



# UK BIM Roadmap

Mark Bew MBE

Chairman – BIM Task Group



HM Government

**Construction**

# Agenda

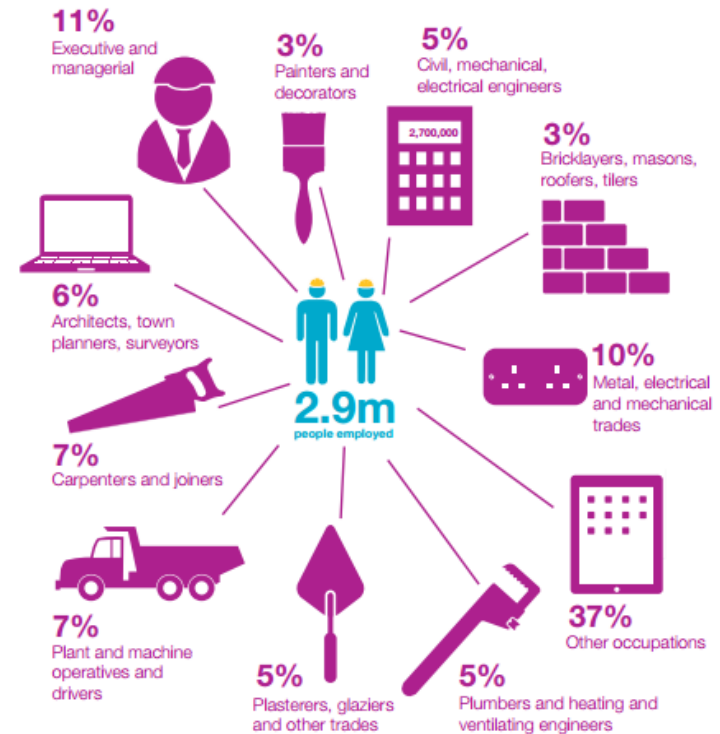
- Introduction
- Level 2 – Capex Reduction
- Progress & Benefits
- Level 3 - Functional Improvement



# Introduction – UK Construction

**£90bn**

Construction contributes nearly **£90bn** to the UK economy, 6.7% of the total



There are **2.9 million** jobs filled in the Construction Industry, circa 10% of all jobs (in over 280,000 businesses)



# Introduction – Industrial Strategy

(Inc. Construction Strategy)



**Lower costs**

33%

reduction in the initial cost of construction and the whole life cost of built assets

**Faster delivery**

50%

reduction in the overall time, from inception to completion, for newbuild and refurbished assets

**Lower emissions**

50%

reduction in greenhouse gas emissions in the built environment

**Improvement in exports**

50%

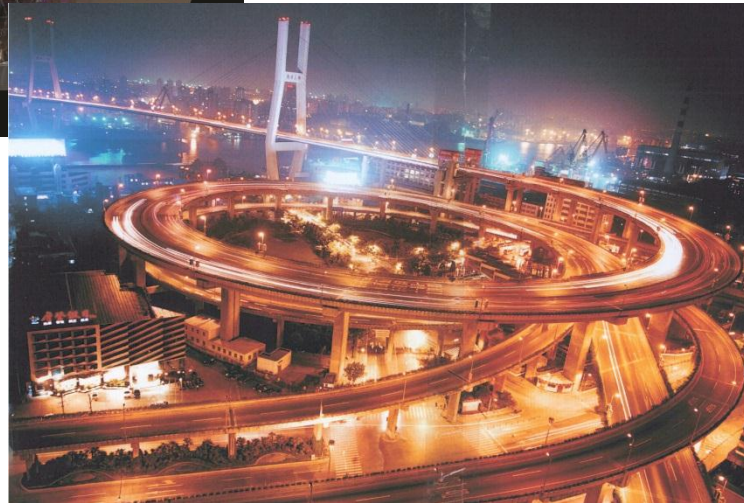
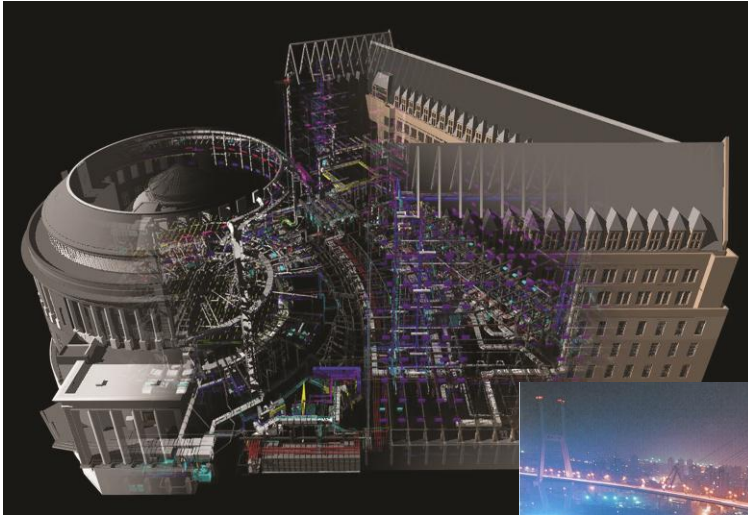
reduction in the trade gap between total exports and total imports for construction products and materials



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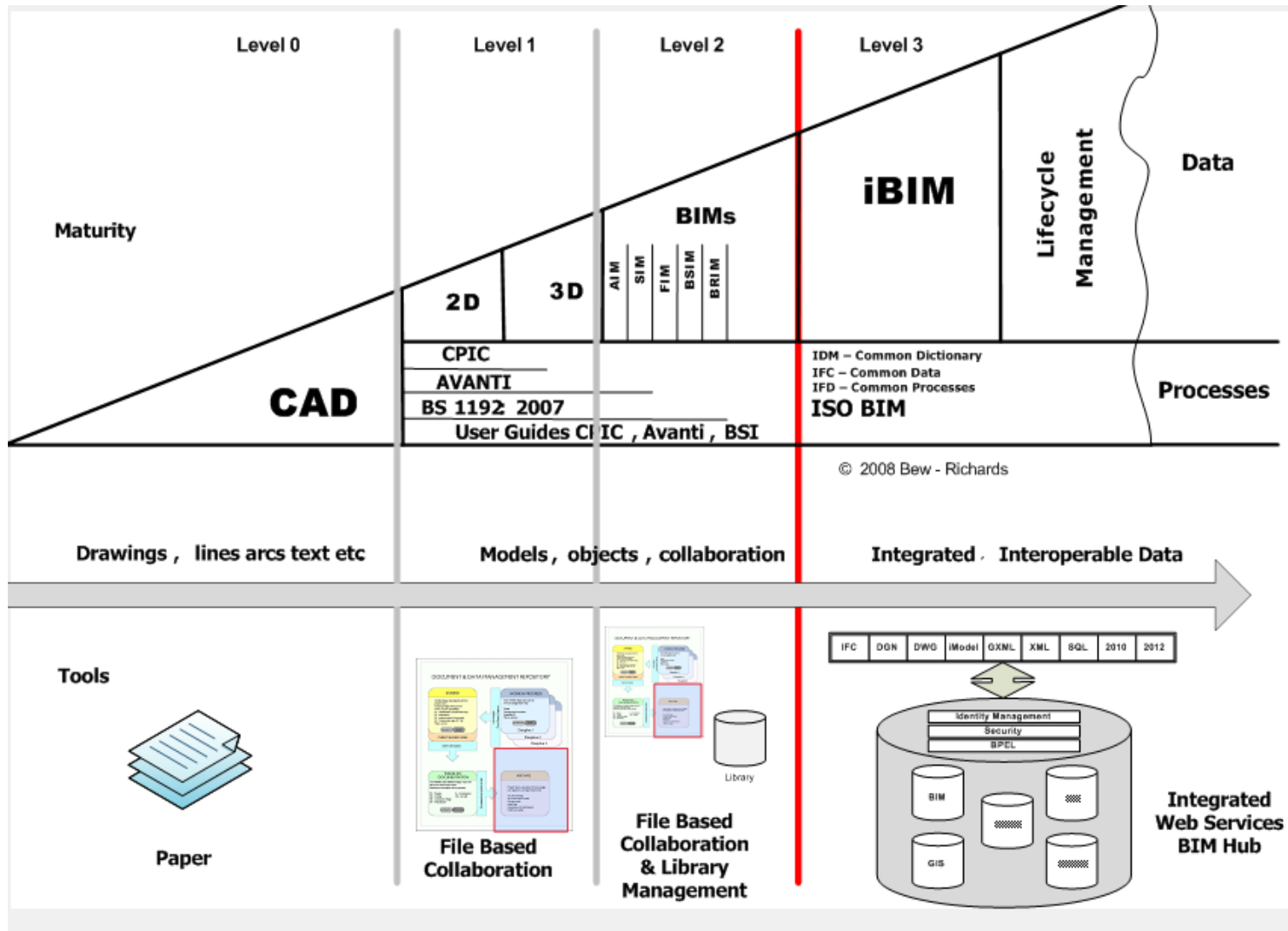
# Smart – BIM – GIS - Smart Cities & Grids



