



BIM4Fit out

Peter Trebilcock

BIM for FM (Asset Management)

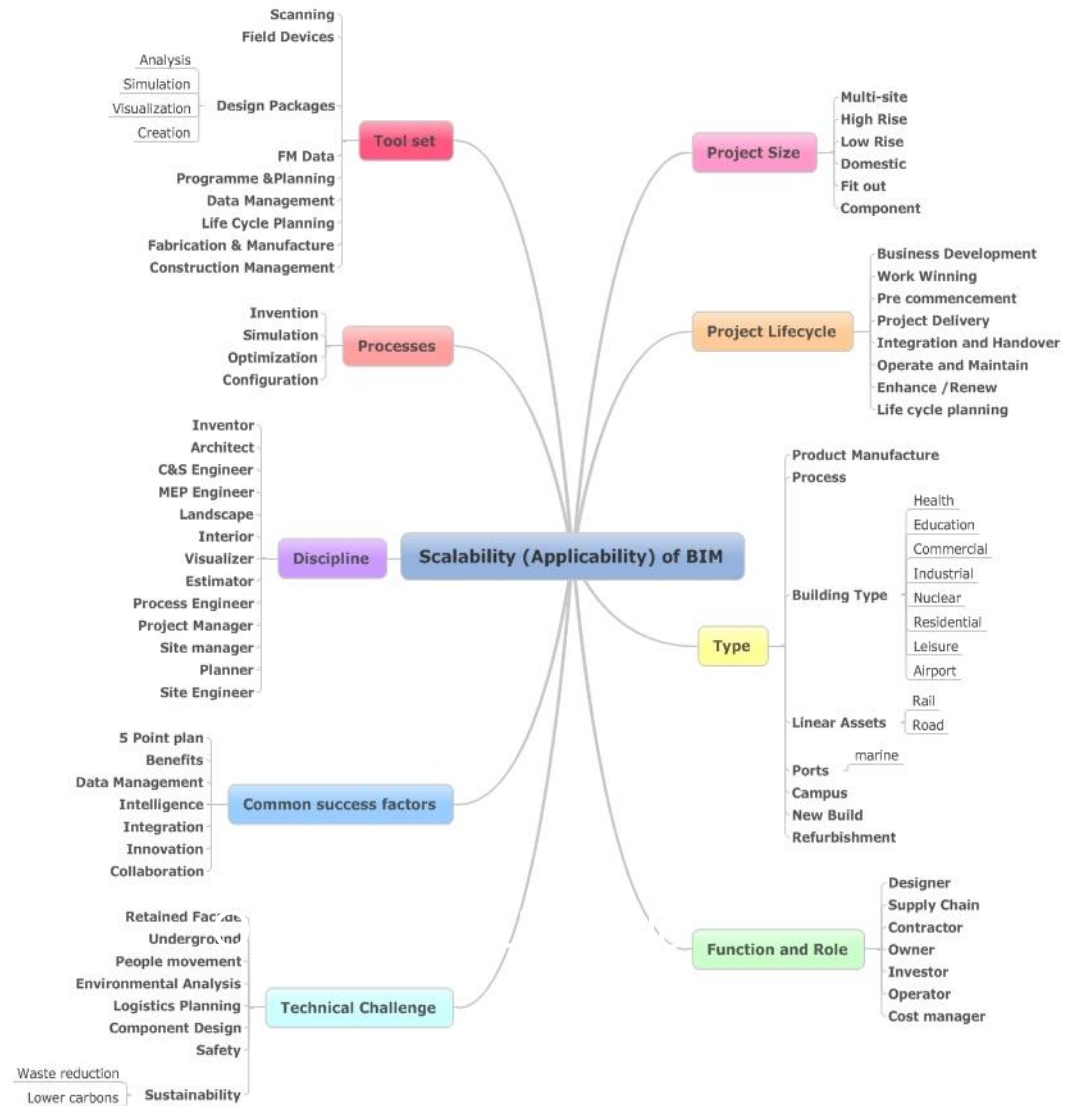


Delivering customer value by being industry leaders in Building Information Modelling and the use of the digital toolset, to go **beyond delivery** through an integrated approach to the whole asset life-cycle



Our BIM journey:
200 staff trained
60+ live BIM projects
20 completed
New Build
Refurbishment
Range of Sectors

- Project Lifecycle
- Project Size
- Project Type
- Contributor/Role
- Discipline
- Technical input
- Processes
- Tool set
- Common success factors



Applicability of BIM



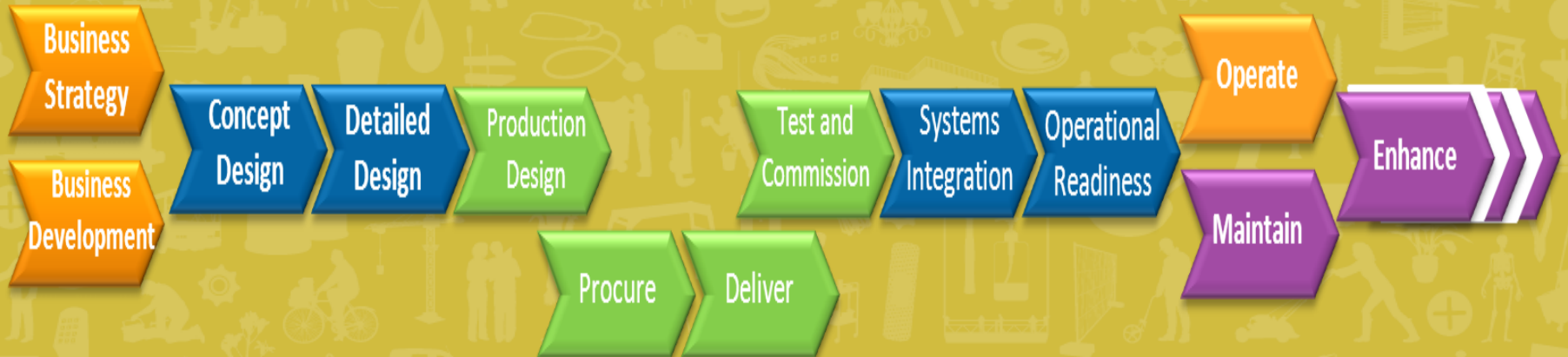
For our Supply Chain Partners

- Greater collaboration pre-site
- Interface issues clearer
- Installation right first time
- Fewer defects
- Less waste
- Ease of repetition
- Better planning
- Easier to demonstrate/record progress
- Safer working





We work. **You excel.**

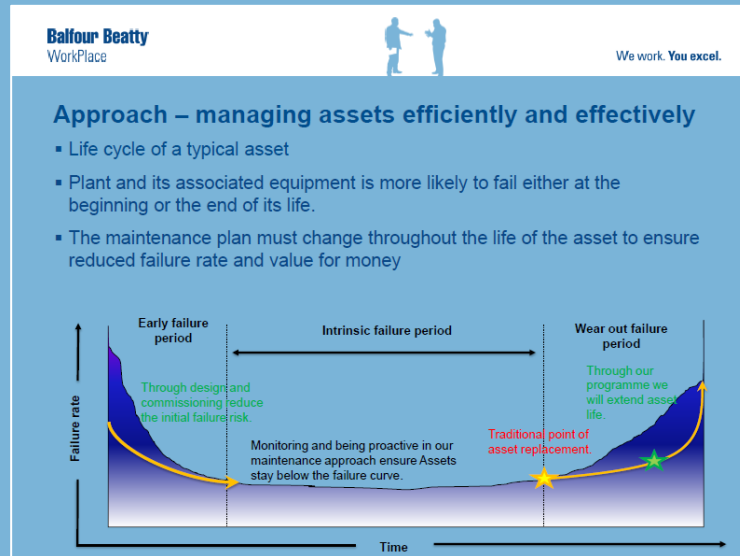


One Data Set





Beyond Delivery



Business
Strategy

Concept
Design

Detailed
Design

Production
Design

Test and
Commission

Systems
Integration

Operational
Readiness

Operate

Enhance

Business
Development

Procure

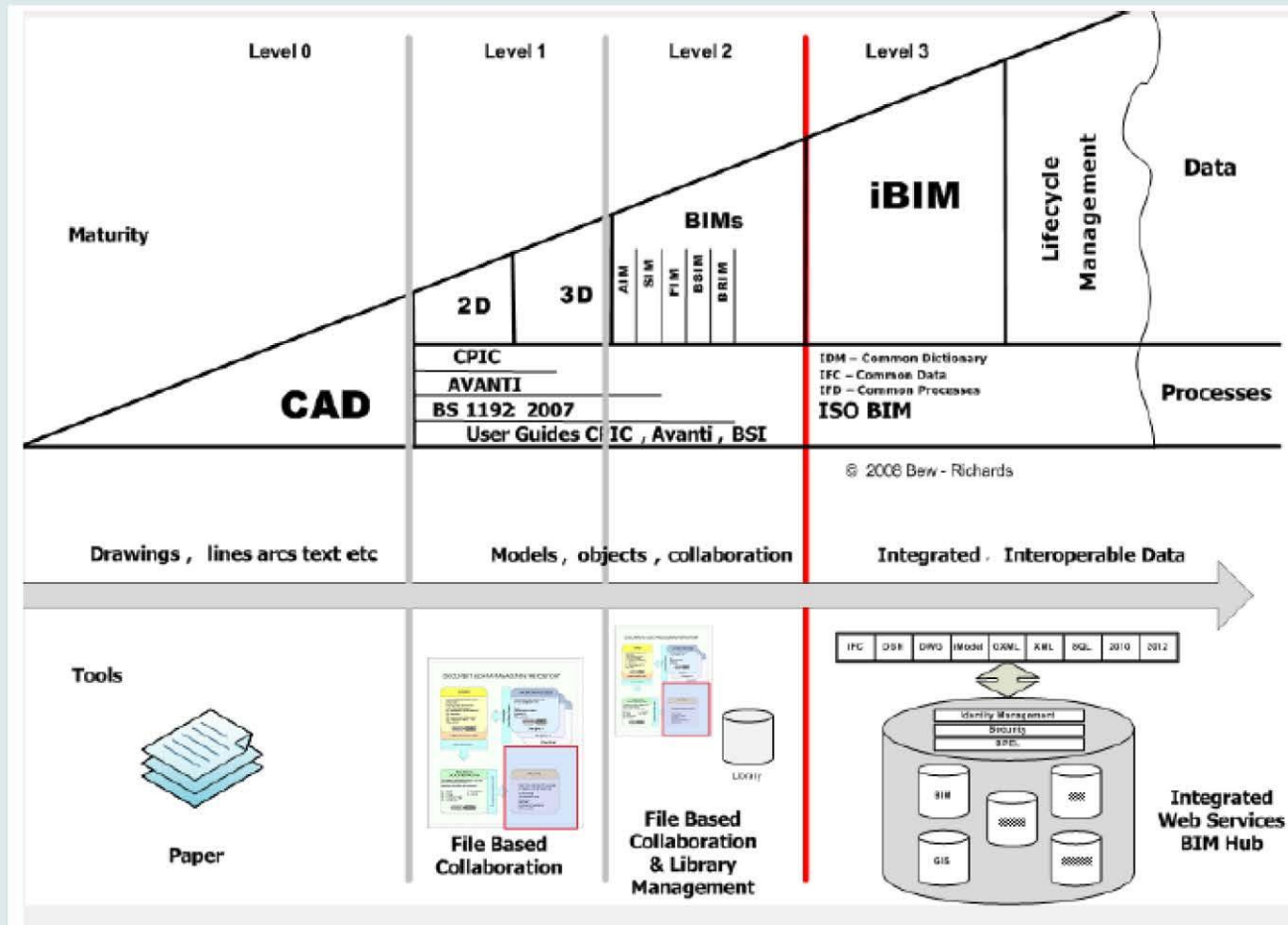
Deliver

Maintain

Summary

- ▶ Design and lifecycle management merging through active collaboration of technology, processes and people
- ▶ Challenges come from a lack of integrated whole life decision making tools
- ▶ Critical factors, including data standards
- ▶ Recent case studies and thoughts for the way forward

Seen this already?



