European Facility Management Conference

EFMC 2017 MADRID

Knowledge · Innovation · Inspiration

Employer's Information Requirements (EIR): A BIM case study to meet client and facility manager needs

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Agenda

Background: traditional FM problems WLC process

Context: FM role in BIM projects: focus on EIR

Theory: PAS 1192 standards

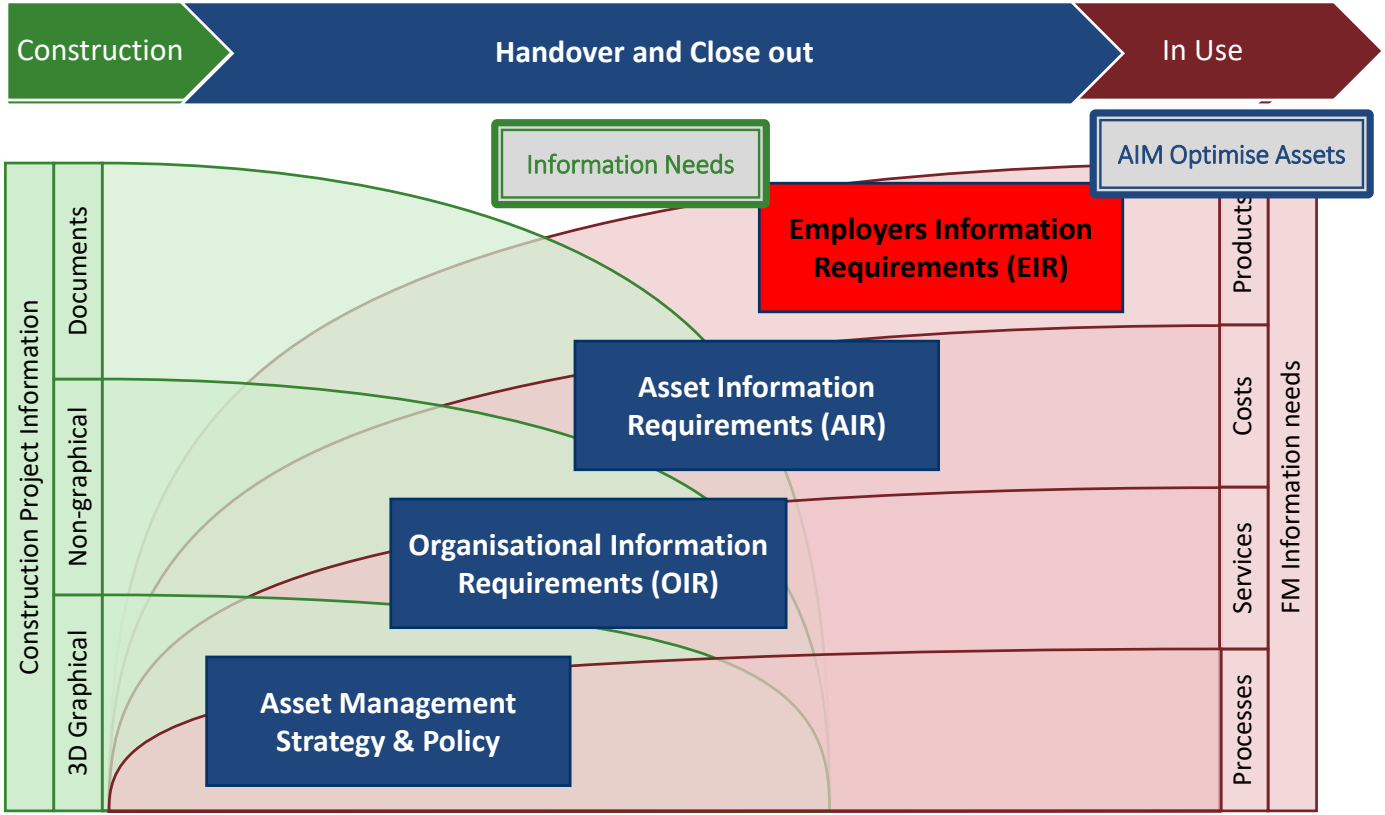
Methodology: different approaches and stakeholders

