Optimising FM using BIM
International project examples

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Agenda

1. Introduction

2. «Push and Pull» factors for BIM in the UK

3. Project Robin · Method

4. Project Robin · Demonstration

5. «Retro-BIM»

6. «BIM for FM» · Business Case / ROI

7. BAM's «BIM for FM» Future

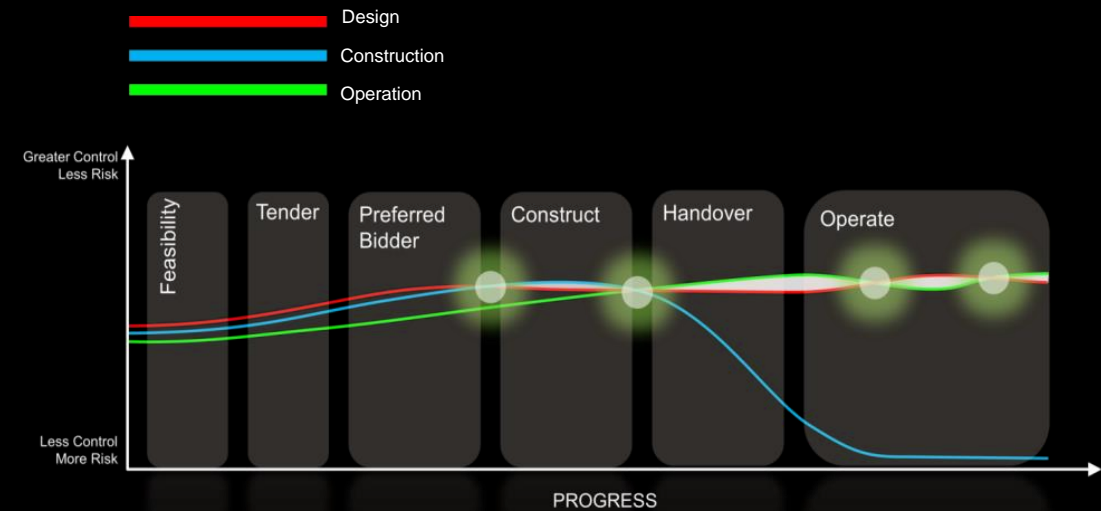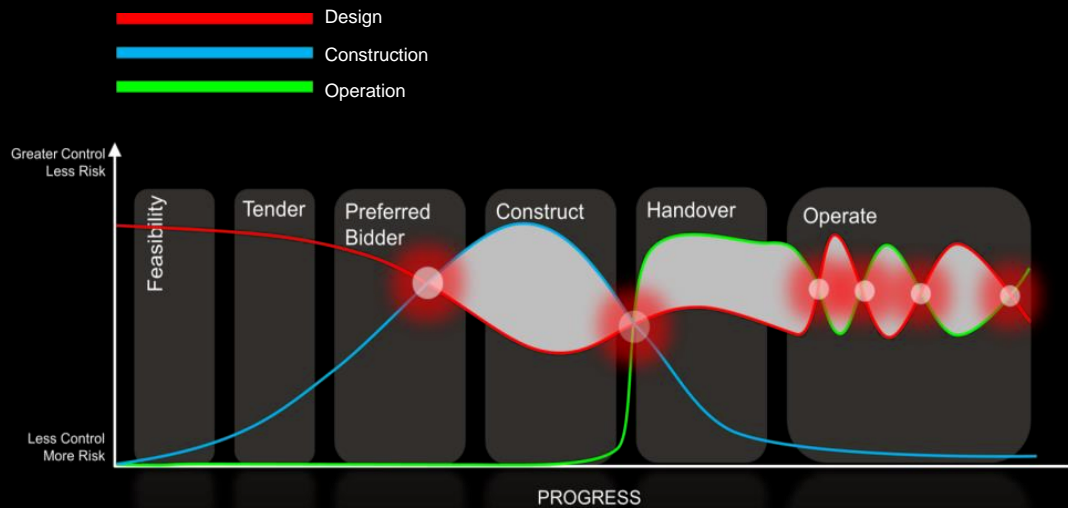8. «BIM für FM» → Benefits and Challenges

Introduction · Reid Cunningham

BAM FM

- 60% turnover in PFI

  - Public sector heath, education, law & order, public sector accommodation

  - Long term (25 to 30 years)

  - Performance / Availability

  - Fixed price

- 40% turnover in maintenance

  - Commercial sector

  - Static & mobile engineers/technicians

Introduction · What is BIM?