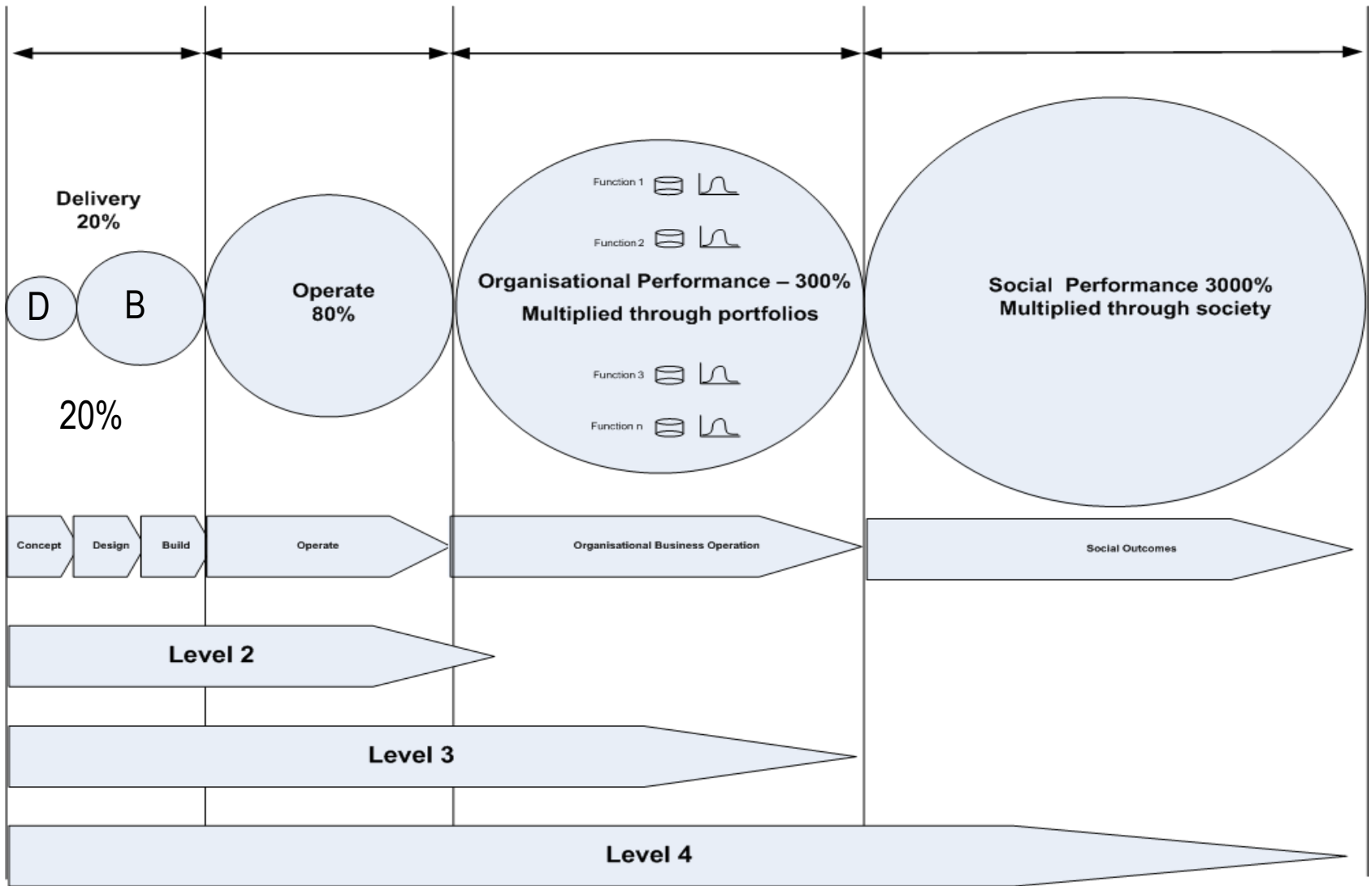
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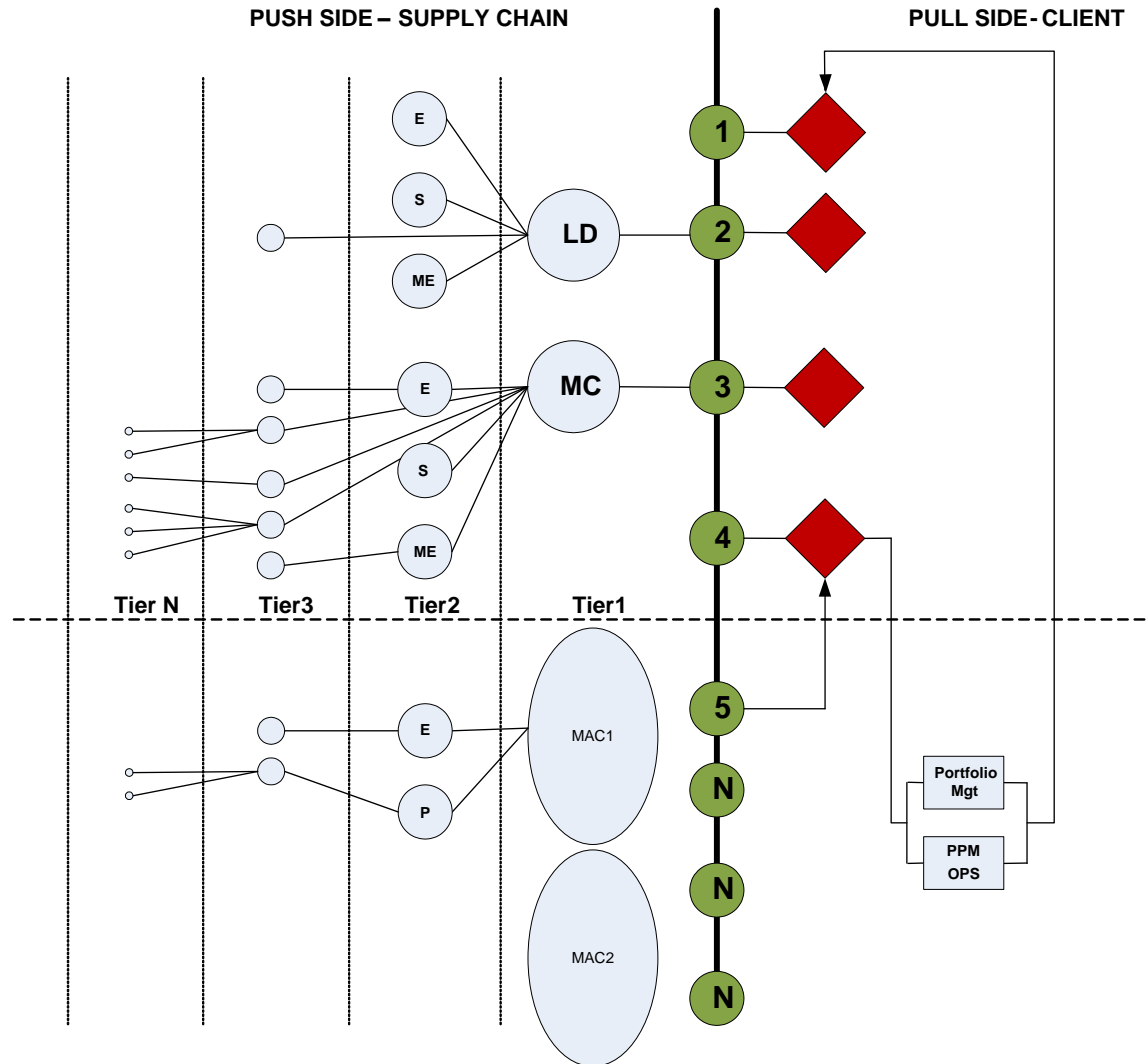
# What is BIM?