A tough one to crack?



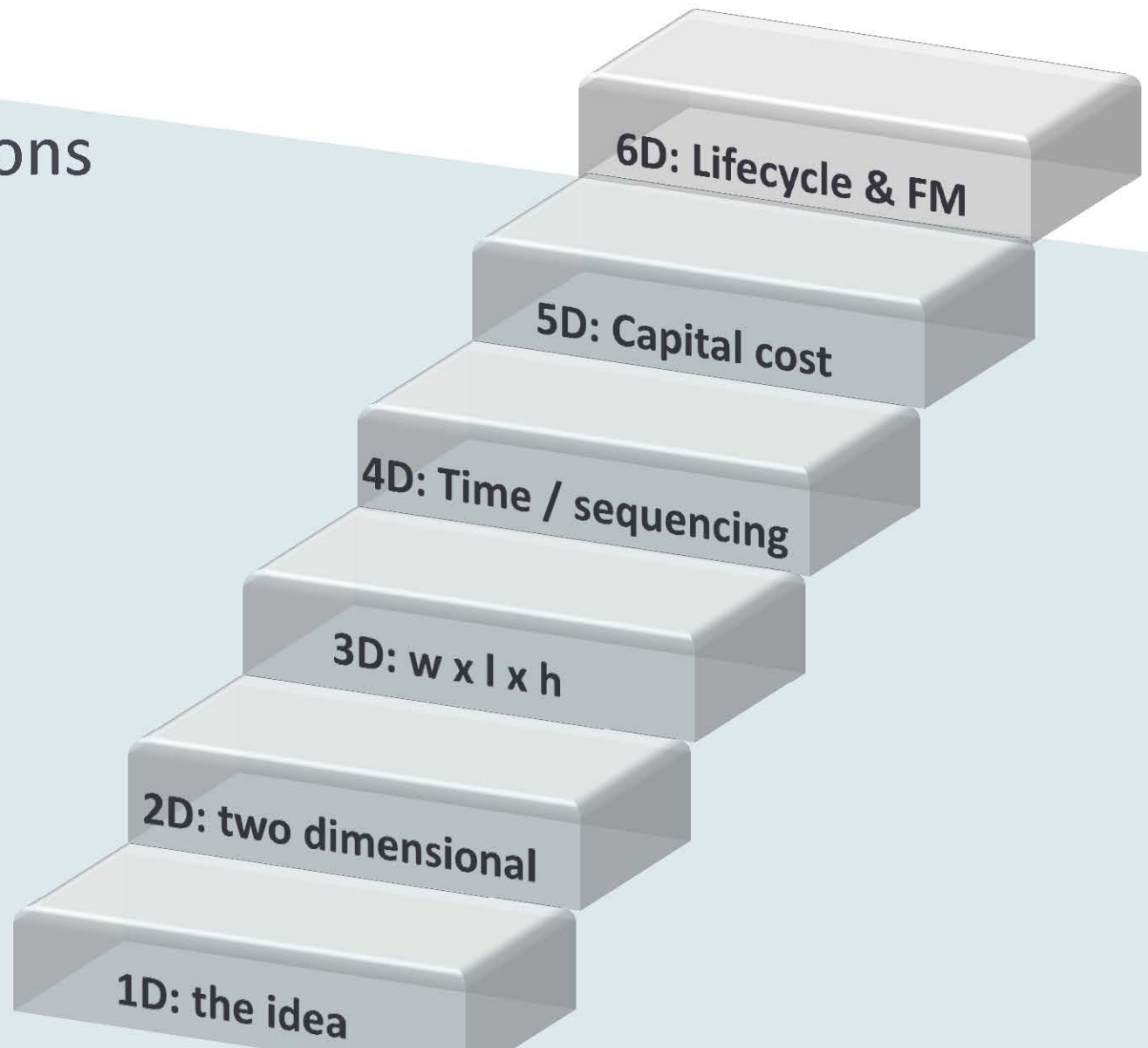
6 dimensions

But also...

12 edges

8 corners

6 dimensions



Lifecycle Value chain

	BIM?	Services
Management services	Potential	<ul style="list-style-type: none"> Portfolio planning (buy, sell, rent etc.), rationalisation programmes/ management of surplus property, transaction services
	✓ in Part	<ul style="list-style-type: none"> Condition surveys, life-cycle costing, capex/opex balance and investment planning, procurement, performance monitoring, space optimisation
Energy services	Potential	<ul style="list-style-type: none"> Energy procurement, bill validation, legislation consultancy, workforce education, energy audit and advice
	✓	<ul style="list-style-type: none"> Installation/ maintenance of BMS, equipment optimisation/ re-configuration, metering
FM delivery	✓	<ul style="list-style-type: none"> M&E (including HVAC), building fabric maintenance, grounds maintenance
	?	<ul style="list-style-type: none"> Catering, cleaning, security

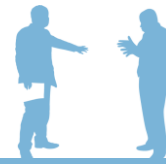


- ▶ Focus must be to managing rising FM and energy costs, carbon pressures, legislation, capital constraints, cost efficiency targets NOT the technology
- ▶ BIM is lifecycle facility management supported by digital technology
- ▶ BIM is not only 3D visualization tools: central data storage area/portals for extracting relevant FM information
- ▶ “Make BIM useful to a wider community”
http://www.wbdg.org/bim/nibs_bim.php
 - ▶ property managers, appraisers, brokers, mortgage bankers, facility assessors, facility managers, maintenance and operations engineers, safety and security personnel as incident responders, landscape architects, infrastructure engineers and operators etc

Real demand for BIM that is lifecycle asset management: 6D

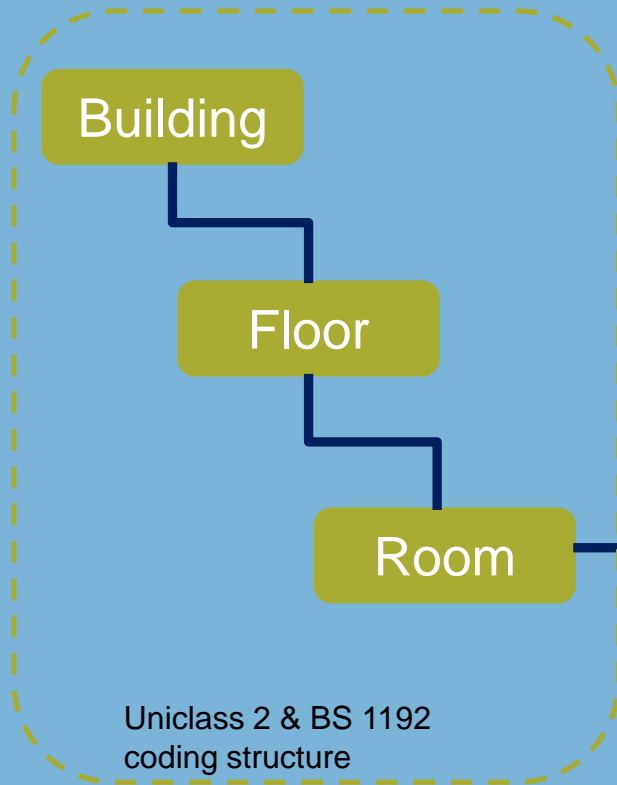
6D BIM – benefits and examples

- ▶ Intelligent lifecycle replacement planning
 - ▶ e.g. lifecycle capital replacement models and plans linked to design models (2D or 3D)
- ▶ Integrated real time condition assessment
 - ▶ e.g. in-field condition surveys apps linking to asset database and lifecycle plans
- ▶ Affordable risk based preventive maintenance
 - ▶ e.g. linking maintenance to risks, criticality and quality of assets of specification
- ▶ Delivering cost effective refurbishment
 - ▶ e.g. existing buildings surveyed using point cloud surveys, feed into condition surveys and new capital work cost planning
- ▶ Reduced Energy & Carbon impacts
 - ▶ e.g. linking to real-time building submeter and sensor data on electricity and occupancy (Autodesk Project Dasher)
- ▶ Efficient space management
 - ▶ e.g. people/HR data, utilisation and FF&E management
- ▶ Managing churn

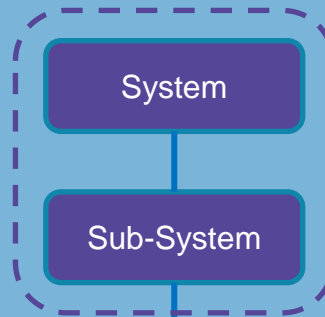


Hierarchy

Geographic



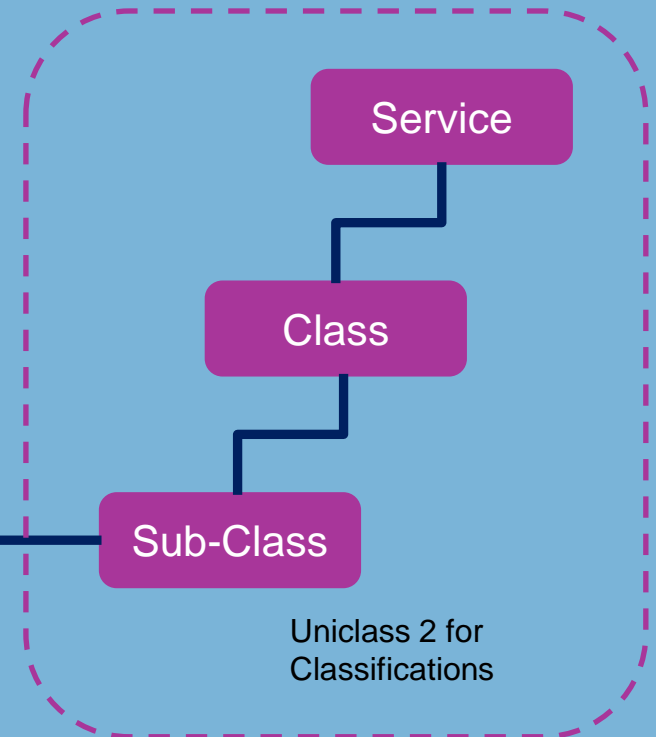
Attributes
(BSRIA for
Attributes)