Building Information Management – (BIM)

- 3D graphical model
- Verified asset data

Introduction · Headlines

- Clients
- Contractors

45% Improvement in like for like service quality in four months

54% Improvement in PPM completion per month

Building AWARDS 2014
FINALIST
BIM INITIATIVE OF THE YEAR

25min Average time saved per job using hand held devices and BIM

2014 Technology in FM Award Winner

New BIM for FM ROI within 2 Years

"Push and Pull" factors for BIM in the UK
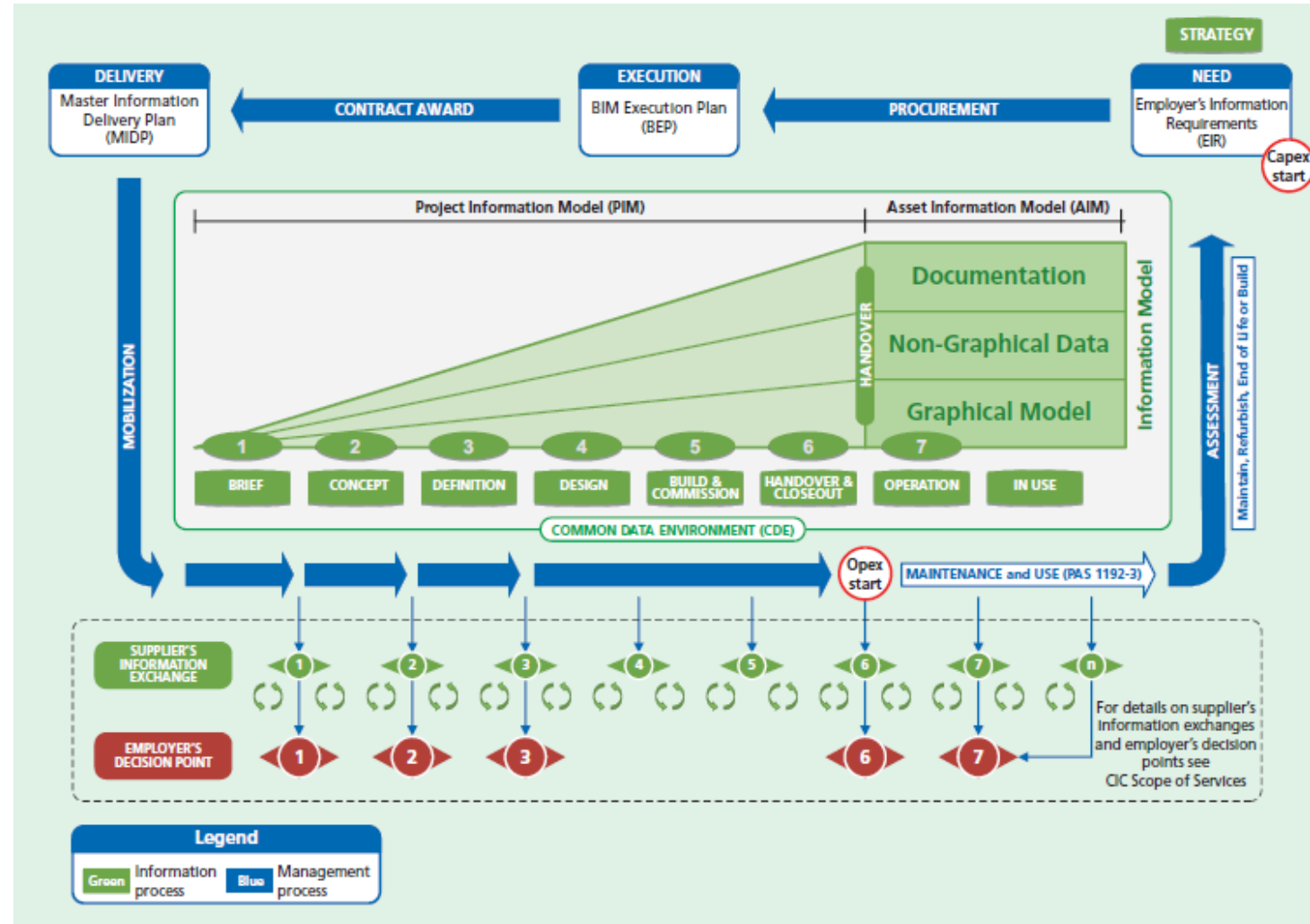
Influence of UK Government initiatives

