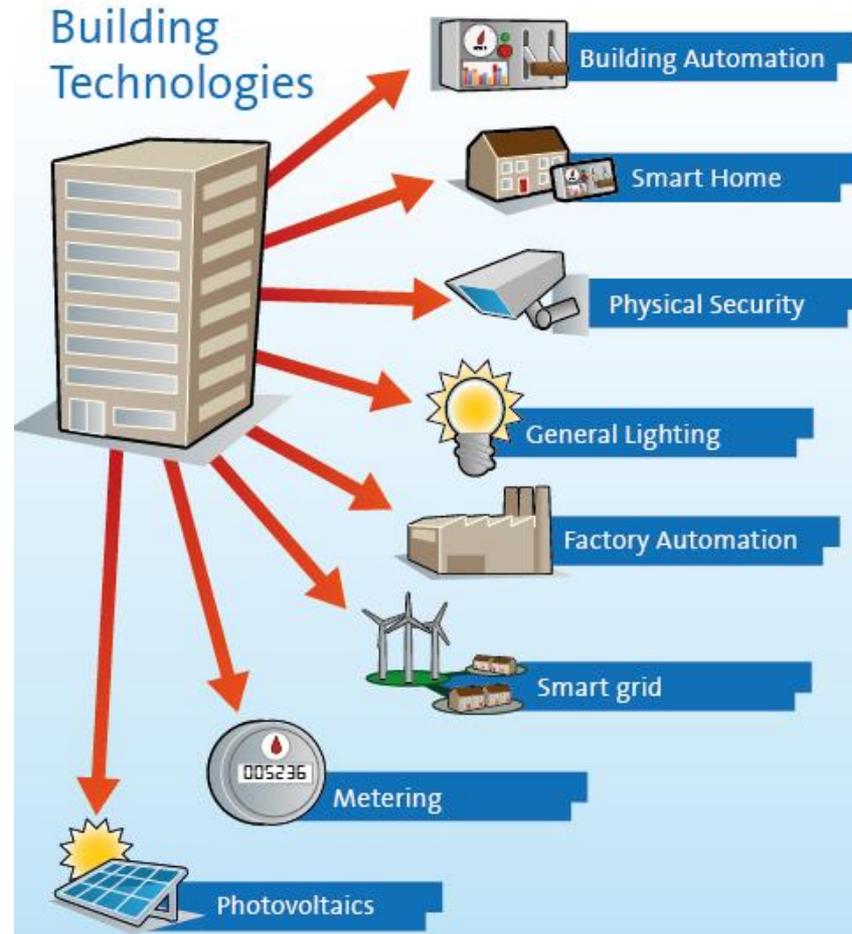
# IHS Technology

iSuppli

screen Digest

Displaybank

IMSresearch

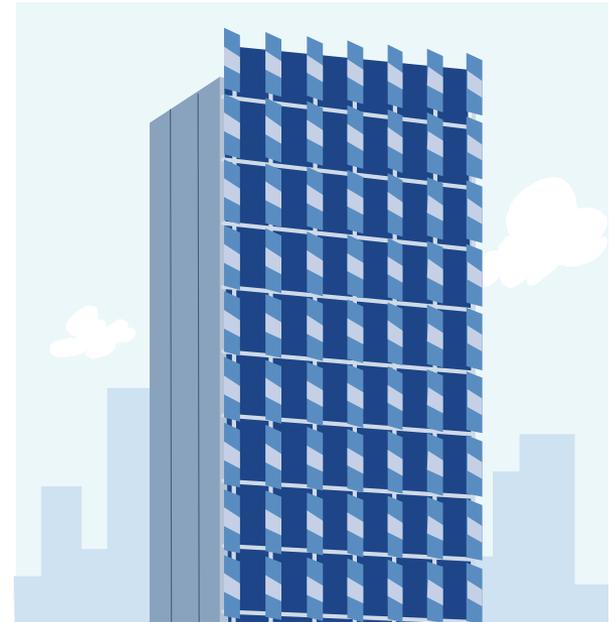


# What is an Integrated and Intelligent Building System?

*“We used to think we had a smart building because we had smart meters; we were wrong.”* Building Owner

## Key Themes

- High Asset Utilisation.
- Squeeze Savings Every Year.
- Redefines Development and Modernisation Process.



# Critical Success Factors

Energy Savings  
and  
Fault Detection

Measuring Success



Key requirements for a successful project.  
Different for each building and stakeholder.

