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## Creating Interactive Facilities Management Capabilities through Building Information Modelling as a Tool for Managing the Irish Public Sector Estates - Presentation

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# The CITA BIM Gathering

14th - 15th November 2013  
at the Guinness Storehouse



## Creating Interactive Facilities Management Capabilities through Building Information Modelling as a tool for Managing the Irish Public Sector Estate

By

Barry McAuley , Dr. Alan Hore, Prof. Roger West  
& Deborah Rowland

- Presented by
- Barry McAuley MSc, BSc (Hon), Dip.Eng
- PhD Candidate, Dublin Institute of Technology



# Background

- Government strives to reduce the general government deficit to less than 3% of GDP by 2015.
- Government's plans for an additional €2.25 billion investment.
- Capital Works Management Framework (CWMF) and Public Service Reform Plan.



# Literature Review

## *The Need for Change to Ensure a More Efficient Irish Public Sector Estate*

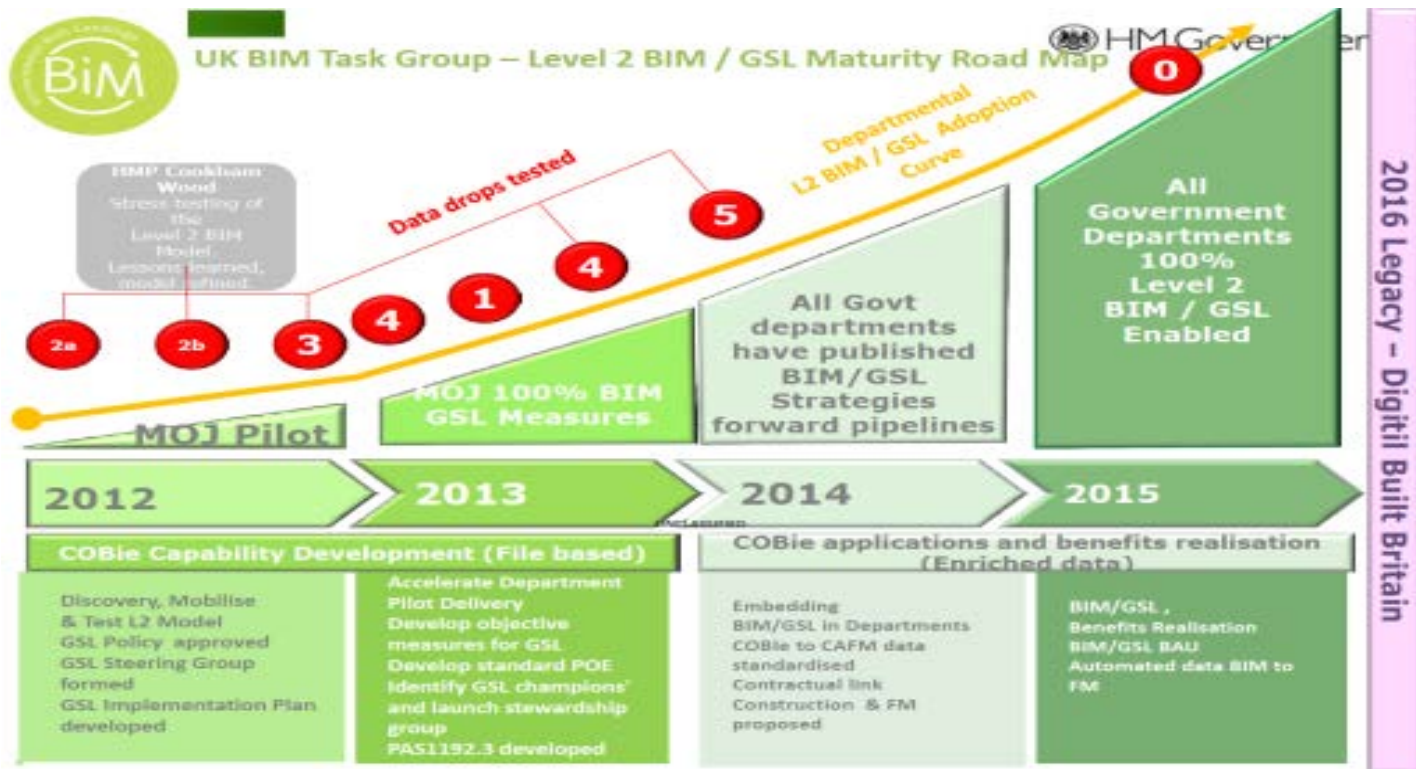
- The need for change to ensure a more efficient Irish Public Sector Estate.
- Government has committed to achieving by 2020 a 20% reduction.
- Public sector has been challenged to achieve a 33% reduction in public sector energy usage.
- Public sector has an enhanced physical environment to operate from.
- BIM technologies and a partnering soft landing approach.