- PAS 1192:Part 2 and 3
- Government
  Soft Landings (GSL)
- BIM Task Group

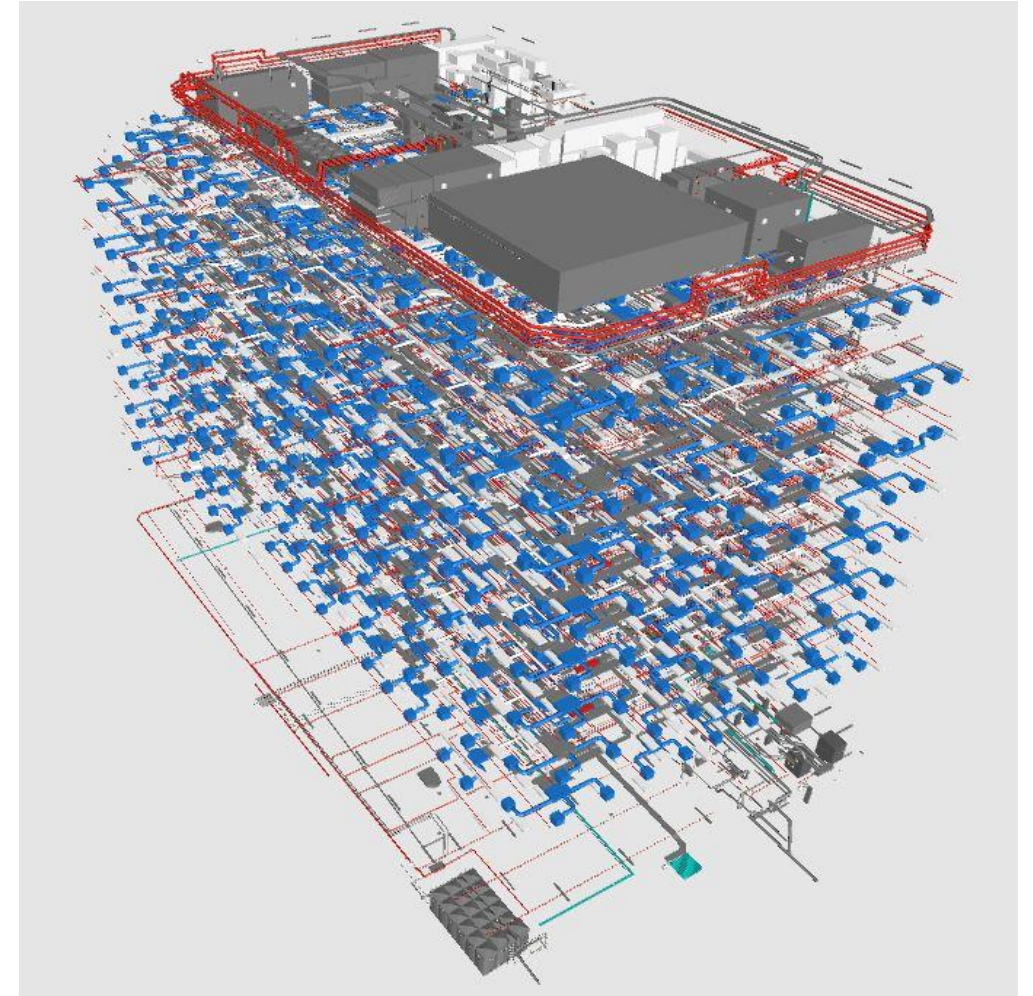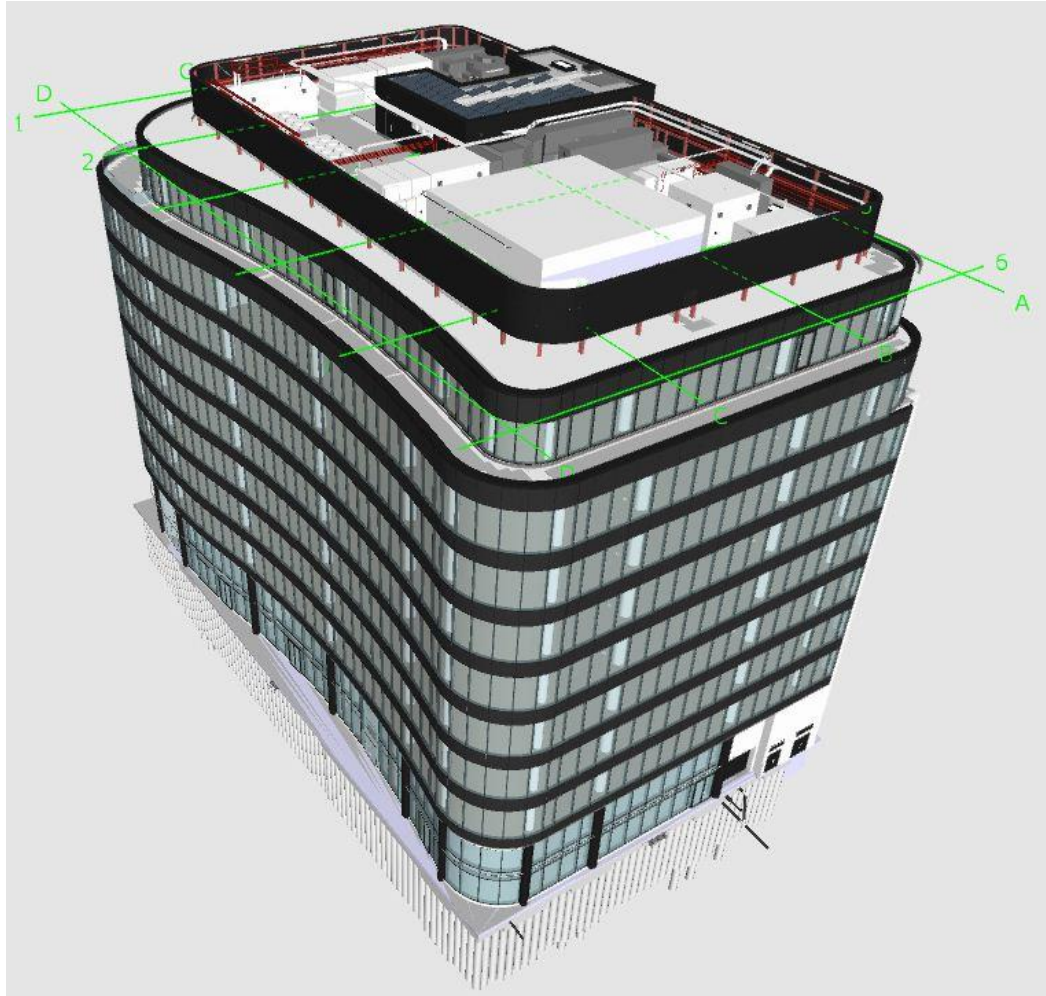| Year	Event
2011	GSL Task Group Formed
2012	GSL Policy Approved
2013	GSL Guidance Documents Published
2014	PAS 1192.3 Published
2015	Embedded in government departments
2016	Mandated for all Government Projects

"Push and Pull" factors for BIM in the UK

Government Soft Landings (GSL)

- Design
  (stages 1, 2, 3 and 4)

- Construction & Handover
  (stages 5 and 6)

