



BIM

BUILDING INFORMATION MODELLING

READY

Logan Colbeck
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**OPPORTUNITIES IN BIM FOR
WHOLESALEERS**

Honeywell

In the next 40 minutes....

- About Honeywell E&ES
- Brief introduction to BIM
- Market overview
- Manufacturer's role in BIM
- How Wholesalers can benefit from BIM
- Questions

Logan Colbeck.... Honeywell E&ES

Honeywell

 **Ex-Or**
by Honeywell

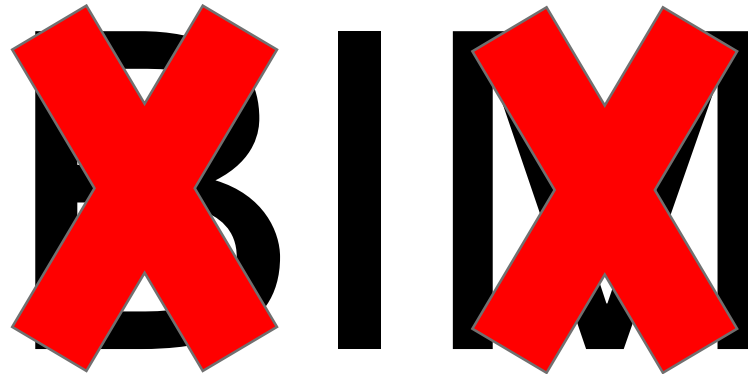
TREND

**CENTRA[®]
LINE**
by Honeywell

 **MK**
by Honeywell

Introduction – What is BIM?

- Building Information Modelling (BIM) is a process of designing, constructing or operating a building or infrastructure asset using electronic object orientated information



BIM

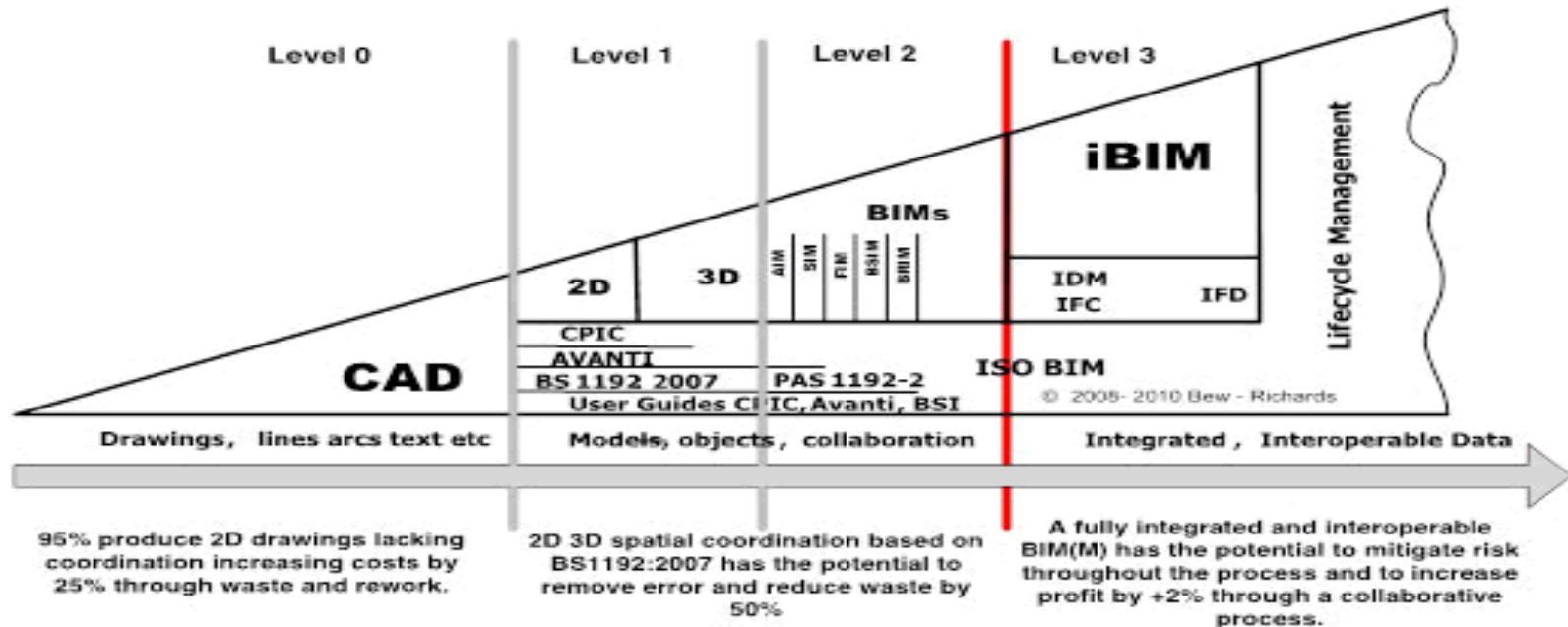
- The acronym “BIM” is unfortunate but is here to stay – think of it as “Better Information Management”