Results: literature, focus group, case study, peer reviews, Final EIR

Conclusion: lessons learnt

Recommendations and suggested future research

Background: traditional FM problems

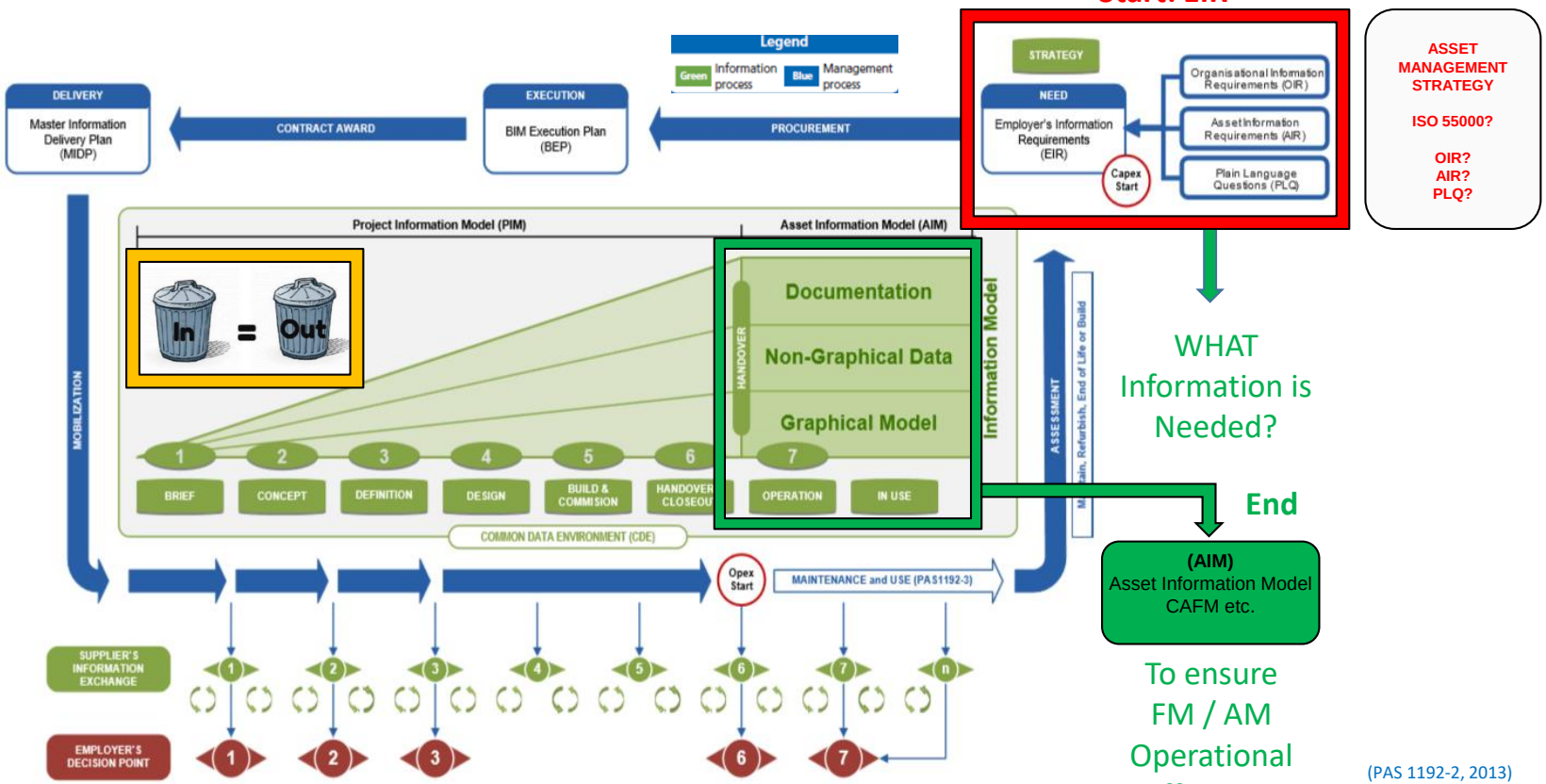


Context: FM role in BIM projects?

Context:

- FM Late: in creation process (opening)
- BIM - Norm: for design, build, operation
- BIM Mandate: UK government April 2016
- Minefield: wide range of BIM standards
- Long term value: change in thinking
- Information: manage assets in operation
- What, how much and when
- FM: need to be up to speed with BIM!