# Literature Review

## Learning from the UK BIM Policy



# Literature Review



Cabinet Office

## BIM + GSL = Better Outcomes

To champion better outcomes for our built assets during the design & construction stages through Government Soft Landings (GSL) powered by a Building Information Model (BIM) to ensure value is achieved in the operational lifecycle of an asset.



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GSL Stewardship Group 22<sup>nd</sup> July 2013

The CITA BIM Gathering



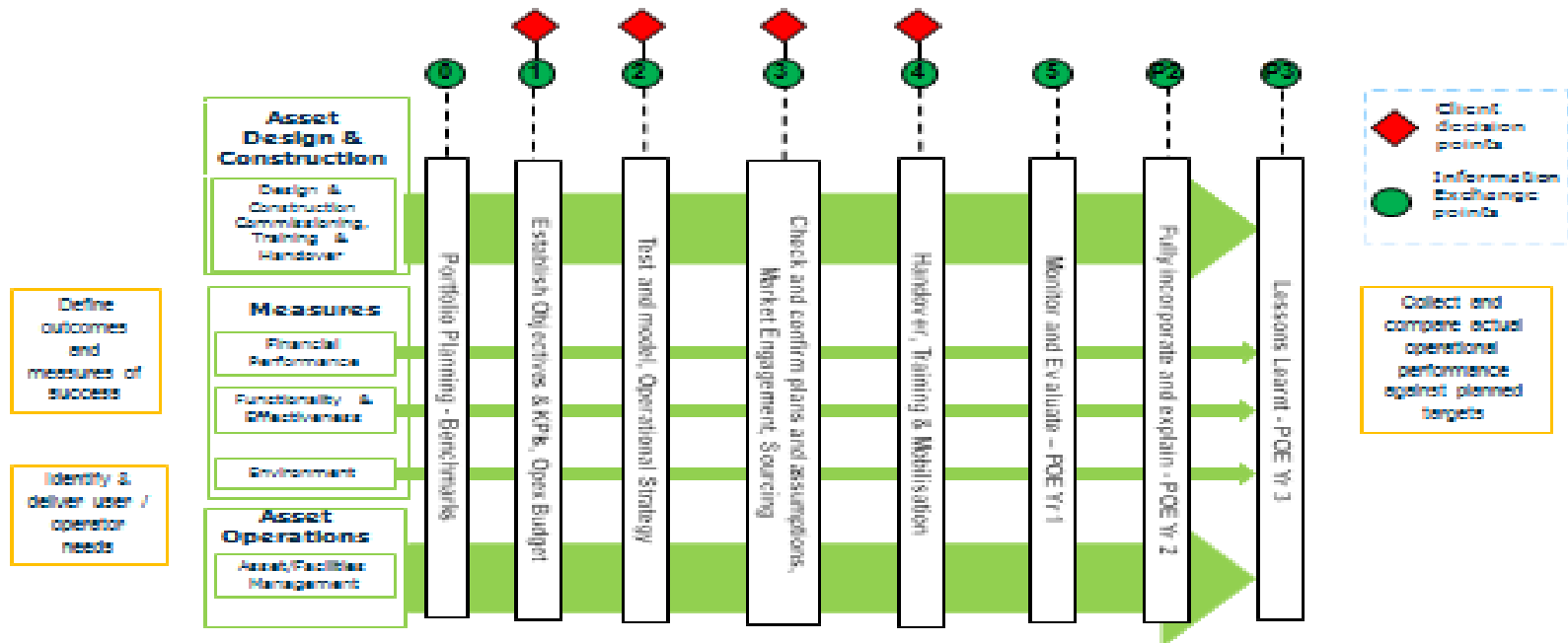
# Literature Review

## Learning from the UK BIM Policy



### GSL Process

Review new design requirements and expectations through feedback



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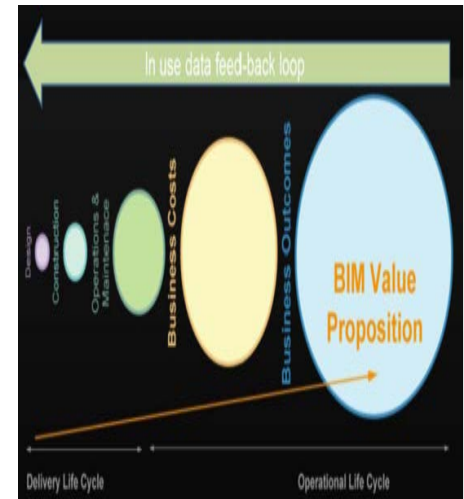