- Operation
  (stage 7 ……)

"Push and Pull" factors for BIM in the UK

Commercial and Property Sector Interest

UK FM Context
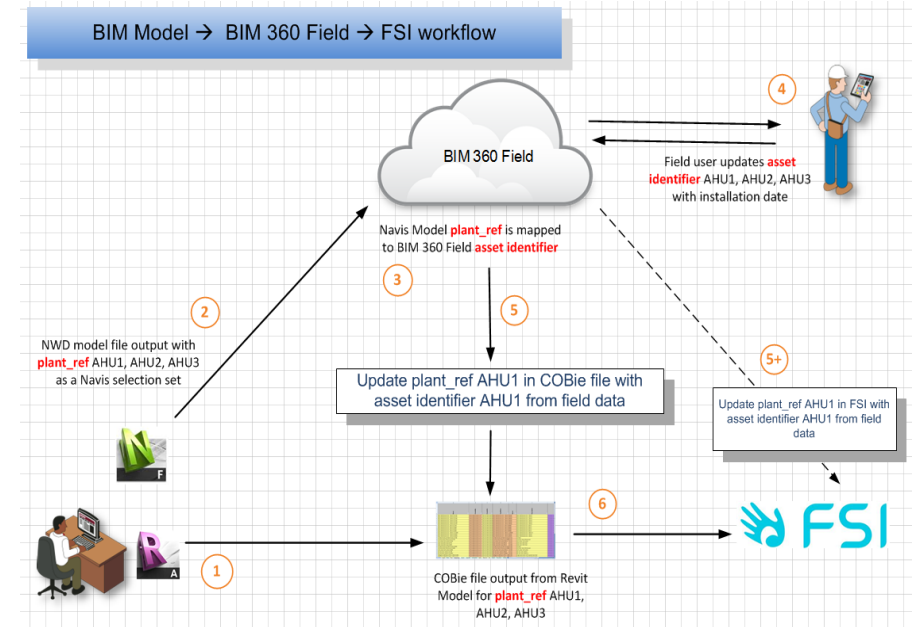
Project Robin · Method

Phase 1: Proof of Concept

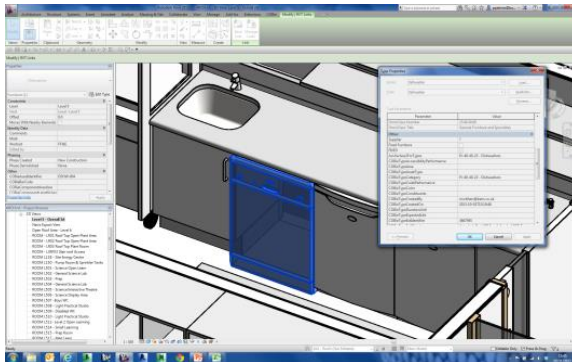- Populate CAFM with BIM Data Assets

- COBie Transfer to FSI CAFM System

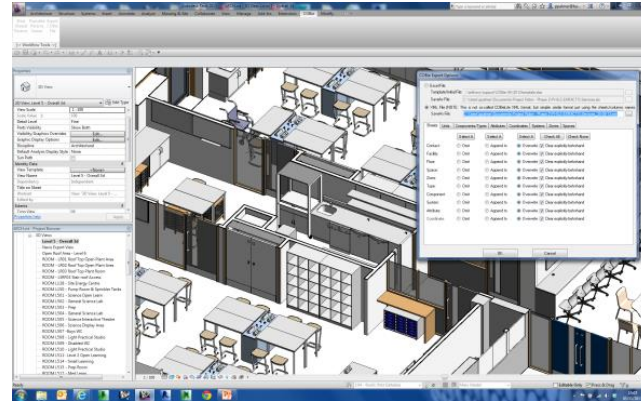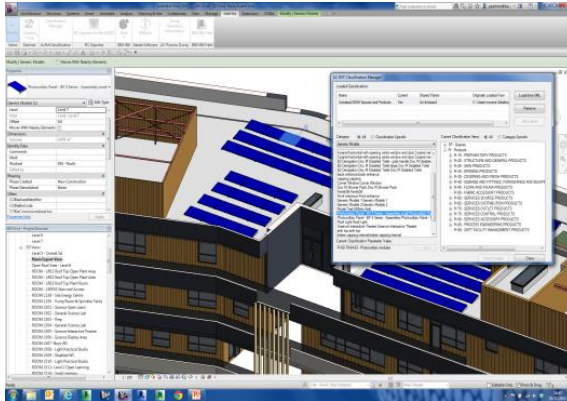## Phase 2: Operational Stage