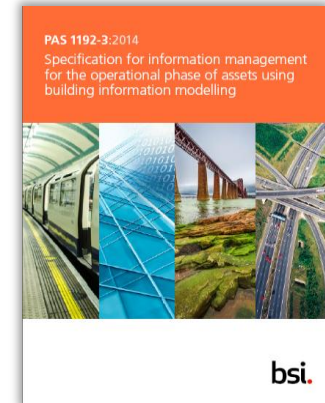
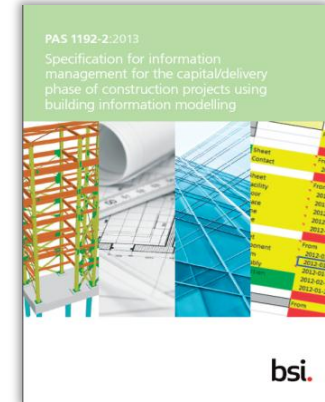
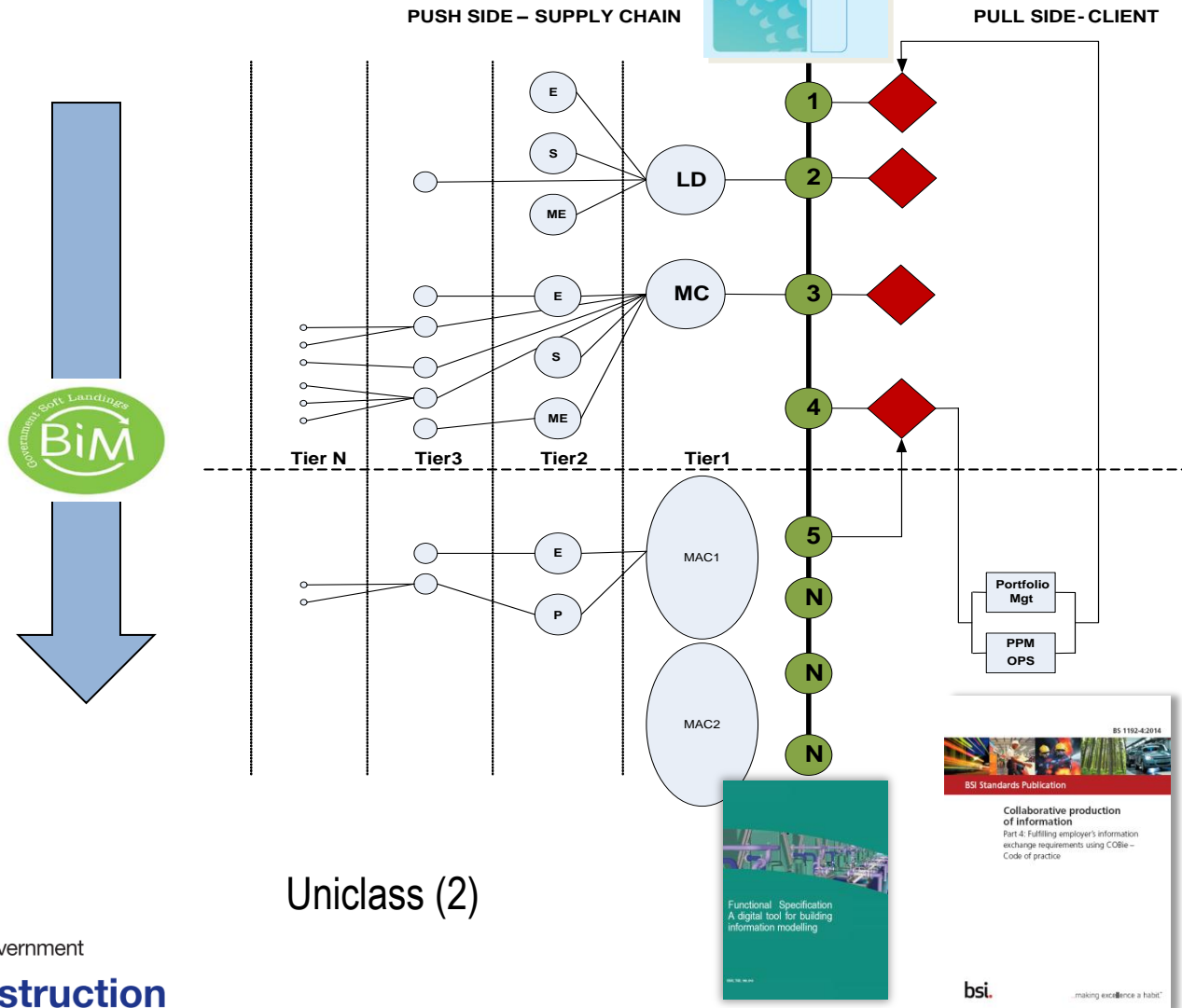


# Level 2



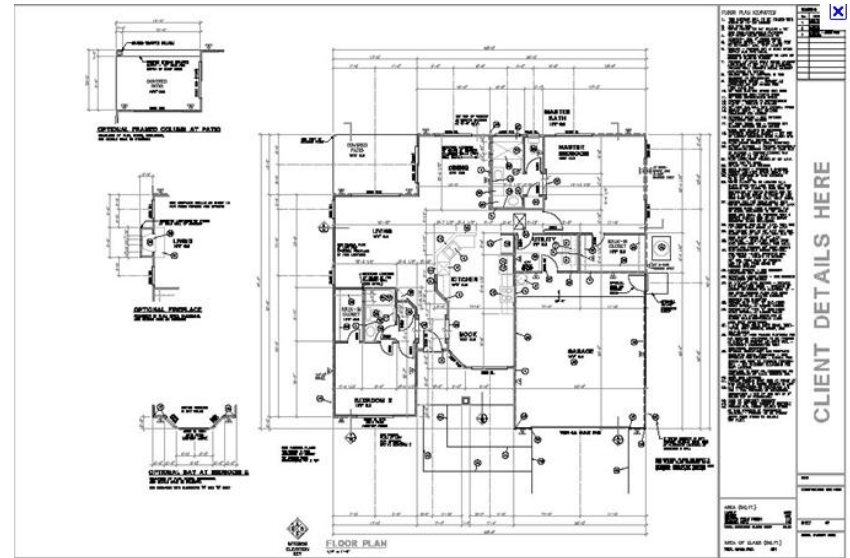
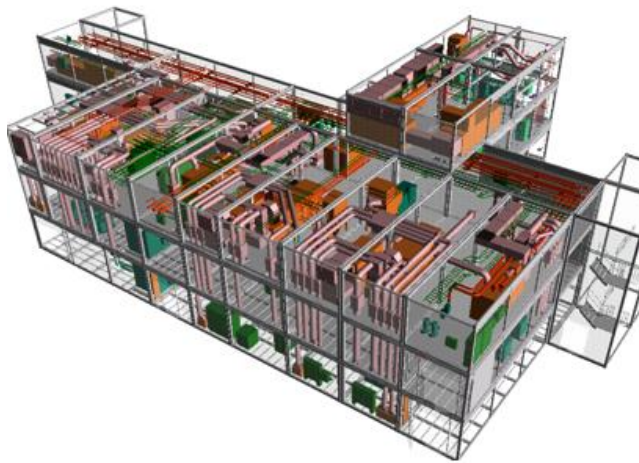