Integration,  
Information, and  
Visibility

Comfort and Safety

# Critical Success Factors

Energy Savings  
and  
Fault Detection

Measuring Success

*“A \$4 faulty sensor can cost \$400,000 of unnecessary cooling every year.”* Director of Facilities

- Supports the bottom line.
- Great story to tell.
- Prioritise future spend.

Integration,  
Information, and  
Visibility

Comfort and Safety

# Critical Success Factors

Energy Savings  
and  
Fault Detection

Measuring Success

*“One aim was to get LEED-certified because we wanted to compare the forecast savings with the actual savings.”* Sustainability Manager

- Energy can be easily quantified.
- Soft cost projections.
- Intangible benefits.

Integration,  
Information, and  
Visibility

Comfort and Safety

# Critical Success Factors

Energy Savings  
and  
Fault Detection

Measuring Success

*“The ultimate aim of the solution was to get a ‘single pane of glass’. Once we had this, it was a game changer.”* CIO

- Breaking down the data siloes.
- Too much data.

Integration,  
Information, and  
Visibility

Comfort and Safety

# Critical Success Factors

Energy Savings  
and  
Fault Detection

Measuring Success

*“Improved safety is really hard to track... But, if you don't improve the [physical] security, the occupants can feel unsafe and they are not as productive.”*

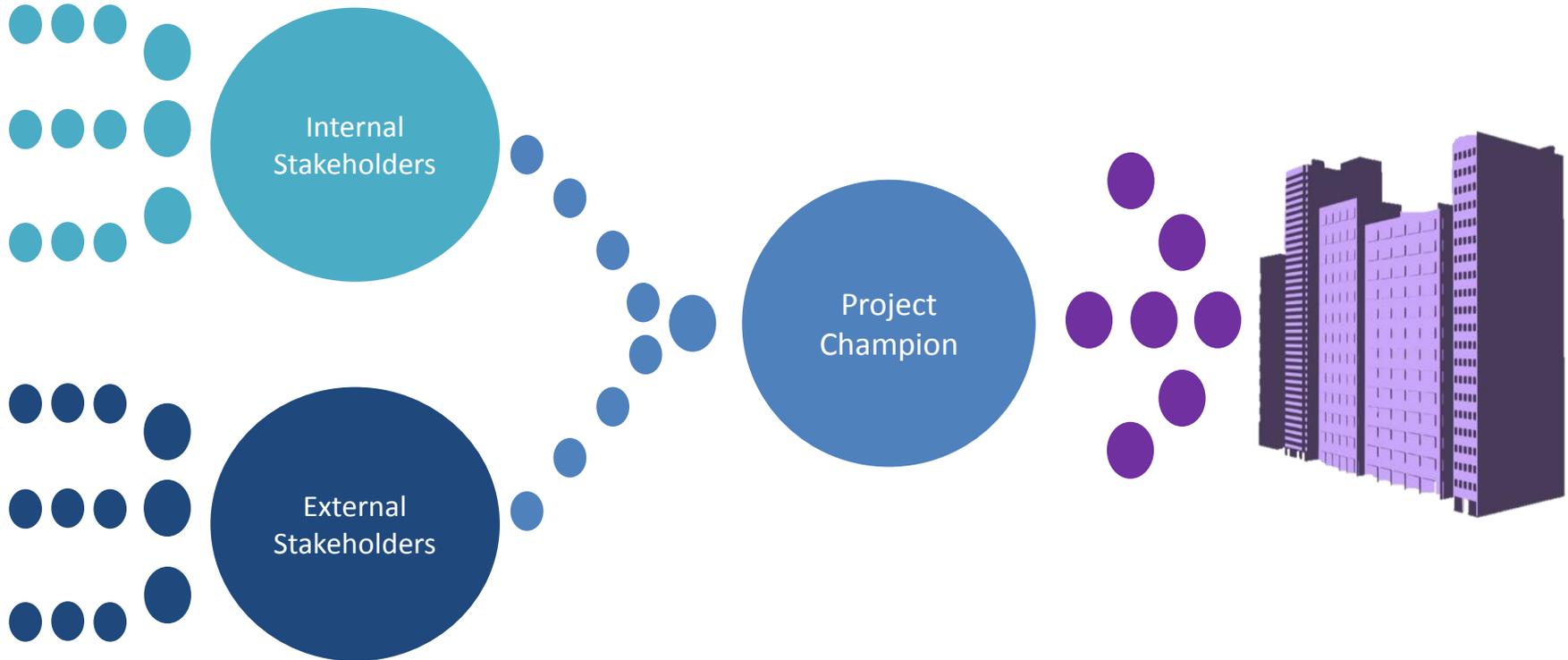
Security Manager

- When are people comfortable?
- Disturbing tenants.