Asset

Sub -
Asset

Technical

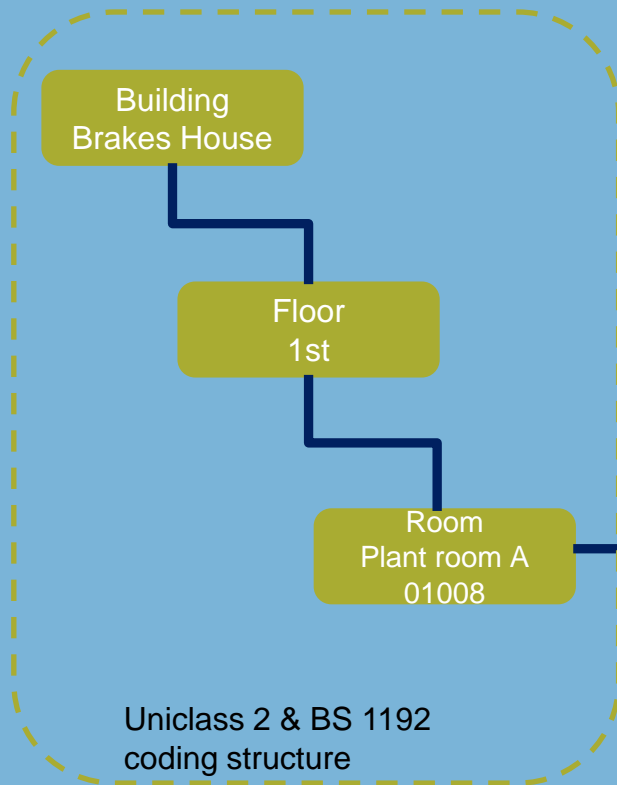


SFG 20 (B&ES) Job plans

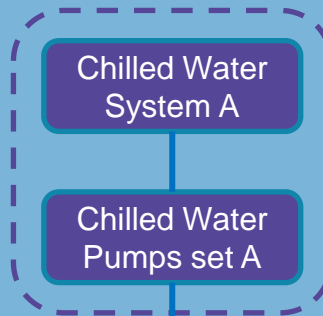


Example Hierarchy

Geographic



Attributes
(BSRIA for
Attributes)

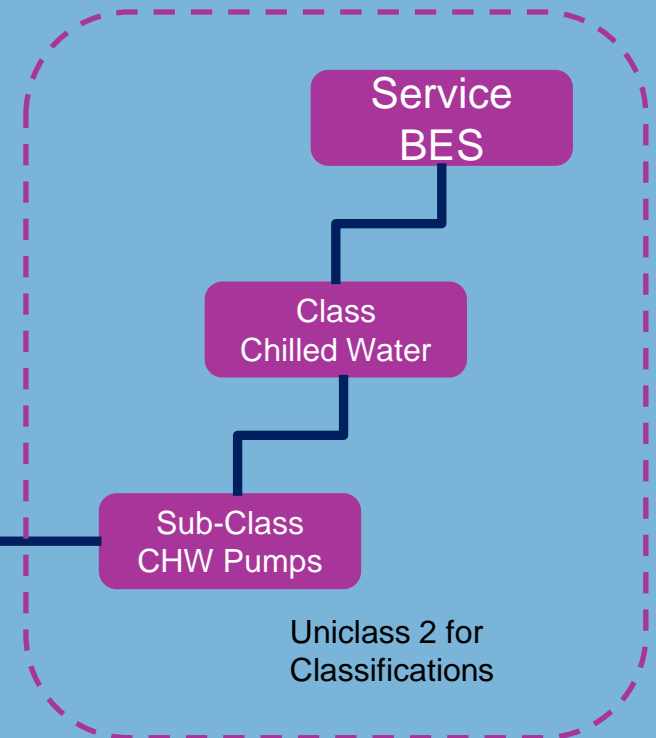


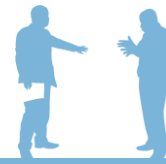
Pump
No 1

Pump
No 2

SFG 20 (B&ES) Job plans

Technical





BIM Library Object

Properties

Duct System
Return Air

Duct Systems (1)

Edit Type

Asset Details

Asset ID	WR651095-0071
Number of Units	1
Location	Ground Floor Plantroom
Location ID	GF001
Barcode / Tag	1342553112

Significant Components

LPHW Heating Coil	
4-Port Valve with Actuator Control	
Ecosmart Controls	Integral Ecosmart PCB
Silencer	
Motor	High Efficiency, direct drive
Fan Impeller	high efficiency centrifugal design
Controller	frequency/inverter speed controller
Power Outlets	IDC Sockets

Asset Attributes

Manufacturer	Nuair Ltd.
Type	Ecosmart - Scurbo Supply
Model / Serial No.	ESS4-2L
Installation Date	12 December 2012
Cost	£3,468.99
Criticality	High
Life Expectancy	12 Years
Size	968 x 450 mm
Weight	26 kg
Performance Characteristics	
Electrical Supply	Single Phase, 230v / 50Hz
BPM	2313
Motor Power	0.17 Kw
LPHW Heating Coil	8.5 Kw
FLC	0.32 Amps
Breakout	43 dBA @ 3m

Key Documents

Manufacturer's Warranty	5 Years
Full O&M Manual	To include SOP's and EOP's
Detailed Dwg's / Schematics	Disassembly & maintenance
Wiring / Control Diagrams	As appropriate
Maintenance Procedures	Job Plans - refer to note below
Health & Safety Information	As appropriate
Critical Spares	
Technical Support	Contact Details

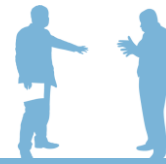
Controls / BMS Interfaces

Timer	adjustable run on timer
BMS Interfaces	Heating/cooling switching
BMS Interfaces	0 - 10v speed adjustment
Status Indicators	volt free fail and status indication
Temperature Control	air off temperature adjustment
Commissioning	min / max speed adjustment
Vent / Trickle Switch	background ventilation switch
Alarms	v/f frost alarm/heat demand /face
Thermostats	Frost protection/hold off stat

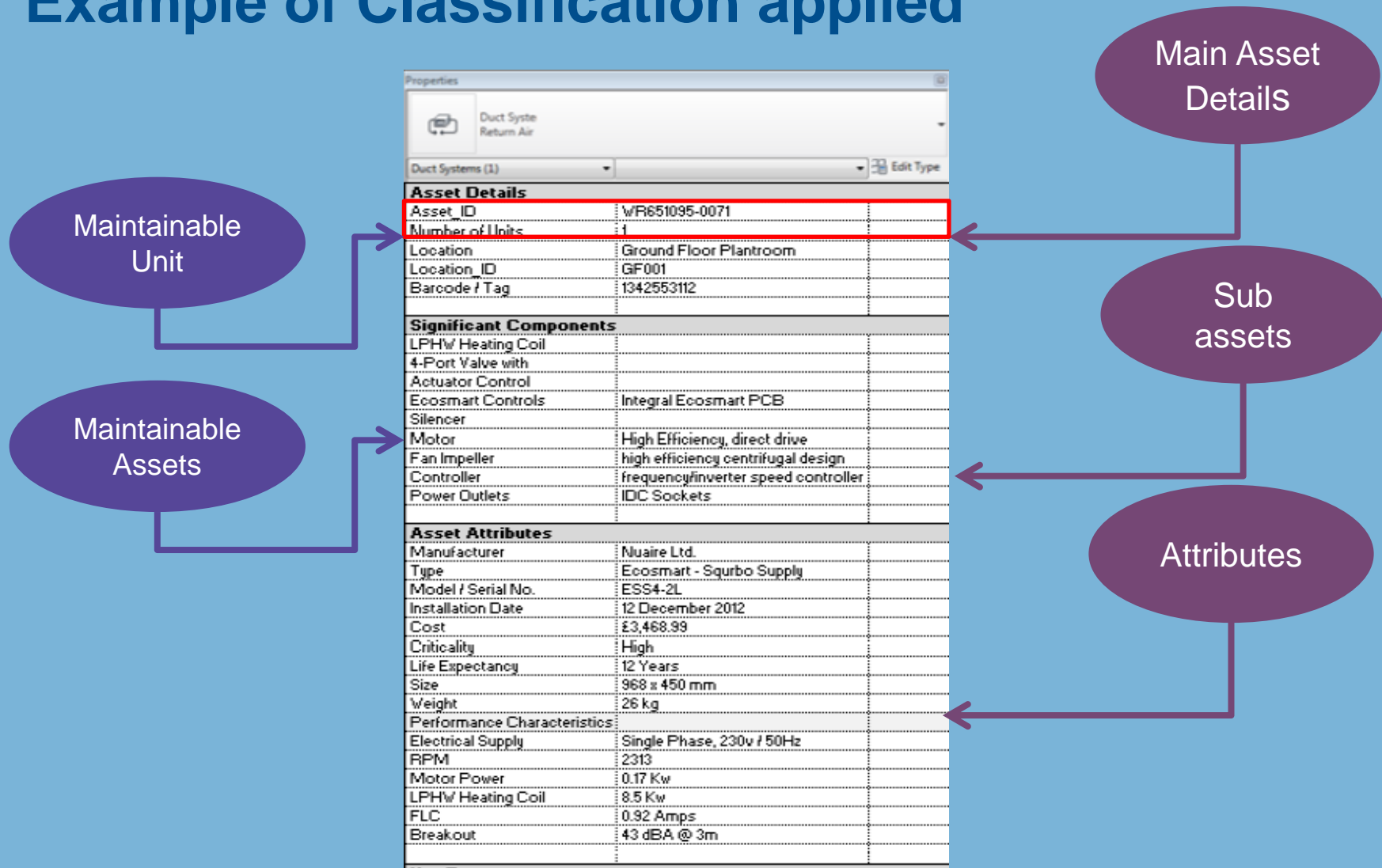
REVIT 3D DRAWING

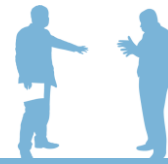
BIM LIBRARY OBJECT

KEY DOCUMENTS

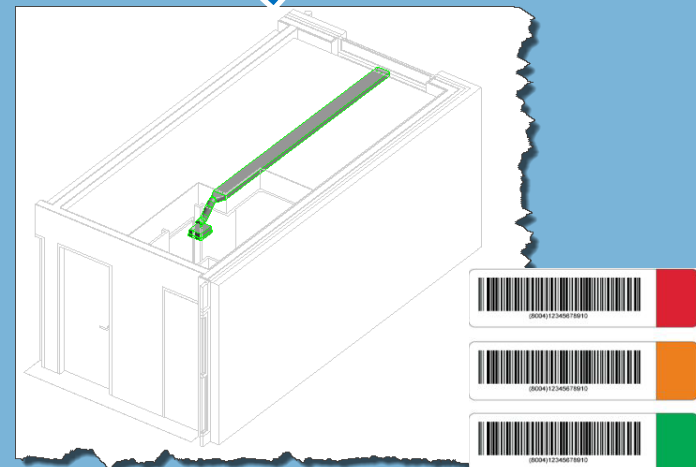
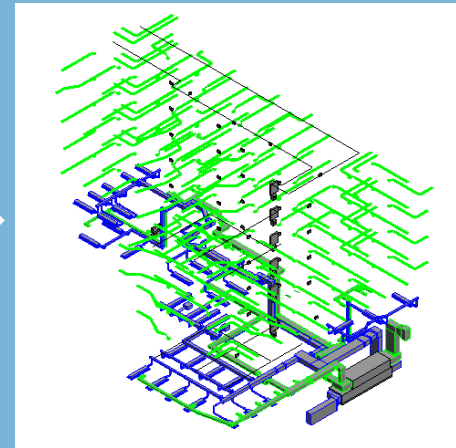