# Level 2 “Package”



Uniclass (2)

# What is COBie?



Microsoft Excel - Rallynet

Type a question for help

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4	Door-100Q	berol@q.com	2009-11-04T11:08:39	Hardware Items	100Q	Door Type D1	IC-Door		000-01-3	2009-03-01	
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6	Door-102A	berol@q.com	2009-11-04T11:08:39	Hardware Items	100P_102	Door Type D1	IC-Door		000-01-5	2009-03-01	
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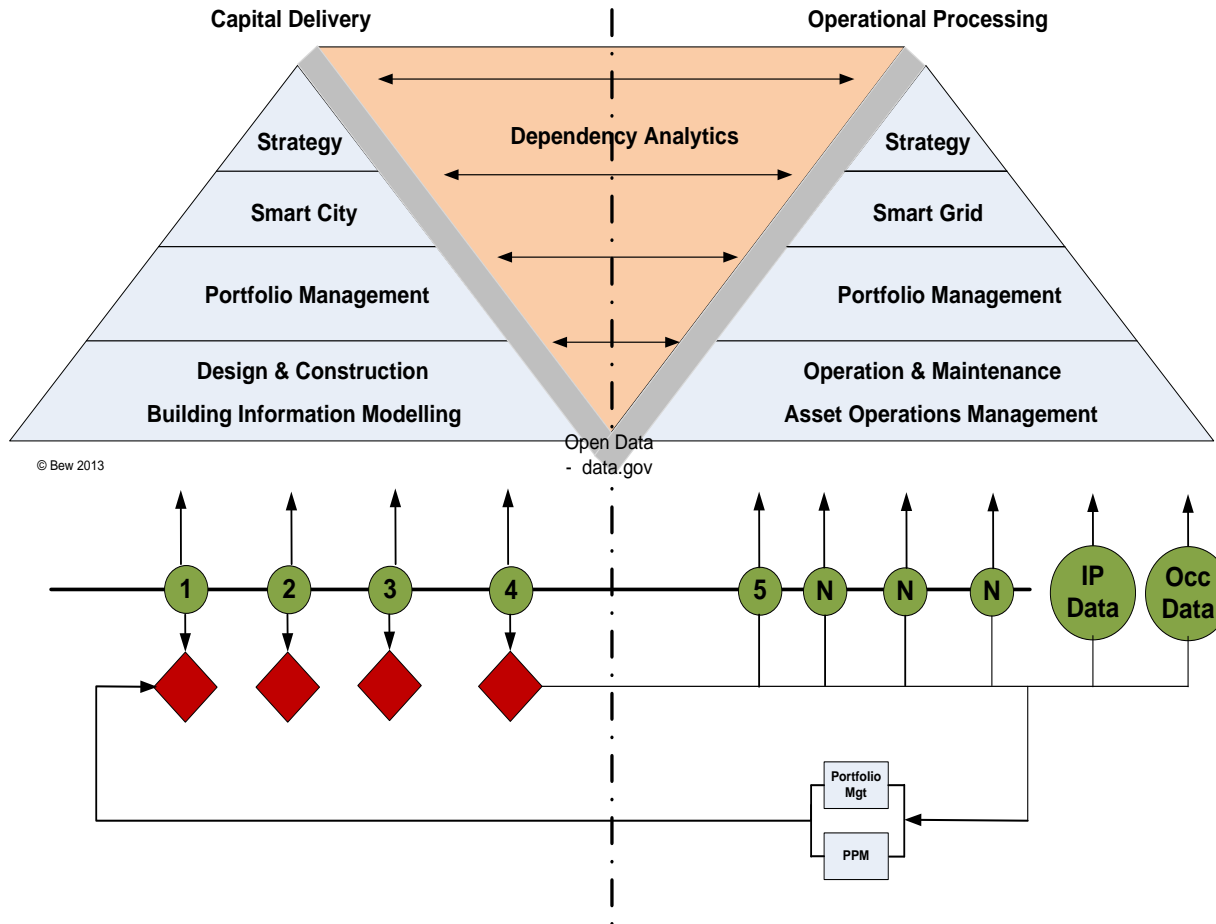
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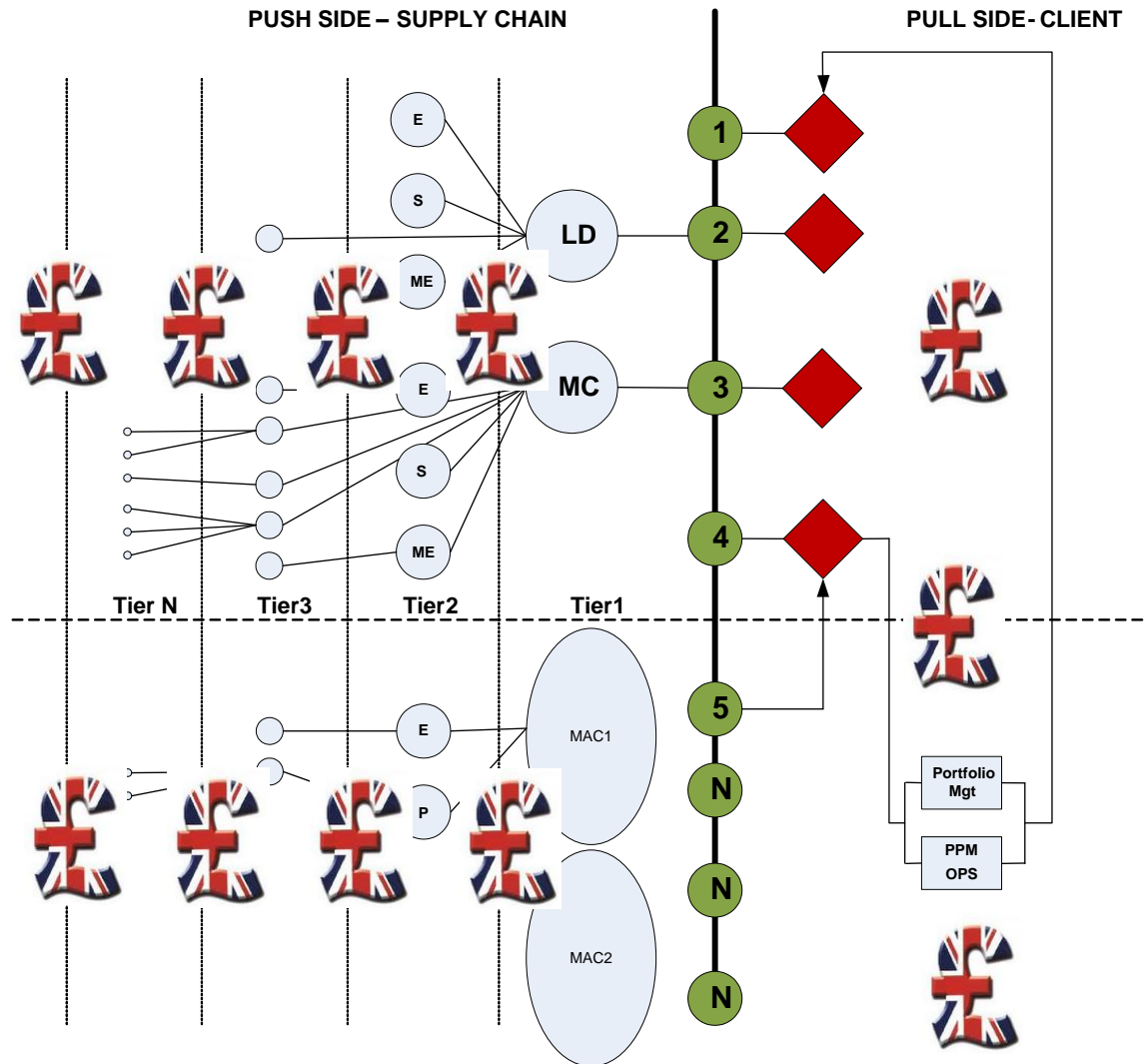
Construction