Integration,  
Information, and  
Visibility

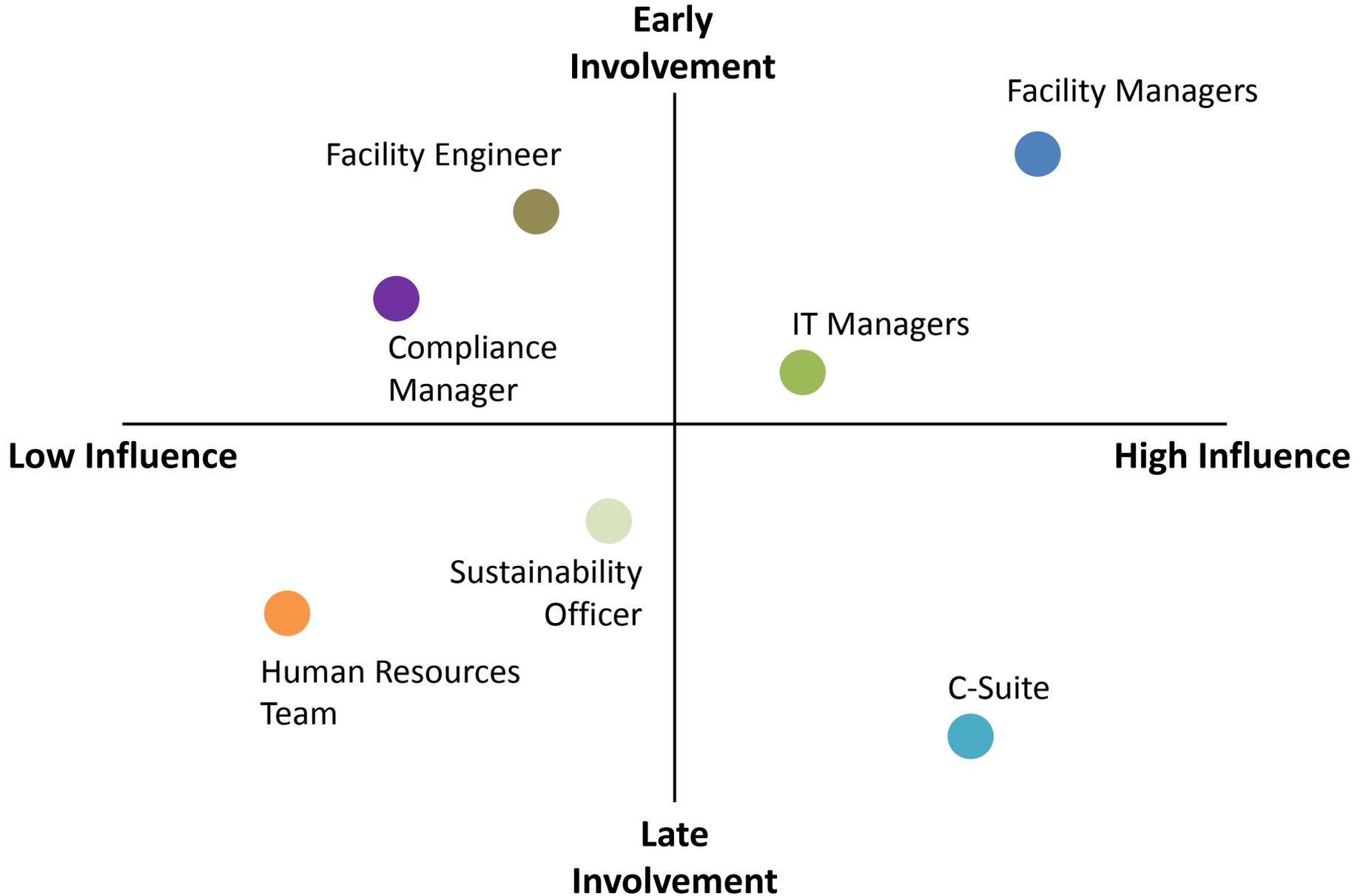
Comfort and Safety

# Stakeholders and Project Champions



- Many stakeholders with differing views.
- Project champions take ownership to drive the project forward.

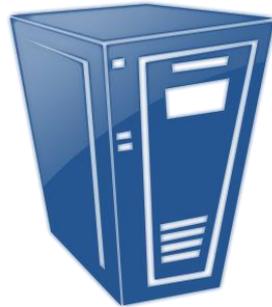
# Stakeholders and Project Champions



# Market and Technology Trends



Certifications



IT and IP



Big Data, Building  
Analytics and  
the Cloud.