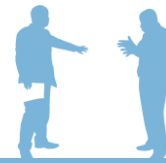
Example of Classification applied





Example – Edinburgh Student Accommodation





Data is exported from Revit

Update COBie Parameters Values

Check All | Check None | Populate Value | Overwrite Existing | Check All | Check None

COBie(Type)CreatedBy ☒ ☐ RSP@rsp.com

COBie(Type)CreatedOn ☒ ☐ 2013-09-18T13:27:55

COBie(Type)ExtSystem ☒ ☐ Autodesk Revit 2013 - 20130531_2115x64

COBie(Type)ExtObject ☒ ☐ Revit API Class:Revit API Category

COBie(Type)ExtIdentifier ☒ ☐ ☒ Revit ID ☐ GUID

COBie(Type)Description ☒ ☐ Description or Family Type

COBie(Type)Category ☒ ☐ ☒ OmniClass (built-in)

COBieRowName (for Revit Instances)

Level (COBie Floor) ☒ ☐ Name

Room and Space ☒ ☐ ☒ Name ☐ Name.Id

Door ☒ ☐ ☐ Mark ☐ Mark.Id

Window ☒ ☐ ☐ Mark ☐ Mark.Id

Other Components ☒ ☐ ☐ Mark ☐ Mark.Id

MEP Systems ☒ ☐ Name: SystemType.Id

COBieTypeRowName (for Revit Types)

MEP Systems Types ☒ ☐ Name: SystemClassification

All other Types ☒ ☐ ☐ TypeMark ☐ TypeMaterial

Update

COBie Export Options

☒ Excel File:
Template/Initial File: C:\ProgramData\Autodesk\Revit\Addins\2013\Autodesk Consulting\COBie\Support Files\COBie-UK
SaveAs File: C:\DRT_Data\Balfour\UoE_Holyrood\RSP Files\Working Files\COBie Holyrood Test 2.xls

☐ XML File (NOTE: This is not so-called COBieLite XML format, but simpler similar format just using the sheets/columns names)
SaveAs File: C:\DRT_Data\Balfour\UoE_Holyrood\RSP Files\Working Files\COBie Holyrood Test 1.xml

Sheets | Units | Components/Types | Attributes | Coordinates | Systems | Zones | Spaces

Select A | Select A | Select A | Check All | Check None

Contact: ☐ Omit ☐ Append to ☒ Overwrite ☒ Clear explicitly beforhand

Facility: ☐ Omit ☐ Append to ☒ Overwrite ☒ Clear explicitly beforhand

Floor: ☐ Omit ☐ Append to ☒ Overwrite ☒ Clear explicitly beforhand

Space: ☐ Omit ☐ Append to ☒ Overwrite ☒ Clear explicitly beforhand

Zone: ☐ Omit ☐ Append to ☒ Overwrite ☒ Clear explicitly beforhand

Type: ☐ Omit ☐ Append to ☒ Overwrite ☒ Clear explicitly beforhand

Component: ☐ Omit ☐ Append to ☒ Overwrite ☒ Clear explicitly beforhand

System: ☐ Omit ☐ Append to ☒ Overwrite ☒ Clear explicitly beforhand

Attribute: ☐ Omit ☐ Append to ☒ Overwrite ☒ Clear explicitly beforhand

Coordinate: ☐ Omit ☐ Append to ☒ Overwrite ☒ Clear explicitly beforhand

OK Cancel



COBie (Excel) Output File

	A	B	C	D	E	F	G
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no -

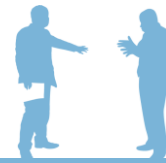
COBie _ Maximo Reconciliation Process

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Distribution Board SP&N:12Way Consumer Unit 100A:1091852	GH/1/0.1-5-6	Distribution Board SP&N:12Way Consumer Unit 100A	Autodesk Revit 2013 - 20130531	1091852	n/a
Distribution Board SP&N:12Way Consumer Unit 100A:1091853	GH/1/0.1-5-6	Distribution Board SP&N:12Way Consumer Unit 100A	Autodesk Revit 2013 - 20130531	1091853	n/a
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Distribution Board SP&N:12Way Consumer Unit 100A:1091856	TP/1/2-1	Distribution Board SP&N:12Way Consumer Unit 100A	Autodesk Revit 2013 - 20130531	1091856	n/a
Distribution Board TP&N:125 A:1091858	78	Distribution Board TP&N:125 A	Autodesk Revit 2013 - 20130531	1091858	n/a
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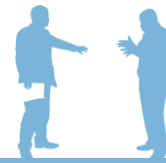
Maximo Input Scripts

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```



Allows PPM's to be set up in Maximo

Search	Work Order	Call notes	Plans	Assignments	Actuals	Safety Plan	Failure Reporting	Attached Documents																
<div> <div> Work Order: * 1035 Location: * 1031 Equipment: 1002 Reported By: * SHUSSAIN01 Status: * WSCH WCM Reason: </div> <div> COE - AHU 2 - Detailed Maintenance - R001 R001 - Plantroom (Room Level) AHU 2 - R001 Reported Date: * 24/09/13 09:39 Status Date: * 24/09/13 09:39 Is Task? </div> <div> In Workflow? <input type="checkbox"/> WO Priority: 25 Equipment Up? <input checked="" type="checkbox"/> Charge To Store? <input type="checkbox"/> Change Status on Child Work Orders? <input checked="" type="checkbox"/> </div> <div> Work Type: * PM GL Account: POLC100000-04-???? Warranty: 01/09/14 Work Phone: Room Number R001 Parent WO: </div> </div>																								
Job Details Job Plan: SFG03-01-01 Safety Plan: Category: Normal PM: 1002 Service Contract: Sub Contract? * N			Problem Failure Class: MECH Problem Code: SLA Failed Code:			Follow-up Work Originating WO: Has Follow-up Work? <input type="checkbox"/>																		
Scheduling Information <table border="1"> <thead> <tr> <th colspan="2">Start</th> <th colspan="2">Finish</th> </tr> </thead> <tbody> <tr> <td>Target:</td> <td>10/10/13 08:00</td> <td>17/10/13 08:00</td> <td></td> </tr> <tr> <td>Scheduled:</td> <td>10/10/13 10:00</td> <td>10/10/13 10:25</td> <td></td> </tr> <tr> <td>Actual:</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> Estimated Duration: * 0:25 Remaining Duration: Crew: Interruptible? <input type="checkbox"/>					Start		Finish		Target:	10/10/13 08:00	17/10/13 08:00		Scheduled:	10/10/13 10:00	10/10/13 10:25		Actual:				Responsibility Supervisor: Labor Group: Lead Craft/Person: MULTSKIL			
Start		Finish																						
Target:	10/10/13 08:00	17/10/13 08:00																						
Scheduled:	10/10/13 10:00	10/10/13 10:25																						
Actual:																								
					Modified By: SHUSSAIN01 Date: 24/09/13 09:43																			