# Level 2 – Data Store





# Benefits





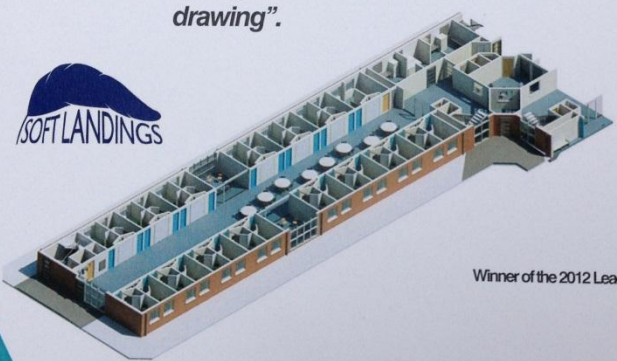
# Benefits - GSL

**INITIAL PROJECT PROPOSALS**

End user Engagement  
Fiona Moore

*"For the first time I could understand a building design. It allowed me to contribute and comment (both positively & negatively) for the first time rather than having to look at a flat drawing".*

**SOFT LANDINGS**



Winner of the 2012 Leadership Award

**ONE TEAM DELIVERY : ONE TEAM OPERATION**

**INITIAL PROJECT PROPOSALS**

**FULL DC & SERVICES PROPOSALS**

**ON SITE**

**POST COMPLETION**

**FEASIBILITY**


**OUTLINE DCI OPTIONS APPROVAL**

**PLANNING**

**INITIAL PROJECT PROPOSALS**

End user Engagement  
Fiona Moore

*"The developed models for the buildings allowed me to present to my Senior Management Team and Staff Managers a walk-through of the buildings highlighting views into and out of areas that normally I couldn't do until completion. All before anything started!"*



**Emily Thomas**  
Governor HMVOT Cookham Wood  
Winner of the 2012 Leadership Award, Civil Service Awards

*"I understand that as the model develops I will have further opportunity to access it with staff who will operate the Units - this can only bring positive benefits".*

**ONE TEAM DELIVERY : ONE TEAM OPERATION**

**INITIAL PROJECT PROPOSALS**

**FULL DC & SERVICES PROPOSALS**

**ON SITE**

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**OUTLINE DCI OPTIONS APPROVAL**

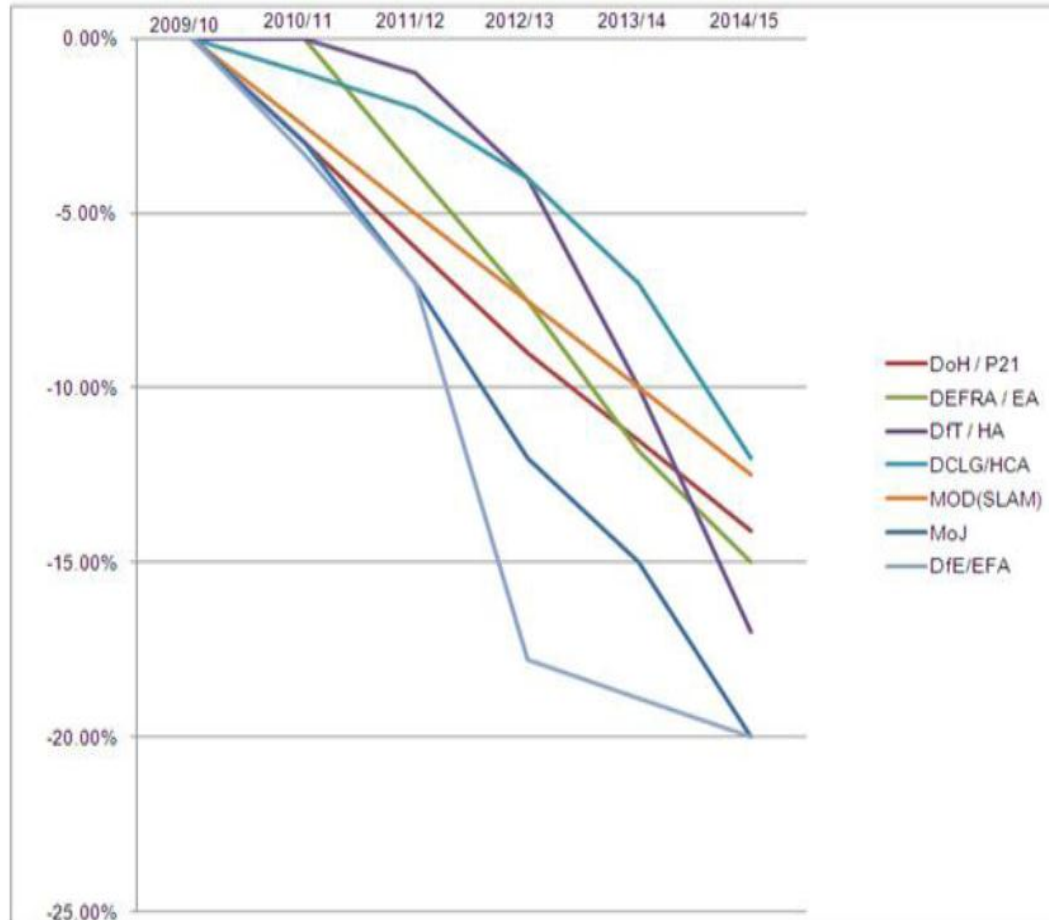
**PLANNING**






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**Construction**

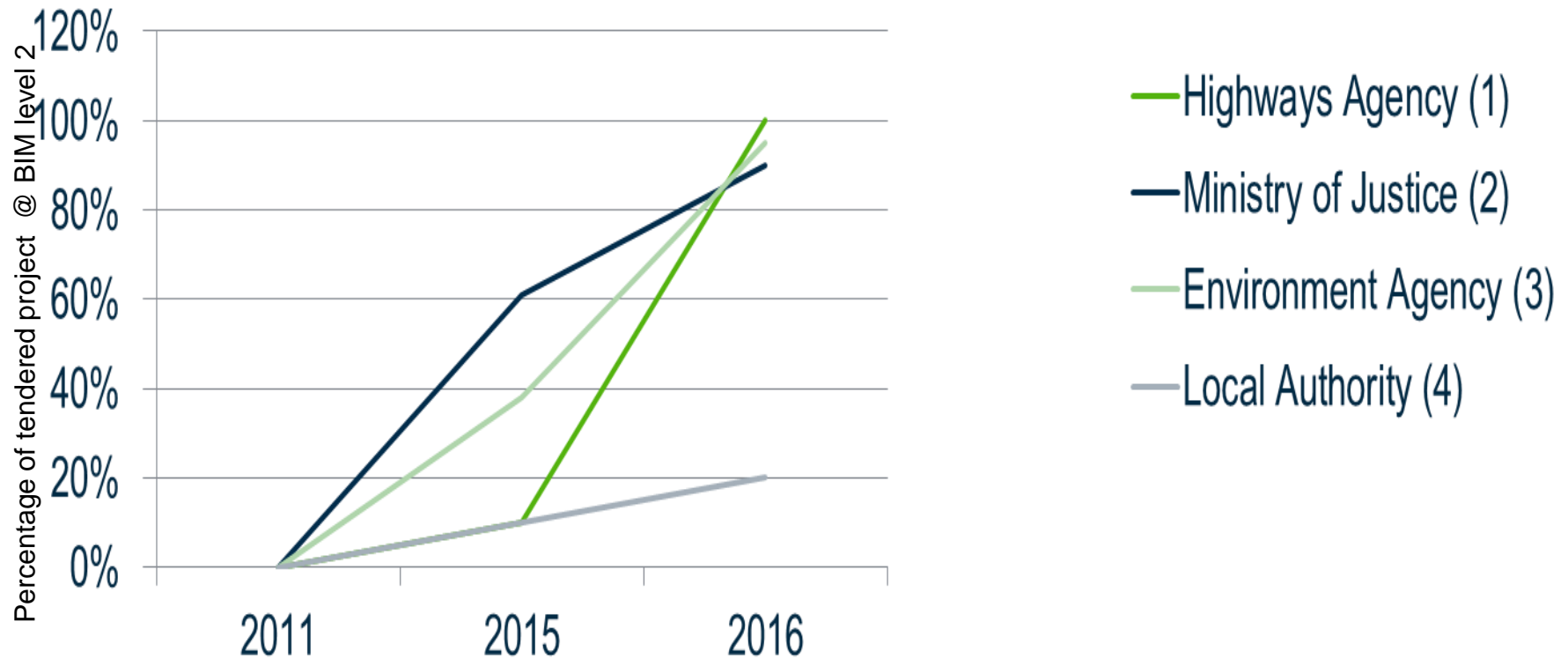
# Benefits (£)