# Market and Technology Trends



## Certifications

- Early days for smart building.
- More empathises for LEED and equivalent currently.



# Market and Technology Trends



## IT and IP

*“At some point, it has to go to an IT network.”*

Consultant

- Transition for each building system.
- Language?
- Network Security.

# Market and Technology Trends



## Big Data, Analytics and the Cloud

- \$20m – building analytics market in 2013.
- Fast growth forecast.
- Cloud based.
- Building optimisation versus fault detection.

# Market Statistics

Building  
Automation and  
HVAC

Fire Detection and  
Suppression

Pedestrian Control

Door Automation

Intruder Alarms

Power Meters

Elevators and  
Escalators

Lighting Control

Vehicle Control  
Equipment

Energy  
Management  
Software and  
Services

Physical Access  
Control

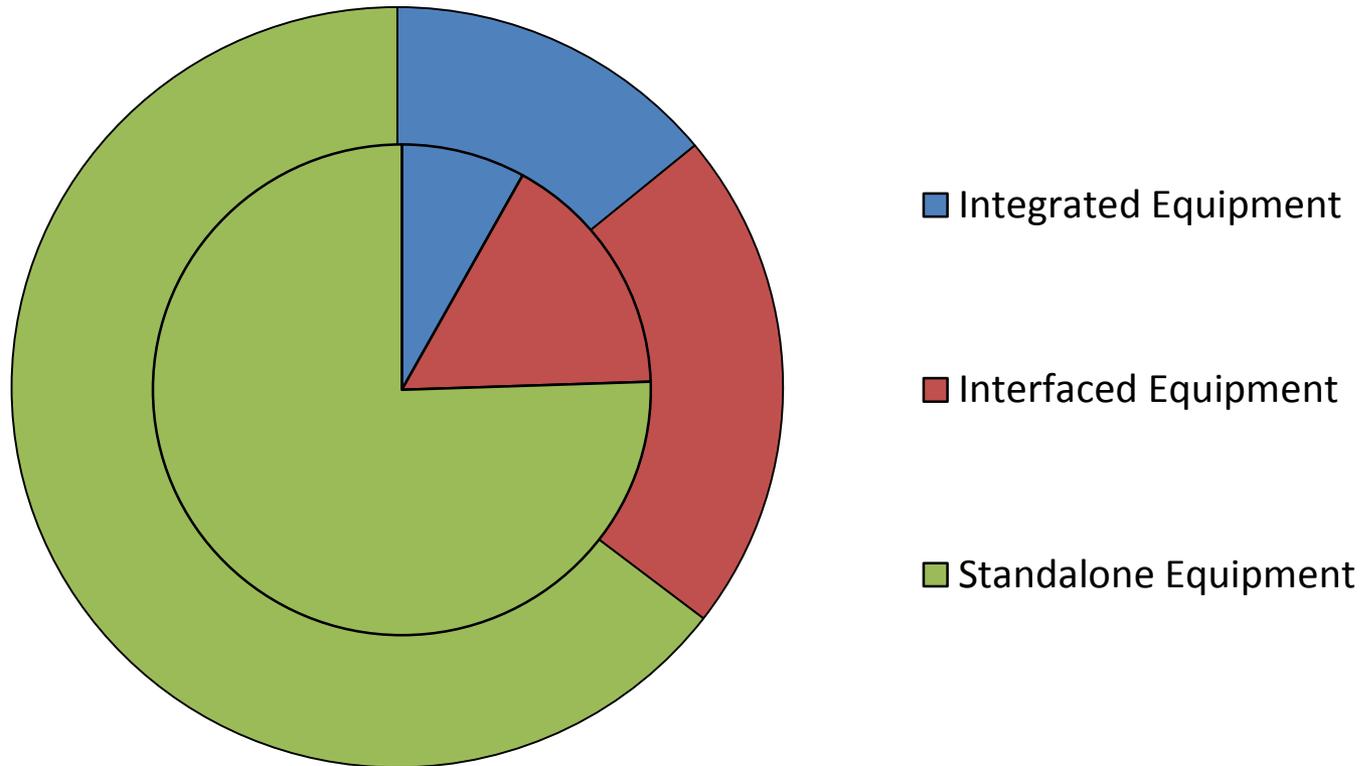
Video Surveillance

\$156 billion -  
equipment

\$336 billion -  
installation,  
analysis and  
design