BIM in action

What the UK Government wants from BIM

- In May 2011, the UK Government published the Construction Strategy aimed at reducing the cost of public sector assets by up to 20% by 2016.
- To achieve this strategy, the government mandated that construction suppliers tendering for publically funded projects starting on or after 4th April 2016 must be able to work at BIM Level 2.
- As a minimum, they require fully collaborative 3D BIM with all project and asset information, documentation and data being electronic (COBie).
- The requirement has been introduced to drive the adoption of BIM processes throughout the public and private sector to encourage benefits including:
 - Reduction in CAPEX, delivery and operational costs
 - Reduced risk
 - Improved carbon performance
 - Predictable planning

BIM Levels 0 - 3



Source: Mark Baw and Mervyn Richards

BIM snap shot - Today

- BIM is a global design methodology
- UK is seen as the leading country for BIM deployment – Government driven
- Other countries proactively adopting BIM:
 - Holland, Germany, France, Spain, Poland, Norway, Denmark & Finland
 - USA, Canada, Japan, Dubai, Hong Kong, Australia, New Zealand, South Korea & Russia
- Key influencers in UK BIM development:
 - European BIM task group (CEN 442)
 - Government steering team
 - BIM Alliance
 - BRE
 - CIBSE
 - BIM 4 BEAMA



"I don't have time to see any crazy salesman; I have a battle to fight."

- Collaborative working with customers and peers to deliver relevant and consistent BIM Objects
- BIM cannot be done once and left – the data will always need maintaining by someone!

What BIM delivers



Benefits of BIM to the supply chain

Client	Architect	Specifier	Installer	FM	Manufacturer
<p>“Virtual” visibility of interior and exterior</p> <p>Faster, more efficient design process</p> <p>Clash detection</p> <p>Carbon reduction and Energy efficiencies via EPC monitoring</p> <p>Greater confidence in build budgets and time lines</p> <p>Total operational cost analysis</p>	<p>Feedback loop with client</p> <p>Improved speed of design</p> <p>Ease of design changes</p> <p>Clash detection</p> <p>Ease of data share with Specifiers</p>	<p>Improves efficiency of specification process</p> <p>Faster to refine building form and function</p> <p>Clash detection</p> <p>Drag and drop objects into design – auto update parts, metrics and specification</p> <p>Reduced errors and omissions in project planning and execution</p> <p>Feedback loop with Architect</p>	<p>Confidence in construction / install process</p> <p>Immediate and accurate list of required products and their suppliers.</p> <p>Accurate cost profiling for budgeting and bidding – parts and labour</p> <p>Reduced errors and omissions in project planning and execution</p> <p>Feedback loop with Specifier</p>	<p>Electronic building manual</p> <p>Accurate cost profiling for budgeting and bidding – parts and labour</p> <p>PPM schedule for all components - Building lifecycle management</p> <p>Energy and usage monitoring</p> <p>Interface with EBI platform</p> <p>First fix call out</p>	<p>Sales tool / differentiator</p> <p>Total operational cost analysis</p> <p>Inclusion in all Specification</p> <p>Hold of Specification</p> <p>Build new client base</p> <p>Repeat sales via FM</p> <p>Improve quotation response time and accuracy</p>

Total build cost saving estimated to be 15-20%

Where does the data come from?