	HM Government			
Trial project: <b>Cookham Wood</b>		New delivery model / procurement route: <b>Two Stage Open Book under PPC2000</b>		
<b>Cost savings achieved: 20%</b>				
Other key benefits achieved: Increased cost and programme certainty, Innovation and reduced prospective operating costs				
Trial report sequence:	Kick off meeting	Brief / Team Engagement	Decision to Build	Build and Occupy
Cost saving basis:	Outline saving aspiration	Challenging cost target	Award Cost	Outturn Costs
<b>Trial project details</b>				
Project title	Cookham Wood Youth Justice Board New Build Young Offenders Institution			
Client department	Ministry of Justice			
Project value	£20 million (including construction cost, fees and escorts)			
Form of project	New Build Young Offenders Institution			
Main contractor	Interserve			
Lead designer	Interserve supported by Arup			
Key suppliers	SBC – Pre-Cast Volumetric Cell Provider EMCOR – Mechanical and Electrical Specialist Faithful & Gould – Client Representative HLN-Client architect/technical assessor Fob Design Tier Consult Arup MJ Patch ICL			
				
<b>Executive summary:</b> Ministry of Justice have created a collaborative culture so as to bring together the consultants, Tier 1 and Tier 2 contractors at the earliest stage and to develop cost savings innovations and improved efficiency prior to start on site. The Cookham Wood Trial Project combines collaborative working under Two Stage Open Book with the adoption of BIM, Project Bank Accounts and Informal Implementation of Government Soft Landings. A fully integrated team have worked to a tight timescale to commence delivery on site of a new build Young Offenders Institution that to date has exceeded cost saving targets. Despite problems on site with severe weather, the originally contracted project works were completed within both the agreed timescale and the Agreed Maximum Price.				



# Rate of Adoption



Approximate value of BIM Projects as September 2014

- (1) HA - This equates to £6bn project value
- (2) MOJ - This equates to £760m project value
- (3) EA - This equates to £900m project value
- (4) LA - This equates to £2bn project value

Total project value **c £9.6bn (Target £20bn)**  
(Returns exclude , MOD, EFA, DoH, HS2)



# Level 3



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**Construction**

# Level 3 - Introduction



**Lower costs**

**33%**

reduction in the initial cost of construction and the whole life cost of built assets

**Faster delivery**

**50%**

reduction in the overall time, from inception to completion, for newbuild and refurbished assets

**Lower emissions**


**50%**

reduction in greenhouse gas emissions in the built environment

**Improvement in exports**

**50%**


reduction in the trade gap between total exports and total imports for construction products and materials





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**Digital Built Britain**

Level 3 Building Information Modelling - Strategic Plan

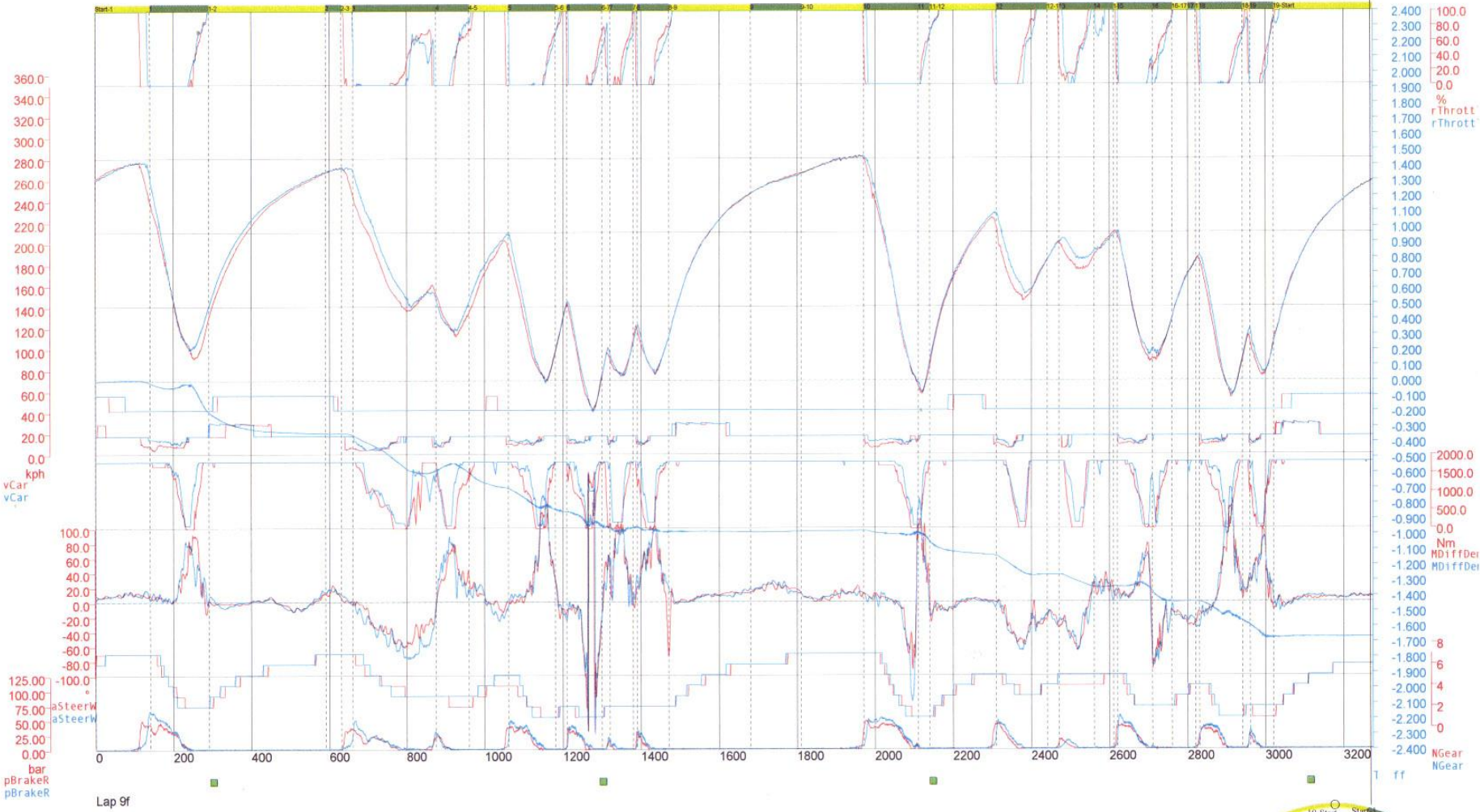


August 2014



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**Construction**



vCar	=259.3	=258.5	kph	MDiffDemand	=1800.0	=1800.0	Nm
NGear	=6	=6		MKERSDemand	=0	=0	Nm
rThrottlePedal	=100.0	=100.0	%	BNRearWingStateControlMode	=Active	=Active	
aSteerWheel	=8.5	=7.4	°	TDiff		=-1.670	
pBrakeR	=1.23	=1.07	bar				