Theory: start with the end in mind …



(PAS 1192-2, 2013)

Methodology

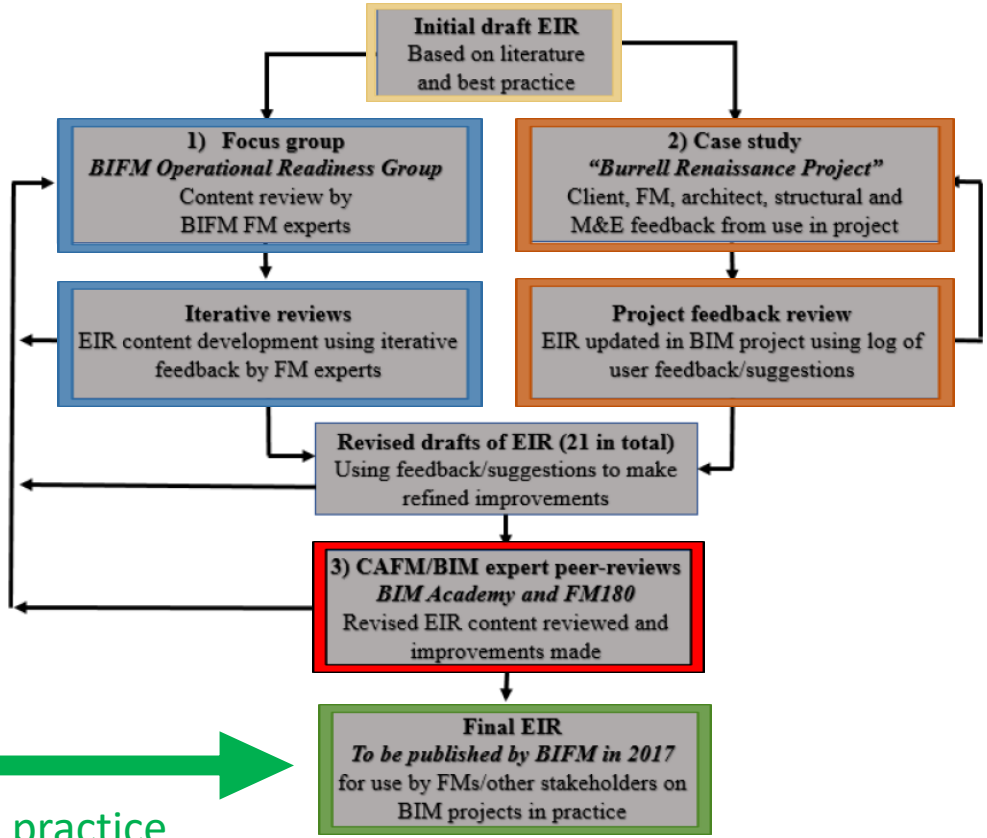
Literature:

- FM and BIM
- EIR development

1) Focus group: BIFM

2) Case study: The “Burrell”

3) Interviews/peer reviews



Final EIR

For FMs to use in practice

Stakeholder representation

Practitioners: good FM and BIM experience

Representation: interviews across WLC: both FM and construction

Focus group/Case Study: regular review meetings (discuss feedback)

Stakeholder group	Key role	Focus Group (8)	Case Study (5)	Peer review (2)	Interviews (Total = 7)
Client/FM	Client – asset/information needs	1	2		2
FM Consultants	FM - information needs	5			1
Architect	Design - architectural input		1		1
Structural Engineer	Design - structural input		1		1
M&E Engineer	Design - M&E input		1		1
BIM/CAFM Expert(s)	BIM/CAFM - compliance			2	1
Academic/researcher	BIM/EIR/FM - research input	2			

Results: literature

Eadie et al (2013): in relation to financial benefits, in the BIM process, clients benefit most from BIM followed by facility managers

PAS 1192-2 (BSi, 2013): EIR: "pre-tender document setting out the information to be delivered, and the standards and processes to be adopted by the supplier as part of the project delivery process"

Dawood & Vukovic (2015): note that "lack of in-house expertise is one of the key barriers to BIM adoption"

Akcamete et al (2010): utilization of BIM for operation/maintenance falling behind the BIM implementations for design and construction