# Literature Review

## *Learning from the UK BIM Policy*

- GSL will be a key element of the design and construction process, maintaining the 'golden thread' of the building purpose, through to delivery and operation.
- Early engagement of the end user and inclusion of a GSL champion on project teams during the design/construction process.
- Combined with BIM it will provide a fully populated asset data set to feed into CAFM systems and modelling will enable planning modifications. This data will need to be maintained throughout the building life cycle.
- Post Occupancy Evaluation will be used as a collaborative tool to measure and optimise asset performance and embed lessons learnt.



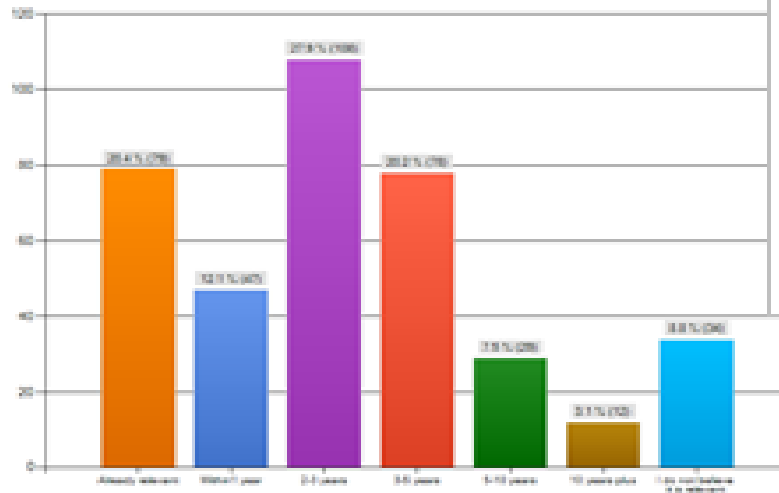
# Literature Review



Cabinet Office

## BIM in Facilities Management Survey - May 2013

### BIM4FM



*How far into the future do you think it will be before BIM plays a key part in your role?*

- 20% Already Relevant
  - 12% Within a Year
- **28% 2-3 years**
  - 20% 3-5 years
  - 8% 5-10 years
  - 3% 10+ years
- 9% I don't believe it is relevant

*BIM4FM provides a forum for FM industry bodies to input and develop appropriate use of BIM for benefit of FM and support implementation of Government Soft Landings (GSL) across the asset lifecycle.*

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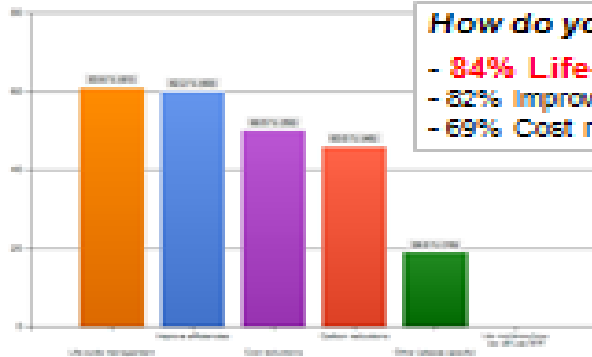
# Literature Review



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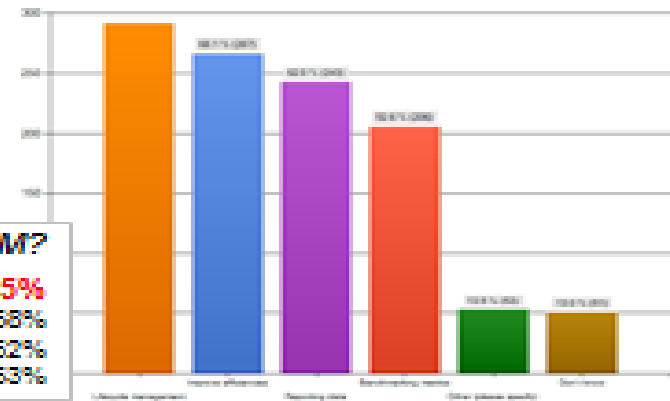
## BIM4FM