# Remote Patient Monitoring Market To Double By 2016

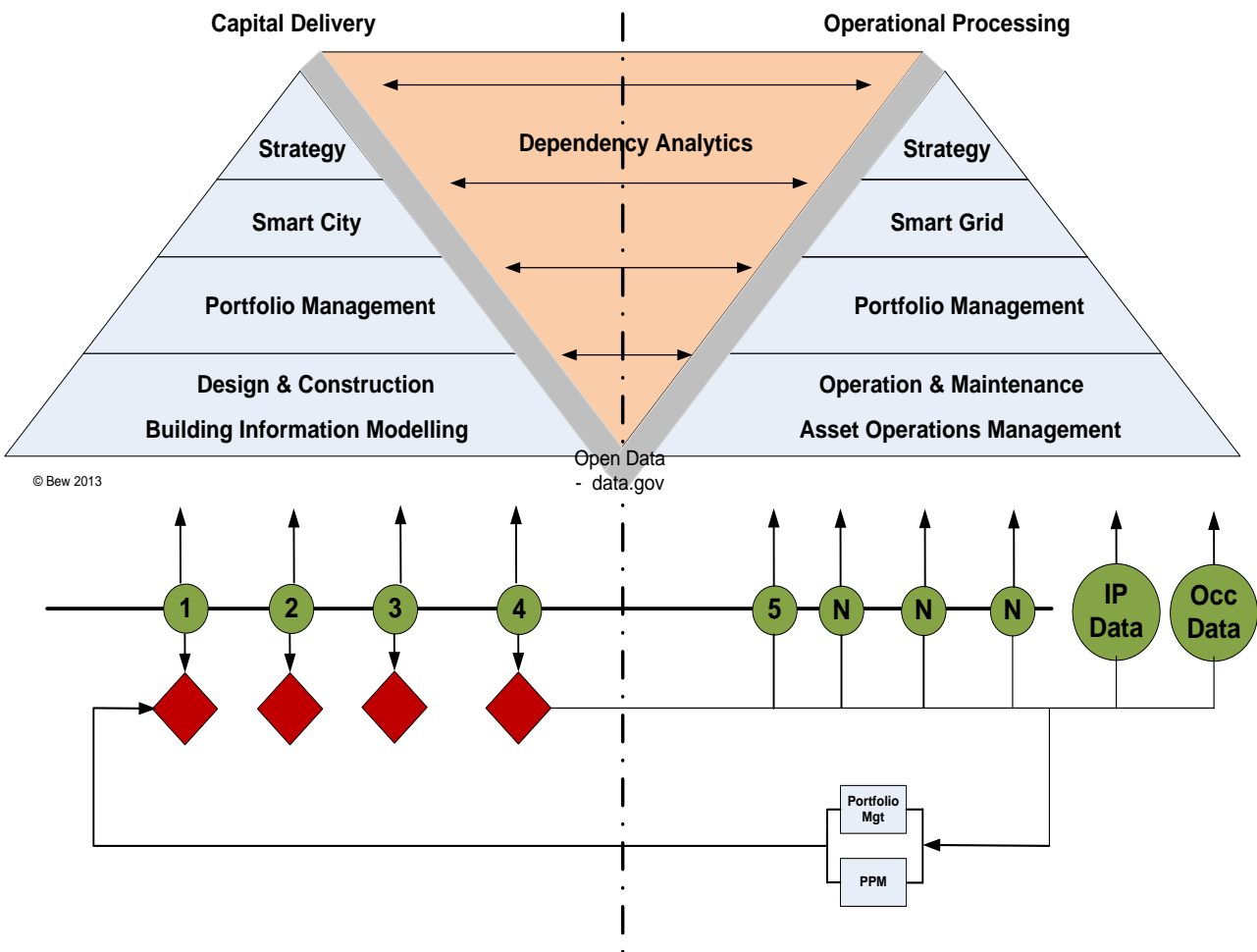






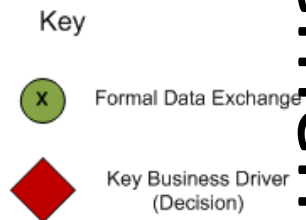
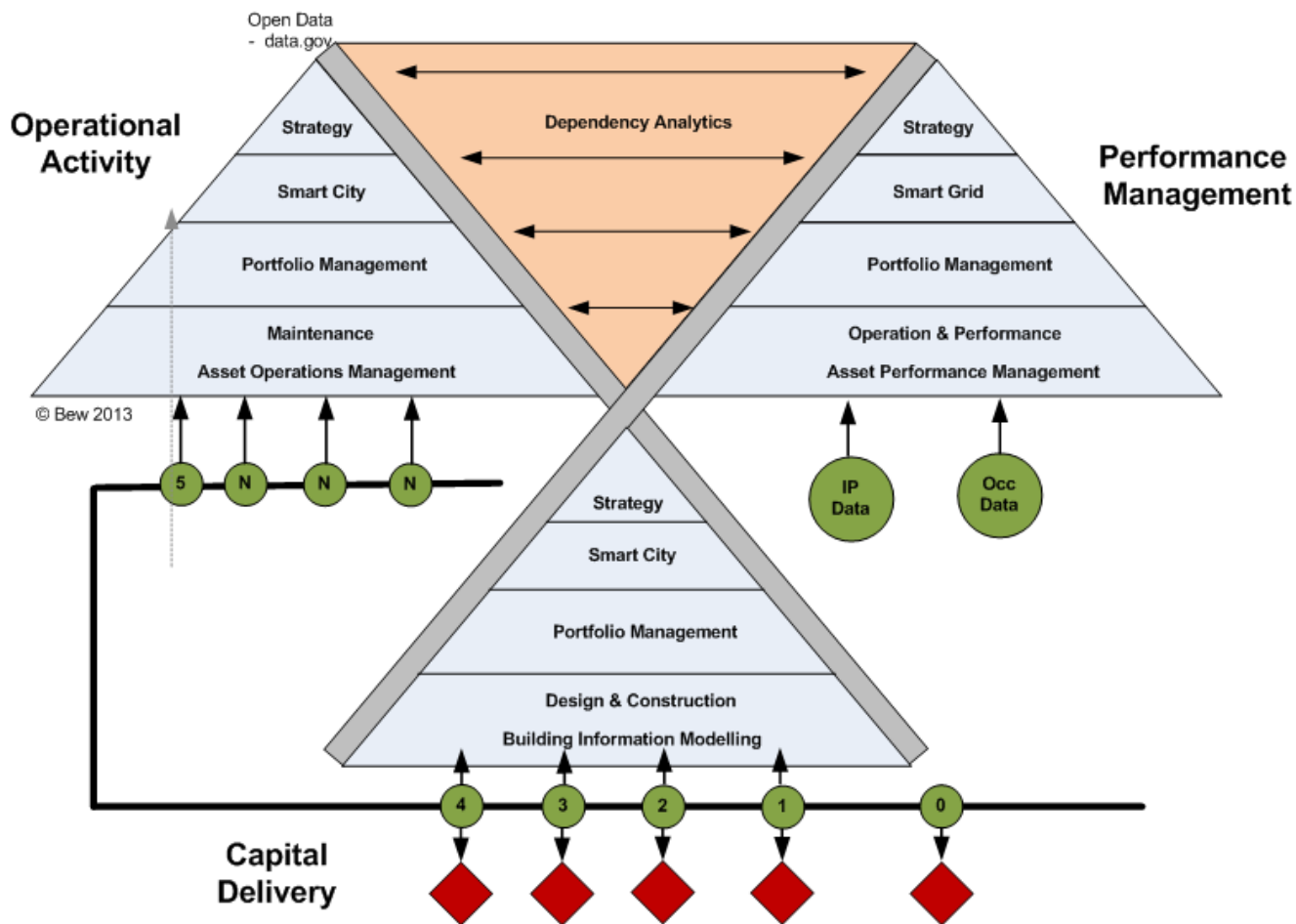