- Populate CAFM with BIM data for UCL Academy Camden

- Operate Live 3D BIM using 360 Field

- Operational synchronization between BIM and CAFM

Project Robin - Method

- Objects Classified to Uniclass2 via. Autodesk toolkit for Classifications and COBie Exports to xls and xml formats

- End User Navigation in 360Field Provision of views from BIM set-up to aide navigation. Rooms and major areas.

- Unique_ID assigned to Asset Required for FM System within Database.
  (The primary Key to linking)

- PPM Regimes automatically created from Uniclass2 classifications of data transported to FSI System

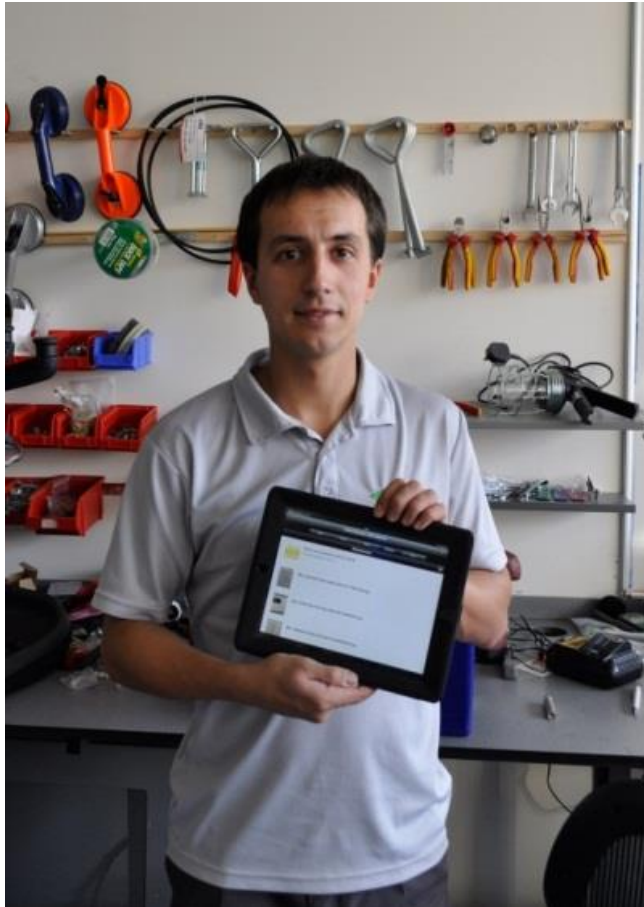- BAM Data Specification - (Beyond COBie) Further enhanced data to assets.

Project Robin · Method

- Room or Asset listing to model or model to Room or Asset listing

- Navigational Views and hiding of Objects or separated Models
  Provides full facility to get to the equipment data for FM purposes and examine the data and attachments

- ALL information available as required to FM Engineers – Anywhere via. mobile Applications – increased productivity

Project Robin · Results: Staff User Experience

Technician Response

Mihails Sedicenkovs

- «The Introduction of the iPads have brought about efficiencies from our traditional way of workng.»

- «BIM 360 enables us to scale back walls to reveal pipework, assisting with investigation of faults.»

- «Ability to organise our workload, dealing with tasks in similar areas of the building.»

Project Robin · Results: Staff User Experience

Engineer Response

Dean Dixon

- «The ability to interrogate issues whilst off site has been excellent.»