					MAJOR SERVICE TO INCLUDE MINOR SERVICE TASKS										* SPECIALIST VISIT													
					KEY: A - ANNUAL B - BI-ANNUAL Q - QUARTERLY M - MONTHLY W - WEEKLY																							
					Note. 24 monthly and longer periods not shown on this plan, figure after stroke indicates estimated time to complete task. Letter S indicates wo																							
					24/01/05	01/12/05	01/12/06	01/12/07	15/12/08	22/12/09	29/12/09	06/01/10	12/01/10	19/01/10	26/01/10	02/02/10	09/02/10	16/02/10	23/02/10	02/03/10	09/03/10	16/03/10	23/03/10	30/03/10	06/04/10	13/04/10	20/04/10	27/04/10
SITE	ASSET NO	PLANT	TASK REF	Time per(Hou	Total tim	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
LC2a	1	AIR HANDLING UNITS - GENERAL - 3 M	PQY03-01-03	1	20					16																		
LC2a	2	AIR HANDLING UNITS - GENERAL - 6 M	PQY03-01-06	1.5	15																	15						
LC2a	3	AIR HANDLING UNITS - GENERAL - 12 M	PQY03-01-12	2	20																							
LC2a	4	FAN COIL/CONVECTOR UNITS - 3M	PQY59-06-03	0.3	10.2					5.1																		
LC2a	5	FAN COIL/CONVECTOR UNITS - 6M	PQY59-06-06	0.7	11.9																							
LC2a	6	FAN COIL/CONVECTOR UNITS - 12M	PQY59-06-12	1	17																	11.9						
LC2a	7	HEAT EMITTERS / HEATING LOOPS / RADIATORS / UNDERFLOOR HEATING			0																							
LC2a	8	DUCTWORK SYSTEM - GENERAL - 12 M	PQY16-02-12	2	2																							
LC2a	9	DUCTING - VOLUME CONTROL DAMPERS AND FIRE/SMOKE DAM	PQY16-03-06	0.2	11.2																							
LC2a	10	DUCTWORK CLEANING - HYGIENE, INSPECTIONS & MONITORING	PQY17-01-12	8	8																		5.6					
LC2a	11	DUCTWORK-ACOUSTICS - 12M	PQY16-04-12	0.2	15.2																							
LC2a	12	FANS - VENTILATING - GENERAL - 6 M	PQY20-03-06	0.3	3.6																							
LC2a	13	FANS - EXTRACT - INCLUDING FIRE/SMOKE EXTRACTS UNITS,-	PQY20-03-06	0.3	0.3																		9.6					
LC2a	14	FANS - EXTRACT - INCLUDING FIRE/SMOKE EXTRACTS UNITS,-	PQY20-03-12	0.5	0.5																							
LC2a	15	GRILLES AND DIFFUSERS - 6 M	PQY26-01-06	0.2	14.2													14.2										
LC2a	16	GRILLES AND DIFFUSERS - 12 M	PQY26-01-12	0.3	21.3																							
LC2a	17	PIPEWORK SYSTEMS - GENERAL - 12 M	PQY40-01-12	1	1																							
LC2a	18	PIPEWORK SYSTEMS - MOUNTINGS - 3 M	PQY40-02-03	1	3					1																		
LC2a	19	PIPEWORK SYSTEMS - MOUNTINGS - 12 M	PQY40-02-12	1	1																							
LC2a	20	VALVES AND STRAINERS- 6M	PQY61-01-06	1	1																							
LC2a	21	VALVES AND STRAINERS - 12M	PQY61-01-12	1.5	1.5																							
LC2a	22	BLOWN GAS BURNER CONDENSING BOILER - 12M	PQY05-10-12	0	0																							
LC2a	23	GAS FIRED WATER HEATERS - 12M	PQY32-13-12	0	0																							
LC2a	24	BOILER FLUES - 12M	PQT24-01-12	0	0																							
LC2a	25	CIRCULATION PUMPS - GENERAL -3M	PQY45-02-03	0.1	0.8					9.4																		
LC2a	26	CIRCULATION PUMPS - GENERAL -6M	Y 45-01-6 + PQY45-06	0.3	1.2																							
LC2a	27	CIRCULATION PUMPS - GENERAL -12M	Y45-01-12 +PQY45-06	0.3	1.2																							
LC2a	28	DOMESTIC HOT WATER PUMPS 6M	PQY45-06-06	0.1	0.3																							
LC2a	29	DOMESTIC HOT WATER PUMPS 12M	PQY45-06-12	0.2	0.6																							
LC2a	30	UNVENTED DOMESTIC HOT WATER SYSTEM - 3M	PQY32-10-03	0.1	0.2					8.2																		
LC2a	31	UNVENTED DOMESTIC HOT WATER SYSTEM - 6M	PQY32-10-06	0.2	0.2																							
LC2a	32	UNVENTED DOMESTIC HOT WATER SYSTEM - 12M	PQY32-10-12	0.7	0.7																							
LC2a	33	CHEMICAL DOSING - 12 M	PQY65-10-12	0.5	0.5																							
LC2a	34	COMBINATION TAP ASSY MIXING VALVES/TAPS-ISHOWER VALV	PQY61-04-03	0.1	1.6					9.6																		
LC2a	35	COMBINATION TAP ASSY MIXING VALVES/TAPS-ISHOWER VALV	PQY61-04-06	0.4	3.2															3.2								
LC2a	36	COMBINATION TAP ASSY MIXING VALVES/TAPS-ISHOWER VALV	PQY61-04-12	0.7	5.6																							
LC2a	37	SHOWER HEADS - 3M	PQY 51-01-12	0.2	12.8					3.2																		
LC2a	38	SHOWERS - 12 M	PQY61-01-12	0.2	3.2																							
LC2a	39	WATER RISK ASSESSMENT - 2 YEARLY (2008start)	TBA	0	0																							
LC2a	40	WATER SERVICES - WEEKLY	TBA	1.5	78																							
LC2a	41	WATER SERVICES - 12M	TBA	0	0																							
LC2a	42	HOT WATER SERVICES - GENERAL - 1 M	PQY32-02-01	1.5	16.5																							
LC2a	43	HOT WATER SERVICES - GENERAL - 12 M	PQY32-02-12	1	1					1.5																		
LC2a	44	EXPANSION VESSELS - 3M	PQY32-12-03	0.7	2.1																							
LC2a	45	EXPANSION VESSELS - 12M	PQY32-12-12	1	1																							
LC2a	46	COLD WATER STORAGE TANKS AND CISTERNS - 6M	PQY56-02-06	0.5	0.5																							
LC2a	47	COLD WATER STORAGE TANKS AND CISTERNS - 12M	PQY56-02-12	0.7	0.7																							
LC2a	48	COLD WATER BOOSTER SET - 3M	PQY45-12-03	0.5	2					1																		
LC2a	49	COLD WATER BOOSTER SET - 6M	PQY45-12-06	1	4																							
LC2a	50	INSTANTANEOUS ELECTRIC WATER HEATERS -12 M	PQY32-14-12	0.5	0.5																							
LC2a	51	INSULATION - 12 M	PQY35-01-12	2.5	2.5																							
LC2a	52	GAS PIPEWORK TIGHTNESS TEST-12M	PQY67-01-12	0	0																							
LC2a	53	GROUND SOURCE HEAT PUMPS -3M	TBA	0	0																							
LC2a	54	GROUND SOURCE HEAT PUMPS -12M	TBA	0	0																							
LC2a	55	WATER CHILLER UNIT - 3M	PQY03-02-03	0	0																							



Which, in turn, allows W.O's. to be generated

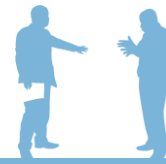
PM Work Order Details Report						PM
WO #: 1018 Job Plan #: SFG03-01-01 Safety Plan: N/A						KPI Ref:
COE:R001 - AHU 2 Maintenance						
Comments: Status: WSCH Target Start: 11-Sep-13 Parent: Client Ref: Target Comp: 18-Sep-13 Sequence: Location Status: AVAILABLE Sub Contractor?: N						
Each recipient of this work order is responsible for ensuring that the Risk Assessment is current and that the Safety Control Measures are in place before work commences						
Equipment: 1002 AHU 2						
Work Type Priority GL Account						
PM 25 POLC100000-04-?????						
Task ID		Measurement Pt	Value	Date	Observations	
10	Ensure Risk Assessment is carried out and O&M followed.					
20	1. Filter					
30	Check manometer reading and renew filter media as indicated.					
40	Check the pressure differential across the filters.					
50	2. Guide vane actuators and modulating dampers					
60	Check operation.					
70	3. Condensate drains					
80	Check for condensate carry-over and that drains are clear.					
90	4. Humidifier pumps sprays and water supply to tank					
100	Check operation.					
110	5. Vent air					
120	Air should be vented from heating and cooling coils where fitted.					
130	6. Drive belts					
140	Check tension, alignment, and condition.					
150	Re-tension or replace as necessary.					
Sub Equipment		Level	Position			
1236	Heating Coil - AHU 2	ROOF	PLANTRM	R001		
1237	Cooling Coil - AHU 2	ROOF	PLANTRM	R001		
1227	Supply Motor - AHU 2	ROOF	PLANTRM	R001		
1228	Extract Motor - AHU 2	ROOF	PLANTRM	R001		
1231	Supply Filter 1 - AHU 2		PLANTRM	R001		
1232	Supply Filter 2 - AHU 2		PLANTRM	R001		
1233	Extract Filter 1 - AHU 2	VARIOUS				
1140	Supply Ductwork - AHU 2	VARIOUS				
1142	Extract Ductwork - AHU 2	VARIOUS				



Options for FM data

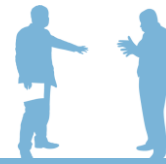
	A	B	C	D	E	F	G
1	Name	Created By	Created On	Category	Component Name	Ext System	Ext Object
14	FFE	nn@aec3	2012-01-20T10:01:14	4A1 : Fittings and Fixtures and	Safer Seat:Safer Seat:Safer Seat:211793		
15	FFE	nn@aec3	2012-01-20T10:01:14	4A1 : Fittings and Fixtures and	Safer Seat:Safer Seat:Safer Seat:211801		
16	FFE	nn@aec3	2012-01-20T10:01:14	4A1 : Fittings and Fixtures and	Cell Bed family:Cell Bed family:Cell Bed family:211804		
17	FFE	nn@aec3	2012-01-20T10:01:14	4A1 : Fittings and Fixtures and	Cell Desk:Desk Whitewood:Desk Whitewood:211805		
18	FFE	nn@aec3	2012-01-20T10:01:14	4A1 : Fittings and Fixtures and	Cell Locker:Cell Locker:Cell Locker:211806		
19	Internal fabric 1	nn@aec3	2012-01-20T10:01:14	2H1 : Internal Doors	Generic Int DO:1810 x 2110mm:1810 x 2110mm:211798		
20	Internal fabric 1	nn@aec3	2012-01-20T10:01:14	2H1 : Internal Doors	Generic Int D Cell Door:790 x 2110mm 3:790 x 2110mm 3:211814		
21	Internal fabric 1	nn@aec3	2012-01-20T10:01:14	2H1 : Internal Doors	Generic Int D Cell Door:790 x 2110mm 3:790 x 2110mm 3:211815		