# Level 3 – Data Management





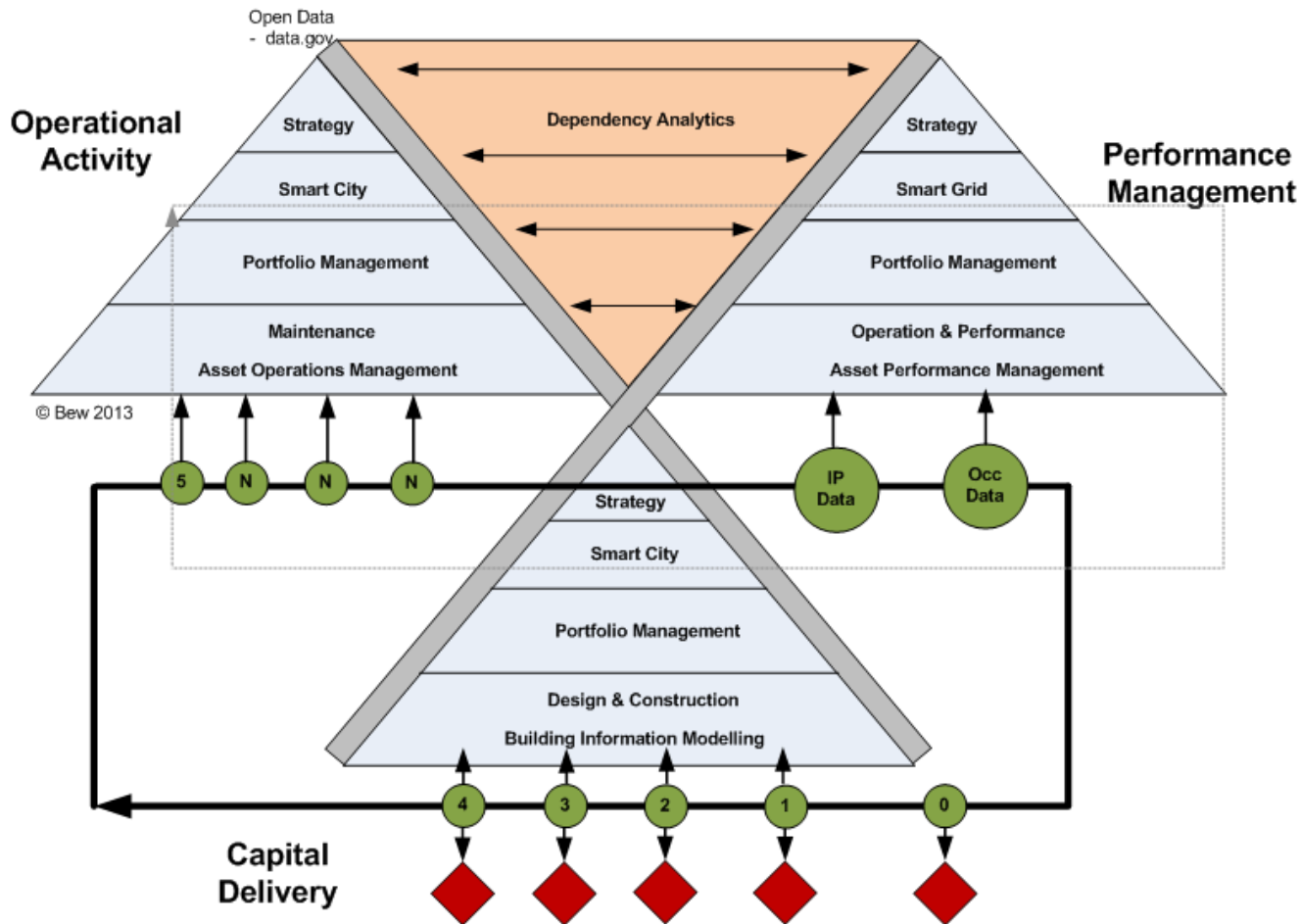
# Level 3 – Data Management



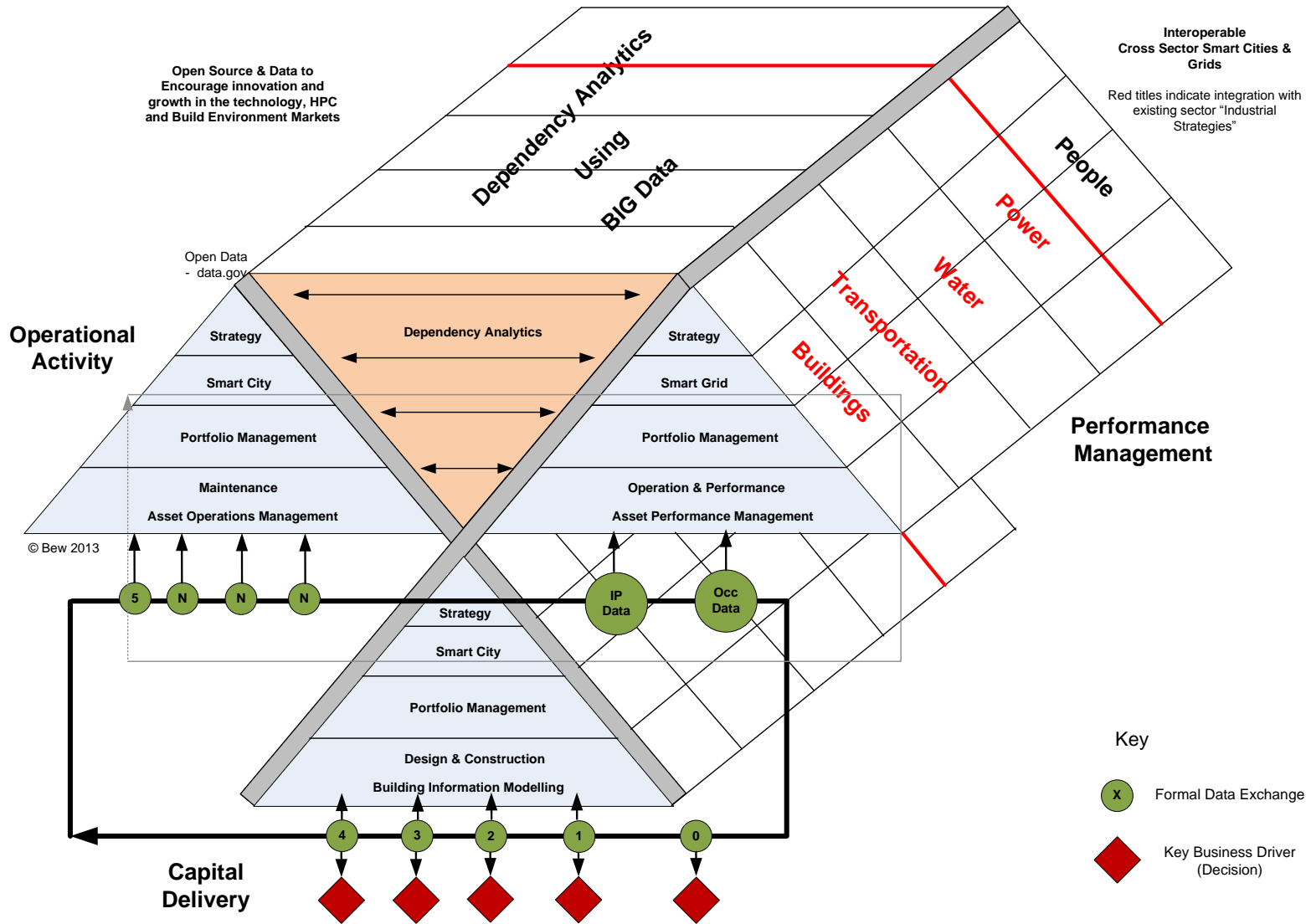
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**Construction**

# Level 3 – Hard Landings



# Level 3 – Smart World





**[www.bimtaskgroup.org](http://www.bimtaskgroup.org)**  
**@BIMgcs**