- «The ability to view issues, visualise the asset and retrieve information such as Model / Serial Number whilst being off site has enabled engineers to come to site with the knowledge of what is required to rectify the job.»
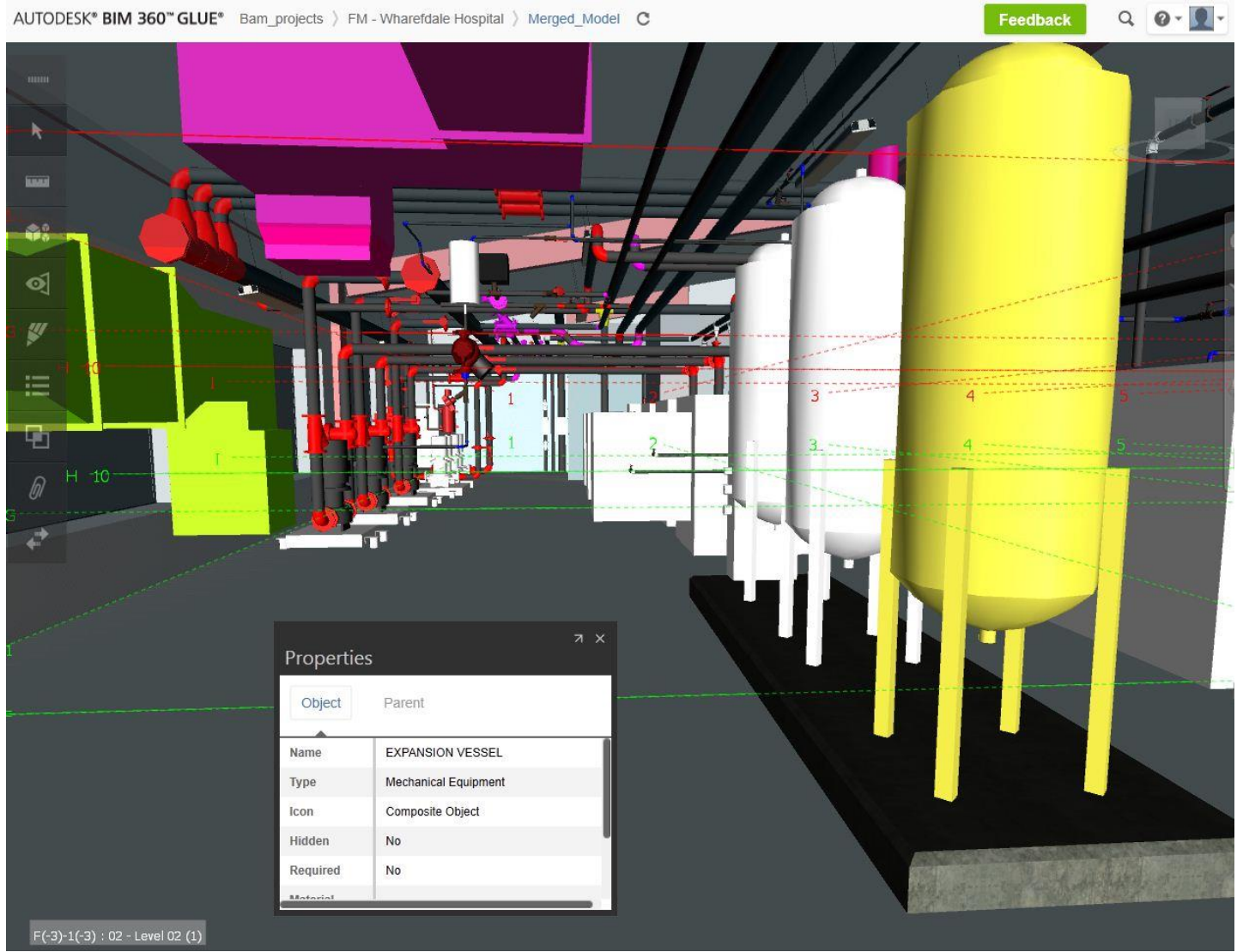
SPOT LIGHT