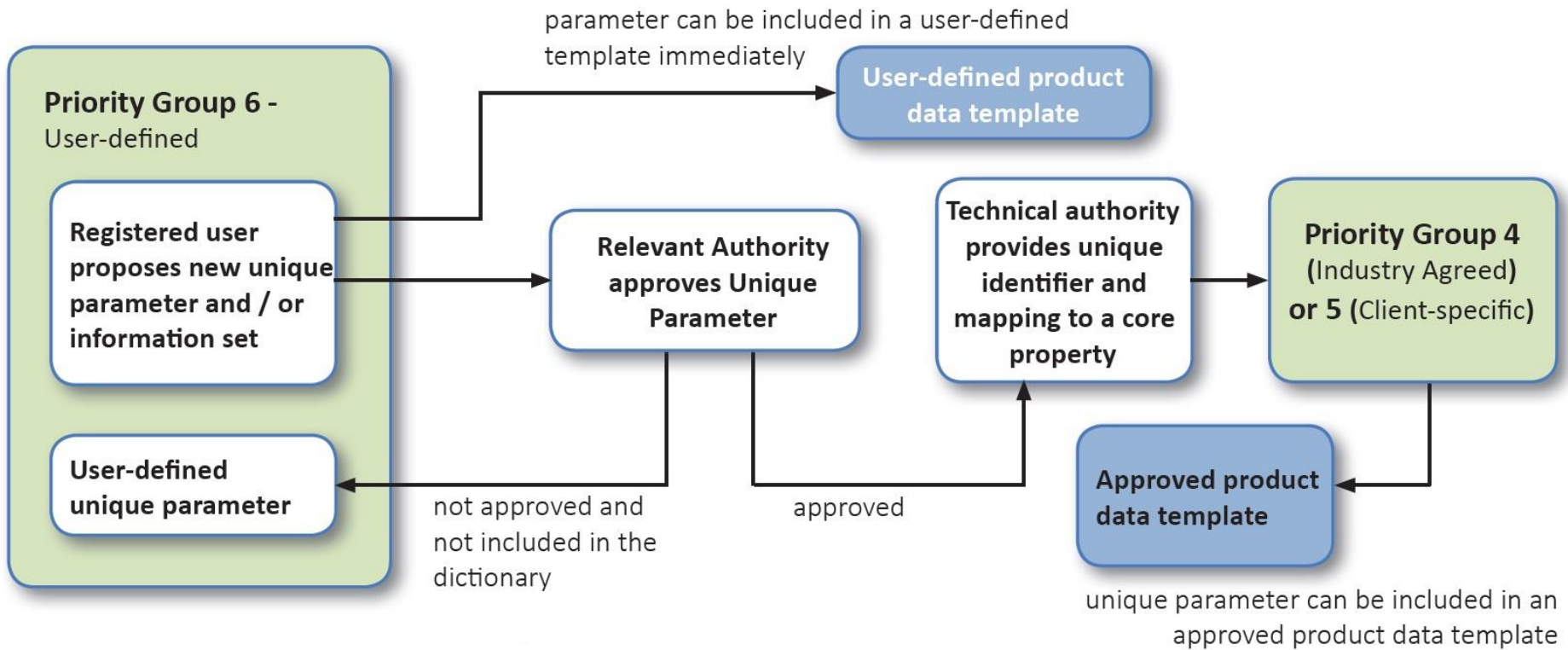


Data = 80% of a BIM Object (PDT)