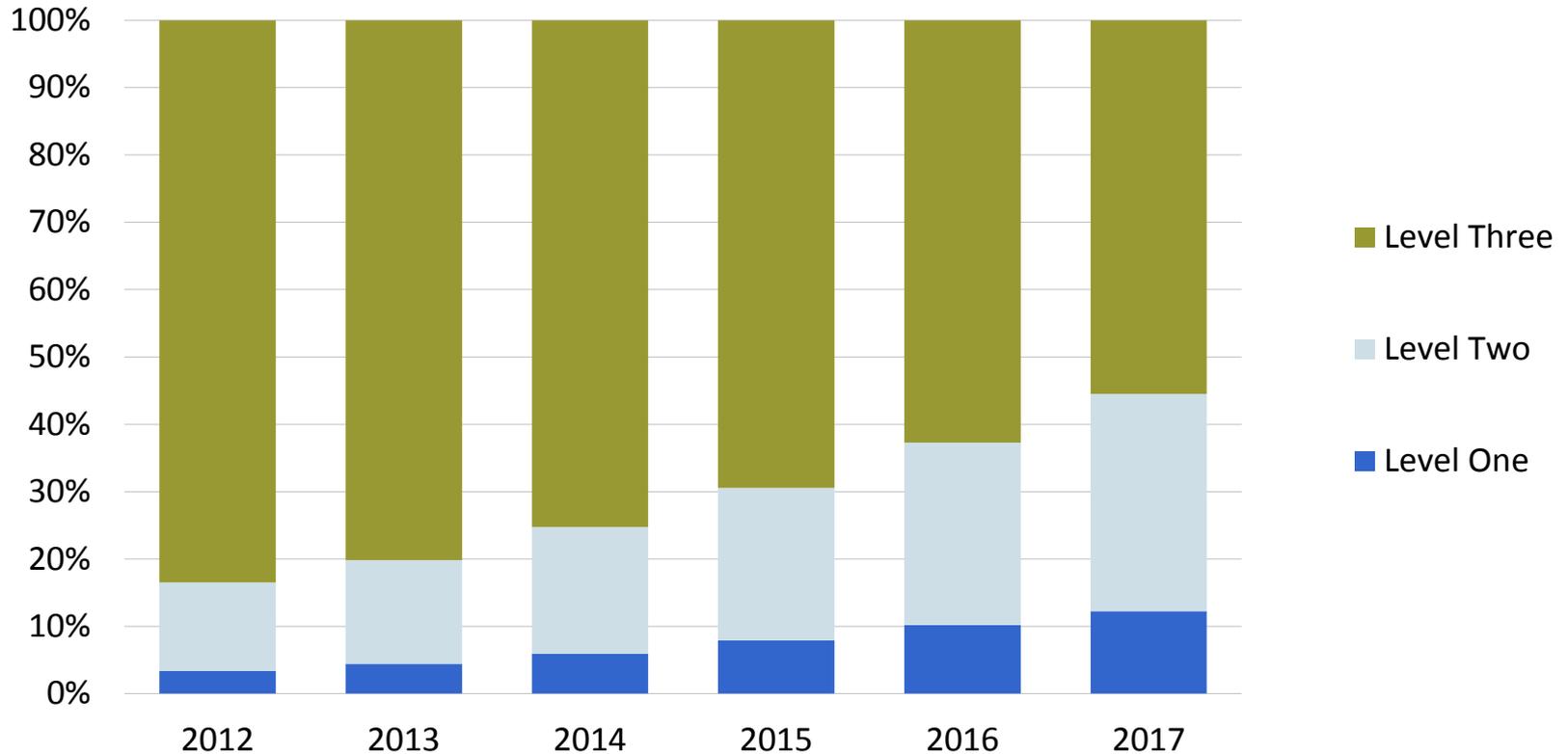
\$597 billion –  
service and  
maintenance

# Market Statistics



- Integration – control logic, sensors, infrastructure.  
\$15.2 billion in 2013
- Interface (bridge) – limited communication.  
\$29 billion in 2013

# Market Statistics



- Level 1 - \$675m in 2013.
- Level 2 - \$10.2b by 2017.
- Integration requirements.

# Conclusion

- Breaking down the data siloes and measuring energy are amongst the critical success factors for smart buildings.
- The most successful smart building installations have a champion who comes on board early to drive the project forward.
- Big data, analytics and the cloud is a key growth trend gaining both mind and market share.
- \$15 billion global market for integrated equipment. But, less than 5% for the highest level of integration.



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Questions?

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

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