BIM LIVE

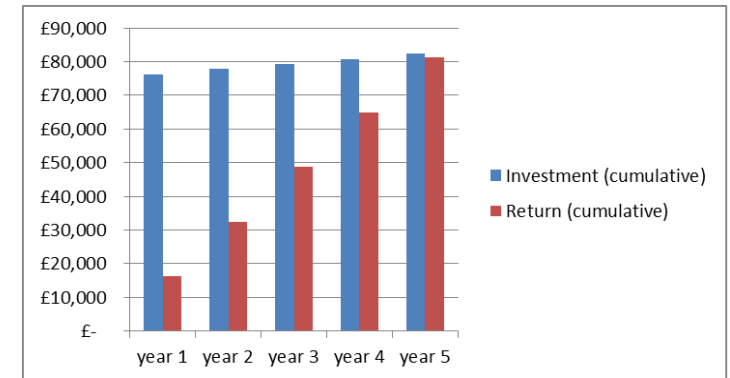# «Retro-BIM»

Wharfedale Hospital
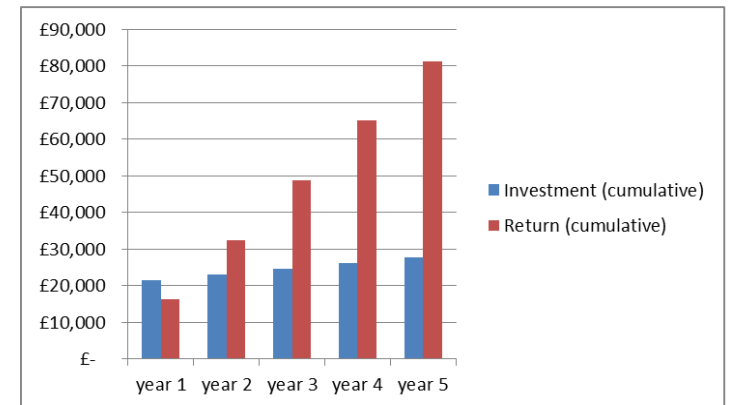
«BIM for FM» · Business Case / ROI

Project Robin

- Pioneering investment for existing facility
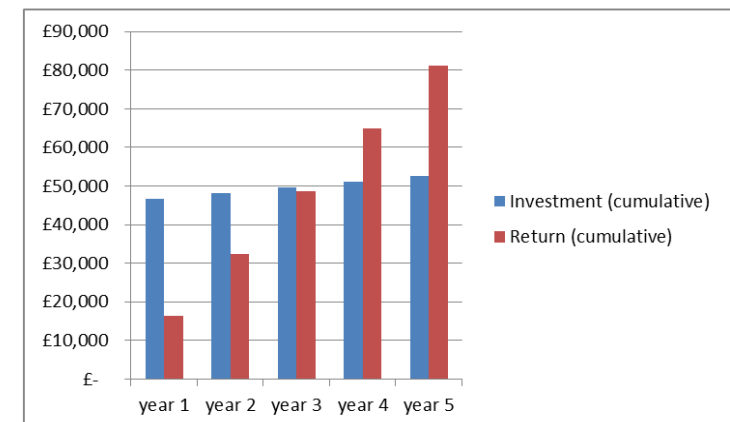- ROI achieved within c5 years

Future BIM Implementation «Green Site»

- Collaboration in BIM and 3D
- ROI achieved within c2 years (on like for like basis)
- Further client benefits in data

«Retro-BIM»

- Light BIM point cloud survey and 'representative' BIM
- ROI achieved within c3 years (on like for like basis)
- Further client benefits in data

BAM's «BIM for FM» Future

- Operate BIM implementation from early D&B stages with view to BIM for FM

- Implement GSL and FM feedback to design team

- Incorporate 'live' data from BMS and AMR to mobile devices

- Implement (back to the future) BIM in existing facilities during 2014

- BIM to underpin "Asset Information Model"

«BIM for FM» · Benefits and Challenges

Challenges to FM

- Joining the design and construction stages
- Keeping the BIM model up to date
- The existing estate
- Contractual link and POE

Benefits to FM

- 3D BIM Model visualisation and future planning
- Design impact on whole life cost
- Collaboration and engagement of FM
- Tender accuracy

Thank you for your attention.

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