## BIM in Facilities Management Survey - May 2013



**How do you think your company will use BIM?**

- 84% Life-cycle management
- 82% Improve efficiencies
- 69% Cost reductions



**How would you like to see BIM supporting FM?**

- Life-cycle management - 75%
- Improve efficiencies - 68%
- Reporting data - 62%
- Benchmarking metrics - 53%

BIM4FM provides a forum for FM industry bodies to input and develop appropriate use of BIM for benefit of FM and support implementation of Government Soft Landings (GSL) across the asset lifecycle.

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# Methodology

## *IPFMA / DIT PhD Survey*

1. Early FM involvement:
2. FM and Information Communication Technology (ICT) working together
3. ICT as a FM tool in managing the Government's state facilities:



# Methodology

## IPFMA / DIT PhD Survey – Part 1

- 11 % of the respondents had routinely observed early Facility Manager involvement.
- 55% claiming that there was none too little involvement.
- 61 % believed that the Facilities Manager could play a major role in improving sustainable construction.



If Facilities Manager was involved

- Advise on the best "fit" for the occupants:
  - Enhancing accessibility from a maintenance point of view.
  - Highlight areas that could be changed to improve the running costs.
  - Streamline the design briefing process.
- 
- Unnecessary impact and lack the technical and materials costs skills in certain aspects.



# Methodology

## *IPFMA / DIT PhD Survey – Part 2*

- 79% of respondents still used paper based or a digital copy on a CD or DVD to provide O&M information.
- 21% using WebFM or an O&M system.
- 86 % of the respondents are very to somewhat aware of the current interest and debate in respect to BIM.
- 23% of that number having used a BIM model for Facility Operation and Maintenance.
- Signs that companies have significant knowledge when it comes to ICT in improving the overall FM process.



# Methodology

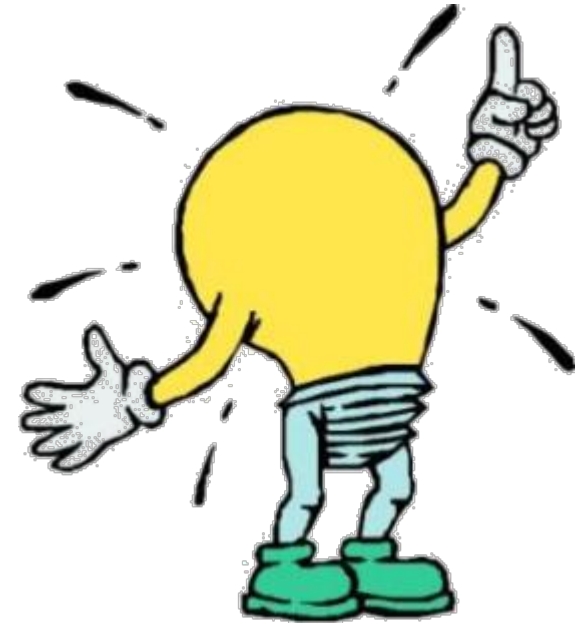
## IPFMA / DIT PhD Survey – Part 3

- 69% claim that the Irish government should take a similar stance to the UK.
- 22% have experience working within the public works sector in regards to facilities.
- Some of the inefficiencies within the Irish public sector facilities:
  - Decisions based on short term costs.
  - A lack of coordination between designers, constructors and operators.
- Facilities Manager can:
  - Help the Irish Government meet its carbon targets.
  - Provide information about the buildings and the services.
  - Occupiers actions.



# Overall Findings

- Little involvement of the Facilities Manager during the early stages.
- Facilities Manager should have an advisory role within the design and construction phases.
- Little move towards cutting edge technologies from the Irish FM sector.
- Significant knowledge demonstrated when it comes to ICT in improving the overall FM process.
- A strong call for the implementation of BIM on public sector projects.





# Conclusion

- ❖ Following in the UK's footsteps and implementing BIM and a similar soft landings framework , could help create a more interactive and intelligent Government estate.
- ❖ These technologies along with earlier Facility Manager involvement, could help reshape future public assets



Ireland 2050?