	Manufacturer Data			
Manufacturer data	Specifications	Manufacturer	Text	
	Specifications	Manufacturer Website	URL	
	Specifications	Product Range	Text	
	Specifications	Product Model Number (Code)	Text	
	Specifications	CE Approval	Text	
	Specifications	Product Literature Webpage	URL	
Construction data	Specifications	Product Features	Text	
	Specifications	Type	Text	
	Specifications	Shape	Text	
	Specifications	Material	Text	
	Specifications	Colour	Text	
Application	Specifications	Finish	Text	
	Specifications	Reference Standard	Text	
Dimensional data	Specifications	Power Source (if required)	Text	
	Specifications	Overall Length	mm	
	Specifications	Overall Width	mm	
	Specifications	Overall Height	mm	
	Specifications	Gross Weight	kg	Equates to Operating Weight
	Specifications	Shipping Weight	kg	
	Specifications	Access Clearance Top	mm	
	Specifications	Access Clearance Bottom	mm	
	Specifications	Access Clearance Left	mm	
	Specifications	Access Clearance Right	mm	
Performance data	Specifications	Access Clearance Front	mm	
	Specifications	Access Clearance Rear	mm	
	Specifications	Coverage Area	m ²	
Electrical data	Specifications	Set Point Concentration	ppm	
	Specifications	Battery Supply	Y/N	
	Specifications	Battery Type	Text	e.g. Alkaline, Lithium Ion Rechargeable
	Specifications	Voltage	Volts	
	Specifications	Supply Phase	Number	1,3
	Specifications	Frequency	Hertz	e.g. N/A, DC, 50,60, Other, UserDefined
	Specifications	Enclosure Rating	Text	IP rating
Controls	Specifications	Number of Poles	Number	e.g. N/A, 1,3
	Specifications	Fire Control panel Links	Y/N	
Sustainable material	Specifications	BMS Links	Y/N	
	Specifications	Embodied Carbon	kgCO ₂	
	Specifications	Life Cycle Analysis	Number	BREEAM
	Specifications	Location of Manufacturer	GridRef	Northing Easting
	Specifications	Green Guide for Specification	Text	A - E
	Specifications	Environmental Product Declaration	Text	3rd Party Verification
	Specifications	Responsible Sourcing of Materials	Text	Endorsing body
Ops & Maintenance	Specifications	URL to Energy Technology List	URL	Hyperlink to ETL webpage for product
	Specifications	Responsible Extraction of Materials	Text	TBA
	Specifications	Material Ingredient Reporting	Text	TBA
	Specifications	URL to O&M Manual	Text	Hyperlink to Manufacturer O&M Data
Facilities/Asset Management	Daily	Text	Maintenance tasks or SFG2012 codes.	
Facilities/Asset Management	Weekly	Text	Maintenance tasks or SFG2012 codes.	
Facilities/Asset Management	Monthly	Text	Maintenance tasks or SFG2012 codes.	
Facilities/Asset Management	Quarterly	Text	Maintenance tasks or SFG2012 codes.	
Facilities/Asset Management	6 Monthly	Text	Maintenance tasks or SFG2012 codes.	
Facilities/Asset Management	Annually	Text	Maintenance tasks or SFG2012 codes.	
Facilities/Asset Management	Bespoke Timeframe	Text	Maintenance tasks or SFG2012 codes.	
Facilities/Asset Management	Maintenance Required: 0-300hrs	Text	Maintenance tasks required during this time frame.	
Facilities/Asset Management	Maintenance Required: 301-600hrs	Text	Maintenance tasks required during this time frame.	
Facilities/Asset Management	Maintenance Required: 601-1000hrs	Text	Maintenance tasks required during this time frame.	
Facilities/Asset Management	Maintenance Required: 1001-2000hrs	Text	Maintenance tasks required during this time frame.	

Agreeing BIM Object parameters

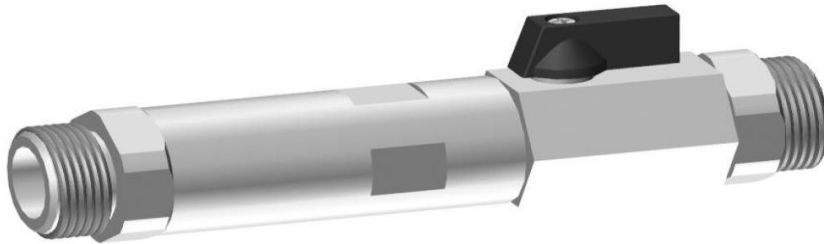
- The process for creating and approving BIM Object parameters is still being finessed!