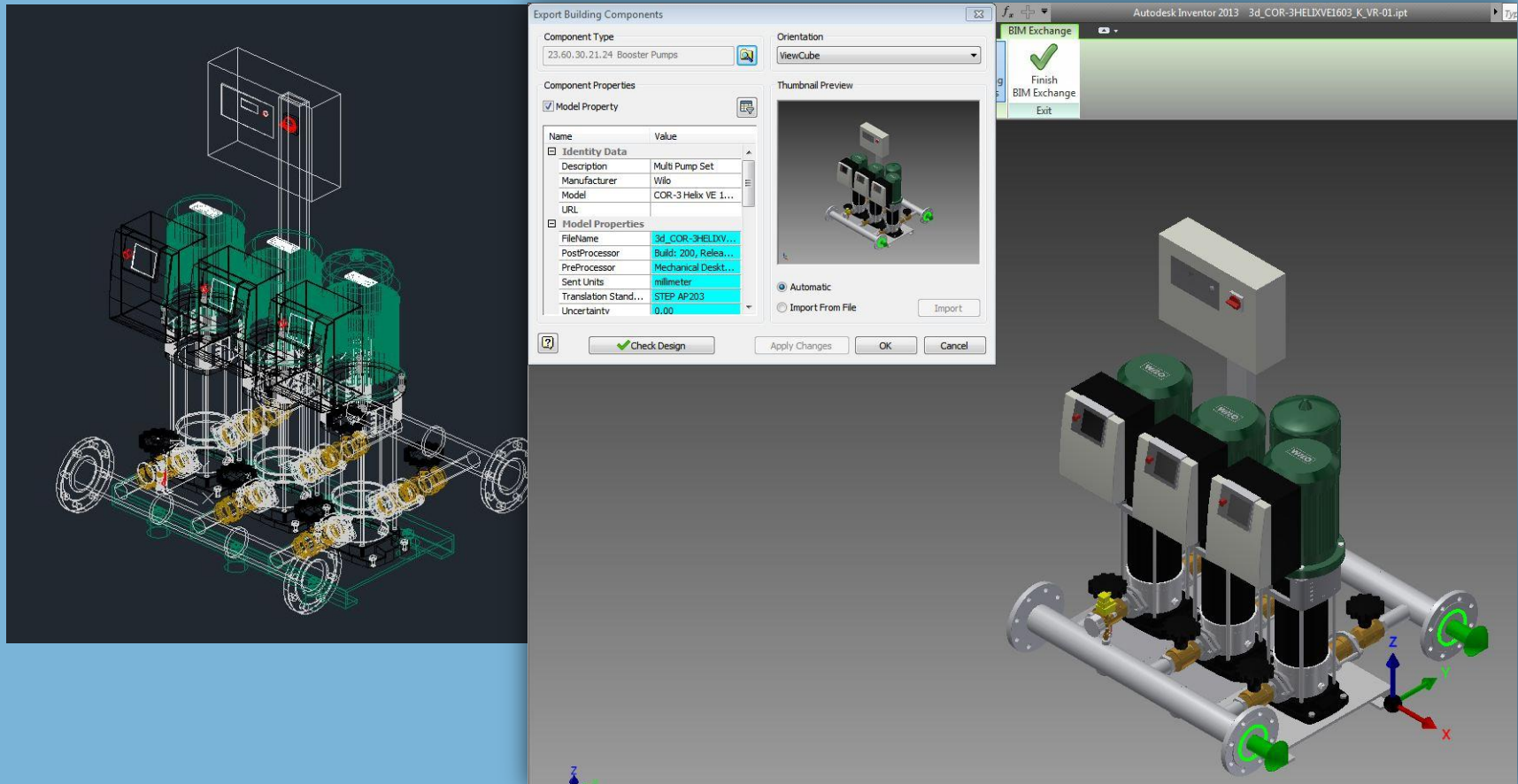


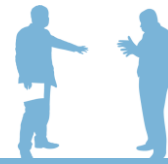
Mobility of Data access



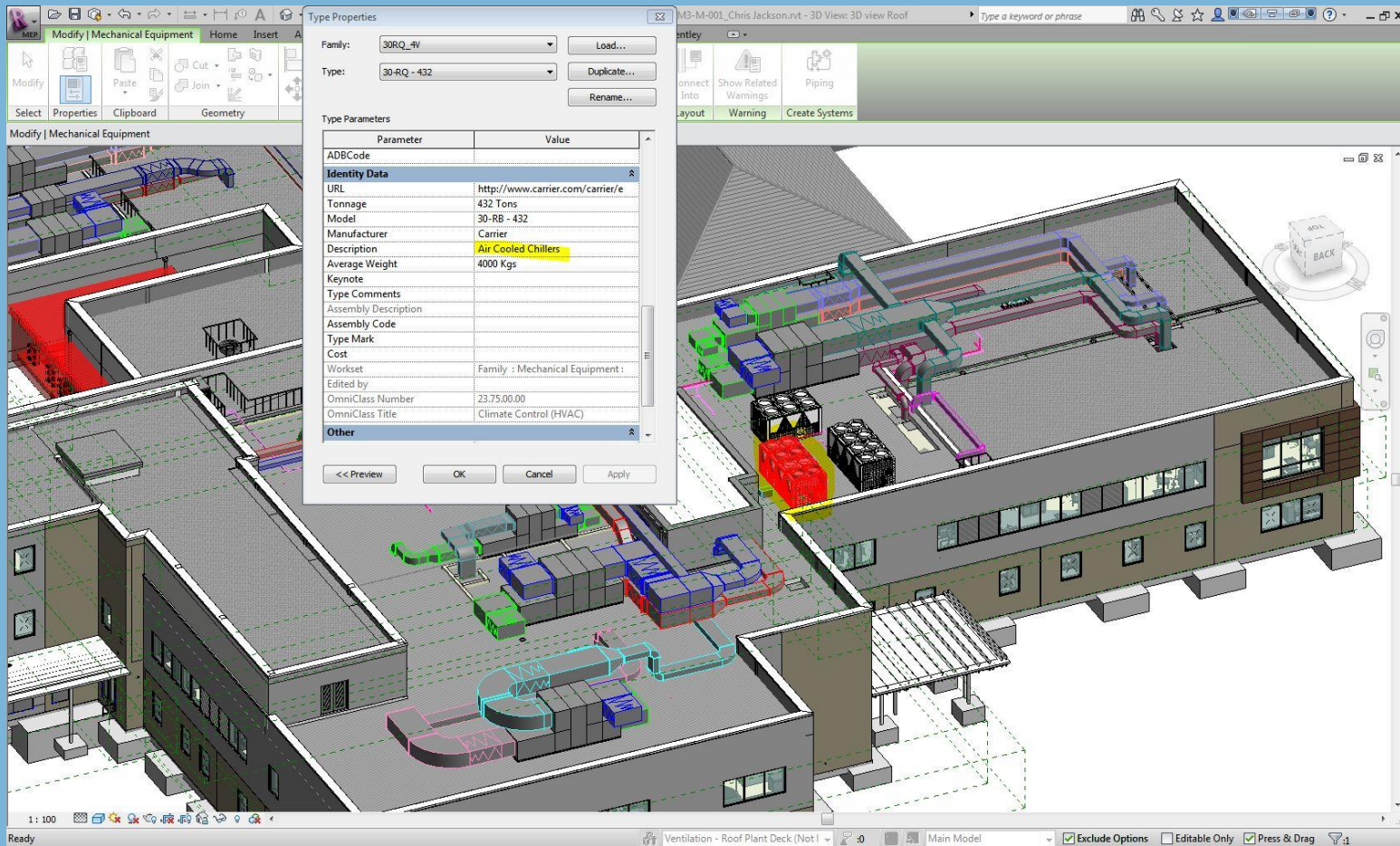


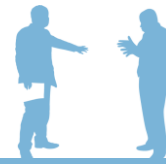
Creation of components





Integration of Components





Supply chain engagement





Tupai Lever Door Handles

R HAMILTON & CO LTD



Timber doors, flush

JB KIND



Door sets, timber

JB KIND



Series K Thermal Doorsets

NOBERNE DOORS



Door furniture

ASSA ABLOY LTD



Electric locking

ASSA ABLOY LTD



Acoustic Doors

NOBERNE DOORS



Security & Anti-Vandal Doors

NOBERNE DOORS



For suppliers/manufacturers
of materials and components
such as:

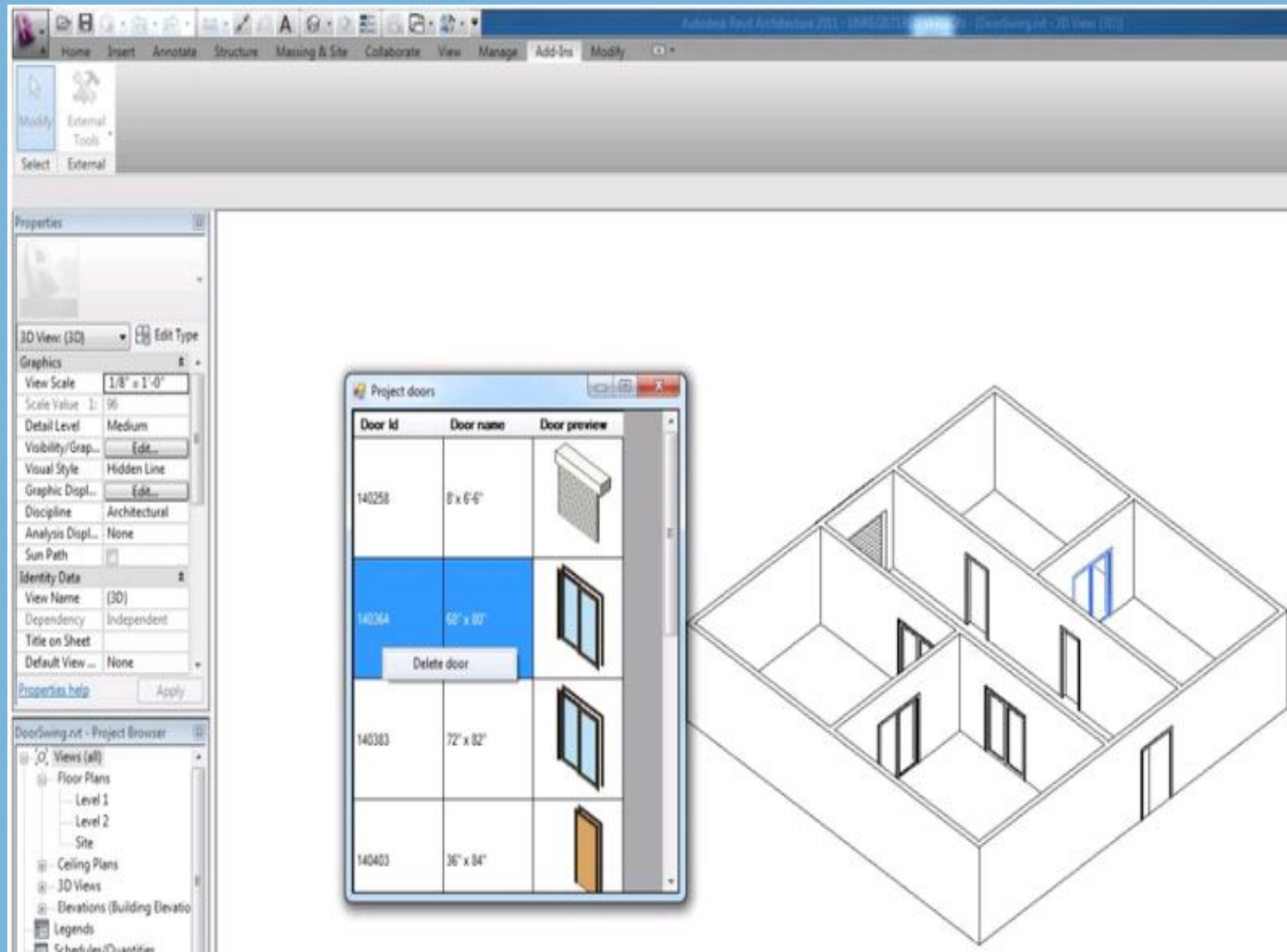
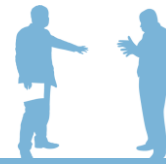
Doors