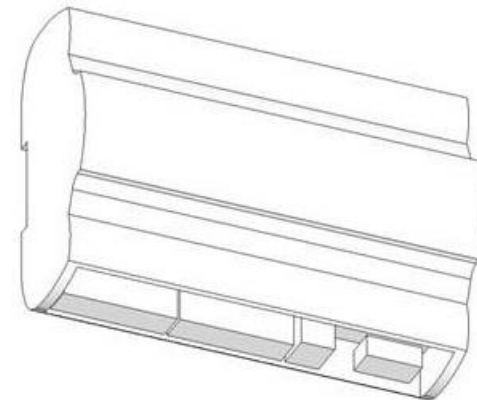
- In the absence of a Bespoke PDT, a product's BIM data should be based on CIBSE's generic PDT

3D = 20% of a BIM Object

- Visual (3D) element of a BIM object is used for geometric modelling and visual representations of a product
- A simple wire diagram is all that is needed. Visual complexity can be offered by the manufacturer or requested by the customer (the employer)



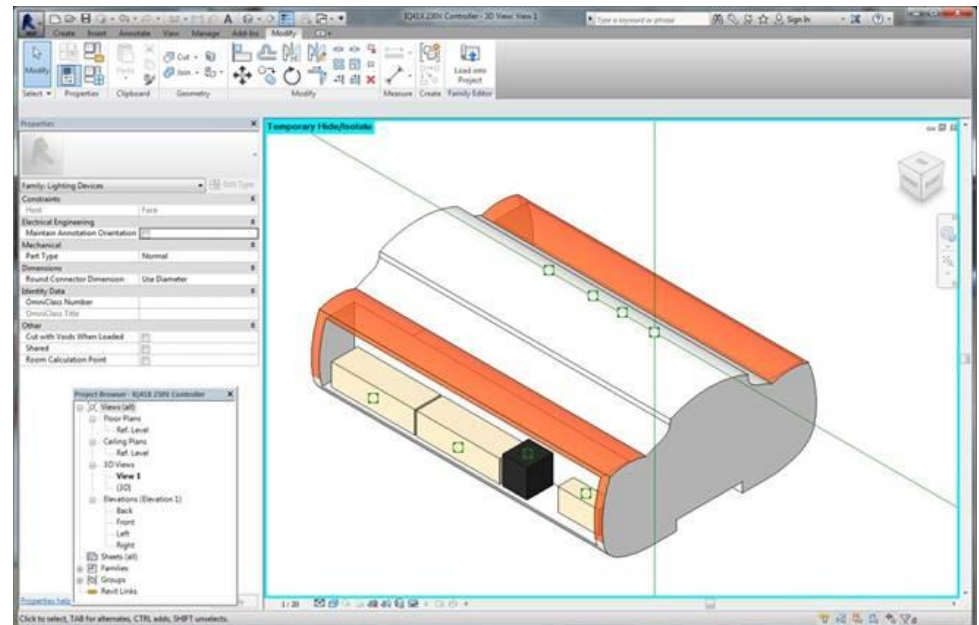
- 300 – 500 KB in size
- “as if you are looking at it from 5 metres away”



Revit

- Revit is software from Autodesk specifically created for BIM and includes features for:
 - Architectural design
 - MEP & structural engineering
 - Construction
- Software of choice for all E&ES competitors (with BIM objects to date)
- A Revit file / object amalgamates the data from the PDS and SAT files into a singular file format. This can then be “dragged and dropped” into a BIM

- Other BIM platforms:
 - Bentley
 - Nemetschek
 - Trimble
 - ArchiCAD



How Wholesalers can benefit from BIM

- One stop shop for Product **and** BIM data
 - Act as a gateway to your supplier's BIM data
 - Increase hit rate on your websites
 - Differentiator between competitors
- Object creation service – become fully integrated with your suppliers and their projects
- BIM creation service – Create models for the client or Contractor
 - Gear specification to your benefit
- Better product data from suppliers
- **Who's products to stock – indication of manufacturer's commitment to the future**

Summary

- BIM does not radically change the way we design buildings; it is a process that improves the quality and consistency of information shared amongst project teams, and offers real opportunities for increased efficiency throughout the industry.



Useful links

- www.cibse.org – Home of the PDT (type PDT into search)
- Type into Google: RIBA plan of works
- <http://bim4m2.co.uk> Read about the “curve” and use the “Compass” tool
- <http://www.bimtaskgroup.org/bim4fitout> BIM for Contractors
- <http://www.buildingsmart.org> Read about IFC
- <https://toolkit.thenbs.com>
- <http://www.thenbs.com> Good information about BIM
- http://bimtalk.co.uk/bim_glossary:start Very useful!!
- <http://bim-level2.org> Launched 4th April 2016 by UK government

Any Questions?