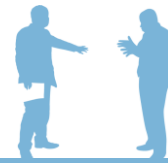
Windows

Ceiling tiles

Ironmongery

*What would be required from
you*

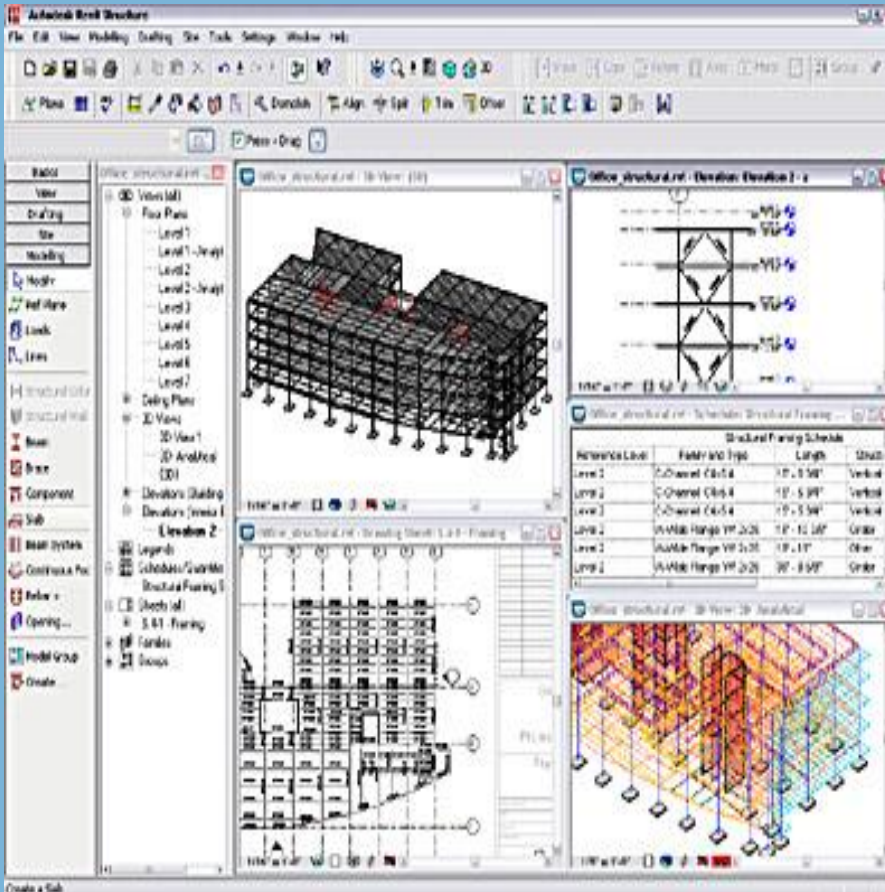


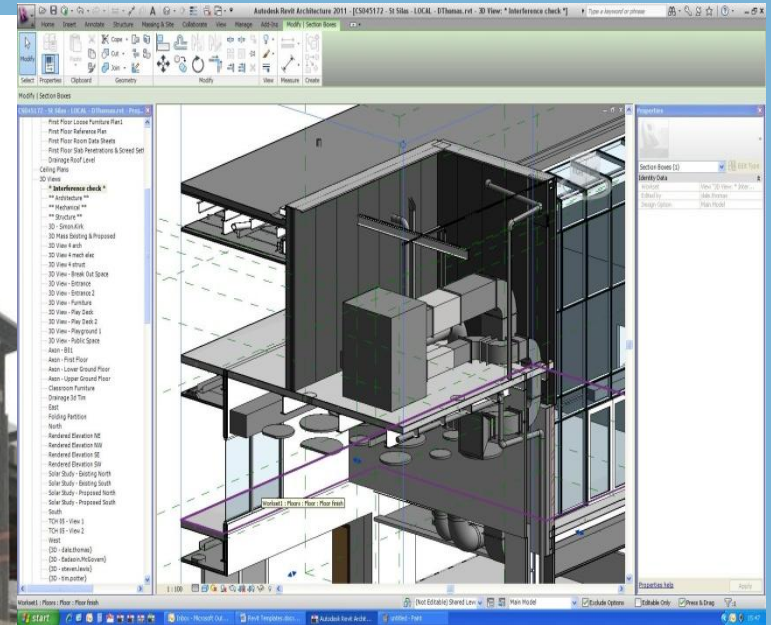
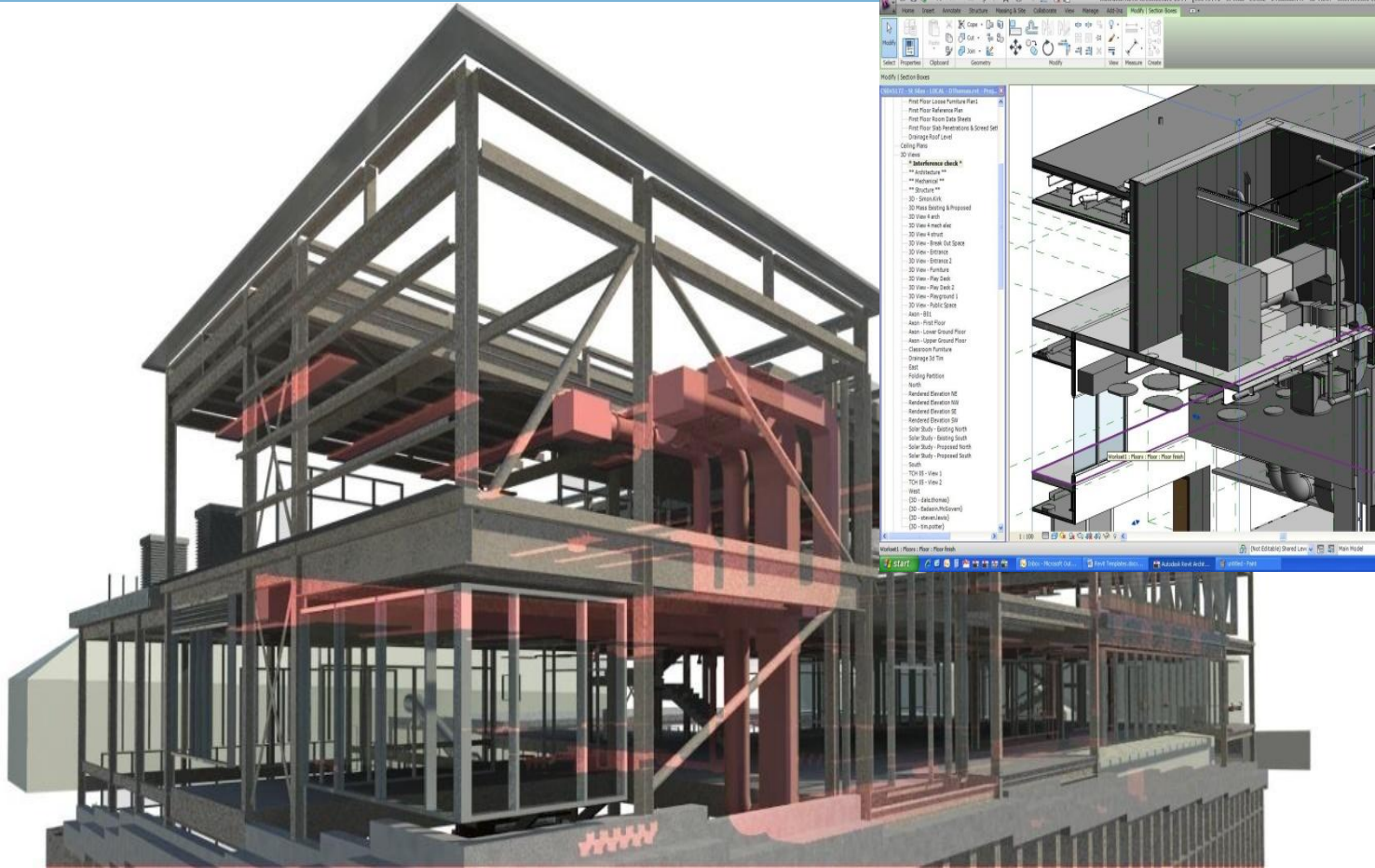


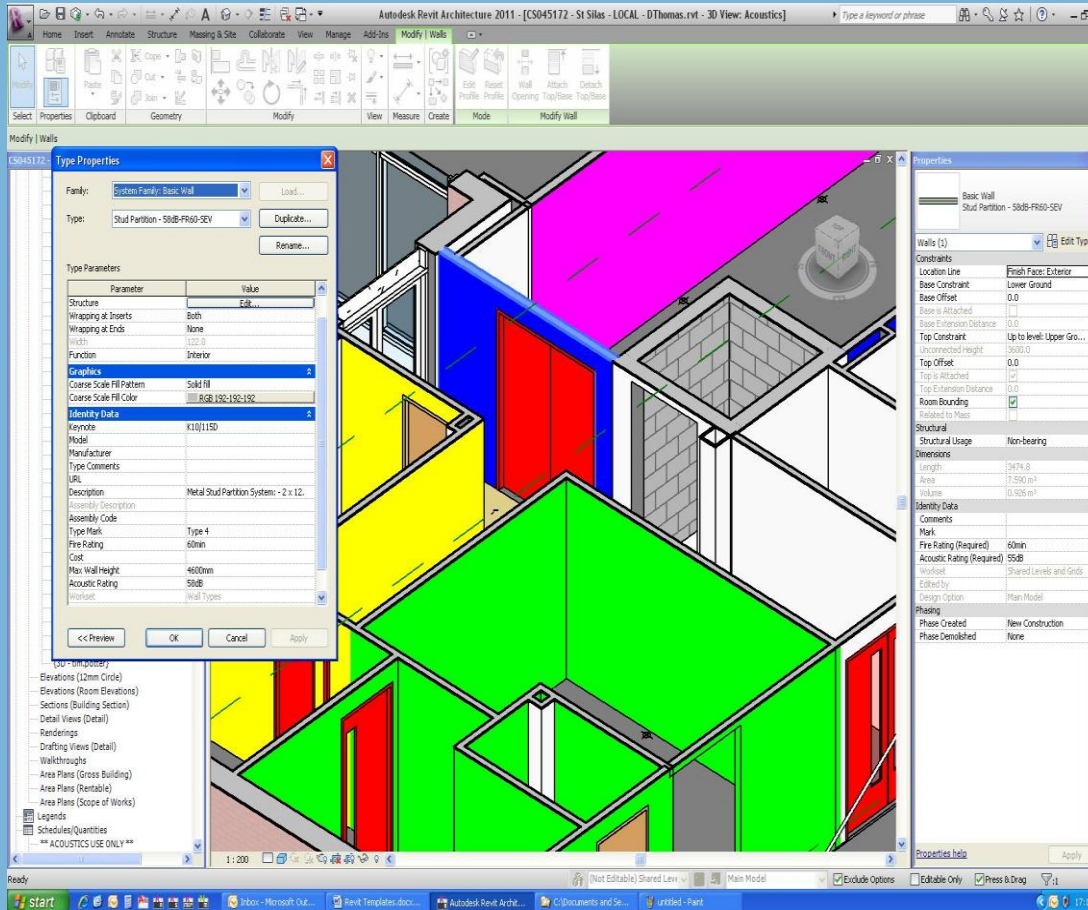
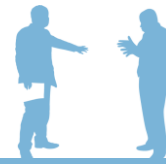
For 'design' supply chain partners such as:

- Steel Fabricators
- Concrete Frames
- Envelope/Curtain Walling
- M&E installers
- Lift manufacturers

What would be required from you



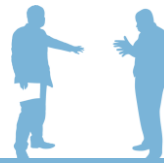




For installers:

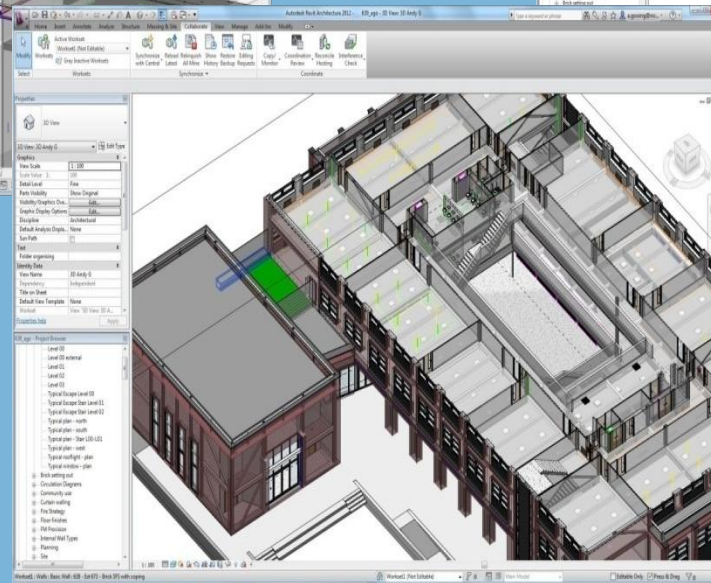
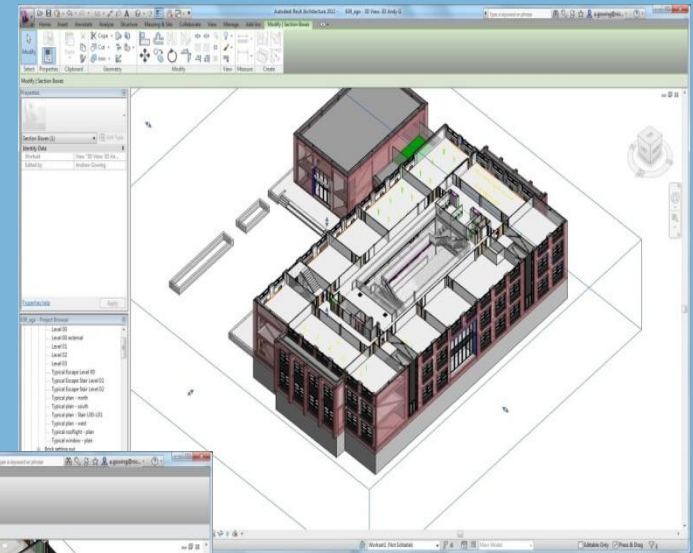
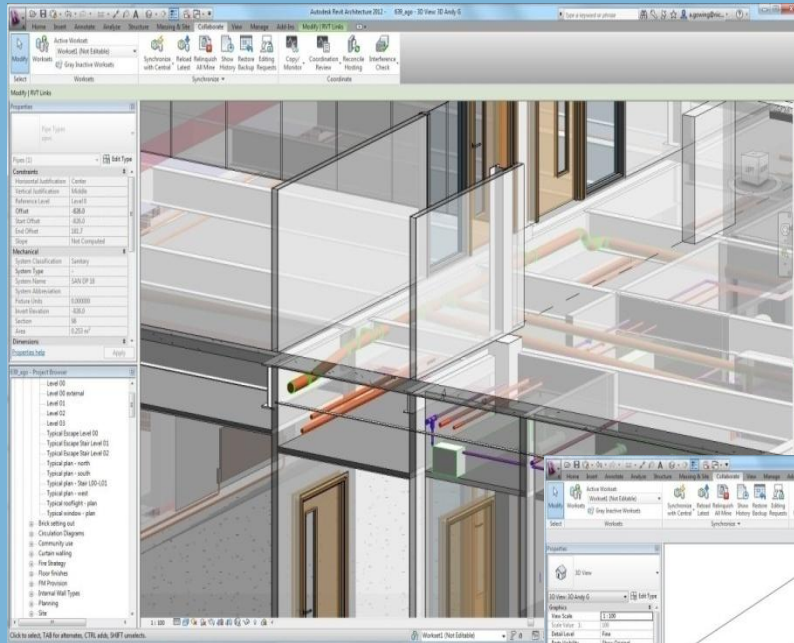
- Read BIM models
- Use BIM for planning work
- Simulate operations
- Brief staff and operatives

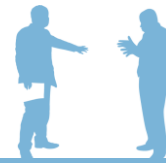
What would be required from you



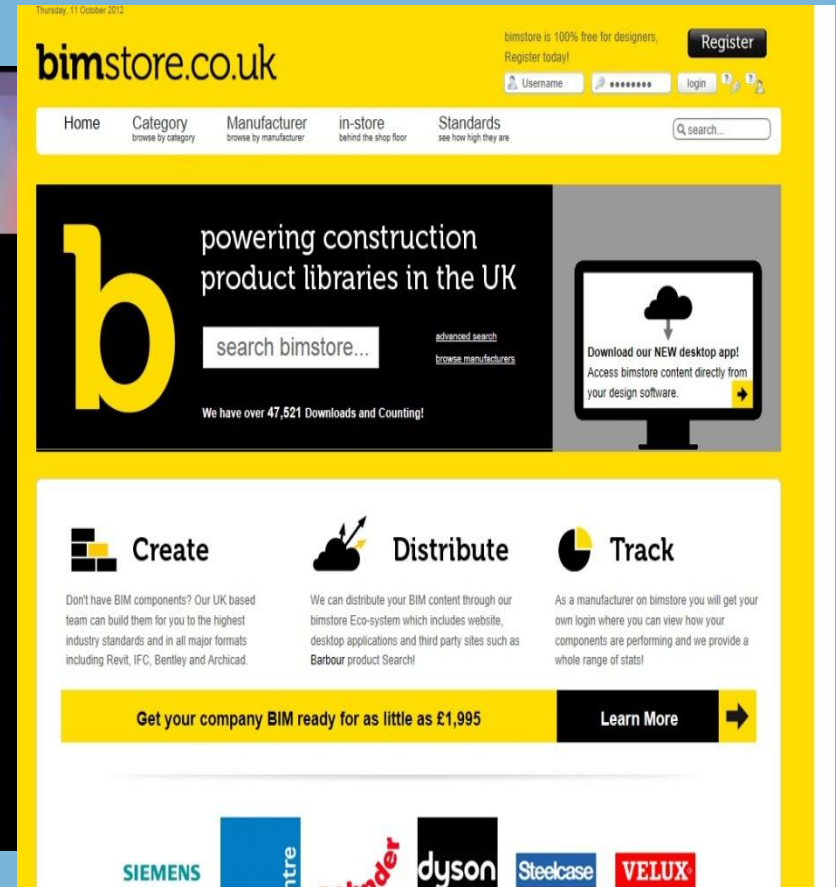
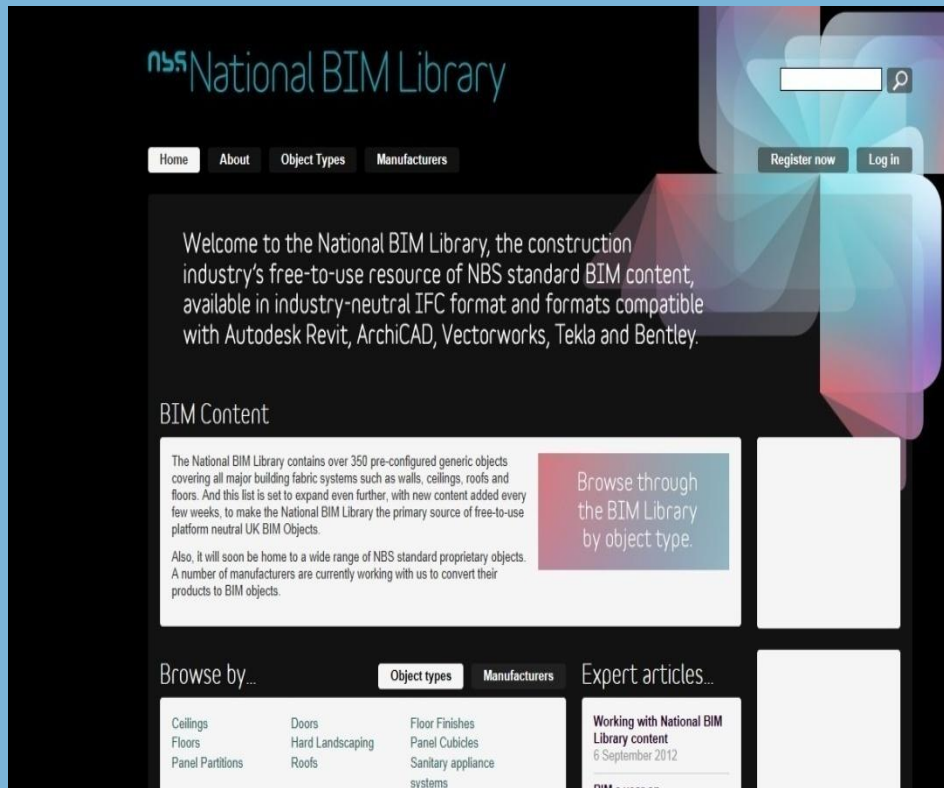
At regular planning meetings
discuss:

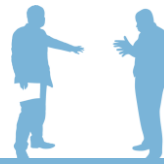
- Construction interface issues
- Risks and Opportunities
- Explore alternative sequencing and methodologies
- Resolve interface/design issues





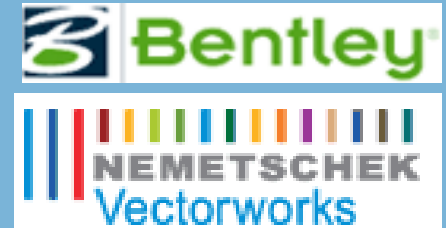
Assistance is available for your BIM journey- BIM Components





Authoring proprietary BIM objects based upon manufacturers technical data which are linked to NBS structured data, the industry de facto specification standard.

BIM objects are authored in IFC, plus the four most dominant formats:



The objects are then freely available to download from:

nationalBIMlibrary.com

ribaproductselector.com

NBS Plus



[Home](#) > [Events](#) > Building Information Modelling (BIM) Toolkit for Manufacturers

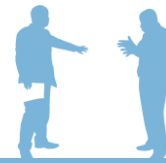
Building Information Modelling (BIM) Toolkit for Manufacturers

Full-day practical training workshop by RIBA Insight

Overview

Going beyond jargon, this event will help you understand BIM, how specification is an integral part of BIM and the potential impact of BIM on the future of design and manufacturing in the construction industry. The workshop will incorporate practical examples to enable building product manufacturers to learn from industry best practice.

Inspired by case studies, by the end of the workshop you will have developed an Outline BIM Action Plan to determine the next steps for you to adopt an effective BIM process for your company.



BIM Training

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BIM for Construction: Industry Solution
CADline's industry leading BIM for Construction design solution brings together key design, modeling and analysis technologies that enable design professionals to create designs that can be checked, analysed and remodeled quickly throughout the design process. Further more, the solution extends to the Construction and Maintenance cycles using information from a single model to dramatically improve downstream processes and reduce costs.

The result: Building model intelligence used in Construction and Maintenance phases.

Workflow Solution

Step 1: Model
Step 2: Analyse
Step 3: Construct
Result: Maintain

Solving Everyday Problems

- Not able to deliver a TRUE BIM project?
- Not able to deliver Structural models that are BIM compliant?
- Have no links to other Revit Models?
- Have no way of linking models to Construction models and phasing?

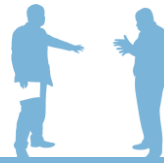
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The Technology

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