Results: practice early EIR development

Technical	Management	Commercial
• Software Platforms • Data Exchange Format • Co-ordinates • Level of Detail • Training	• Standards • Roles and Responsibilities • Planning the Work and Data Segregation • Security • Coordination and Clash Detection Process • Collaboration Process • Health and Safety and Construction Design Management • Systems Performance • Compliance Plan • Delivery Strategy for Asset Information	• Data drops and project deliverables • Client's Strategic Purpose • Defined BIM/Project Deliverables • BIM-specific competence assessment

BIM Task Group (2016)

Results: focus group

- EIR: should be client/FM orientated
- Clients/FMs: need guidance specific to their needs
- Standardization: understand BIM standards, process and how to apply
- LOD: confusion over detail/definition and how to apply (NBS)
- BIM model handover: How will FM view BIM models EIR)
- Asset Data: what information is needed (MOJ examples)

BIFM™

Operational Readiness Steering Group
Made up of FM professionals from practice

Results: case study

- How to start?: need to start early – use as a cooperation tool
- Complexity: early versions – not clear enough in specification
- Appendices: document reorganized to make reading and use easier
- BIM knowledge: “walking through a minefield” – BS8536 (P1 and 2)
- BIM Terminology: Use EIR but not OIR and AIR (specific to organization)
- COBie/CAFM: need to plan COBie for Glasgow Life CAFM
- RIBA PoW: early versions needed realigning to RIBA PoW (2013)
- 2 Stage EIR: depending on the tender process

Glasgow Life™

The Burrell Renaissance Project

Glasgow Life: £66 million refurbishment

2nd Project using BIM: Two stage tender

Results: peer review

- Clarity?: early versions – too wooly – clients need to be clear
- Guidance vs Template: reorganized with “Supplier Evaluation Form”
- Client Responsibilities: need for clients to take more ownership of EIR
- Model ownership: use the CIC protocol – tenders as established text
- Best Practice: use documents in public domain (MOJ) examples

bimacademy

FM180
BIM4FMconsultants

BIM and CAFM specialists
Peer review of EIR in development
Ensure its fit for purpose for practice

Results: "EIR Template & Guidance"

NEWS

BIFM™ ADVANCING OUR PROFESSION
BRITISH INSTITUTE OF FACILITIES MANAGEMENT

BIFM highlights Employer's Information Requirements as part of new guidance for FMs working on BIM projects

23-03-17 14:30 BIFM

BIFM has today (Thursday) published a new guide for facilities management professionals working with clients on BIM construction projects.

Employer's Information Requirements (EIR) is a practical 47-page document to support clients using BIM (Building Information Modelling). Presented in a user-friendly manner, it shows clients how to specify their exact requirements for the design and construction phase of a built asset through to its full life-time operation.

RELATED DOCUMENTS

- BIFM Employers Information Requirements
- BIFM Employers Information Requirements (word)
- BIFM Employers Information Requirements Overview
- Employer's information requirements (EIR) An overview of facilities management requirements
- The Role of FM in BIM Projects summary sheet - UPDATED

http://www.bifm.org.uk/bifm/news/7604

Conclusion: lessons learnt

1) Fully understanding the BIM process is not easy:
   - Large amount of information to read, understand and internalize
2) BIM requires a paradigm change in thinking:
   - Planning of client information needs for the future right from the start
3) FM professionals (and other stakeholders) not sure:
   - Where to start when it comes to preparing an EIR
   - Good reference examples – practice and case studies
4) FM benefit from a framework of easily digestible guidance documents
   - EIR Template and Guidance (and others)
   - UK Ministry of Justice (2016) framework of BIM documents

All stakeholders in BIM process need to work together

Recommendations

- Development of further guidance:
  - Organisational Information Requirements (OIR)
  - Asset Information Requirements (AIR)
- Refine and improve:
  - Use in real life BIM projects ... Such as the Burrell Renaisance Project
- Web based version:
  - Part of digital plan of works
- Further coopertaion
  - «Practice» and «Academia»

Future research

- Wider FM Awareness of BIM:
  - LJMU, ZHAW, BIFM Questionnaire
- Critical success factors
  - FM involvement
  - PhD research
- Case studies:
  - FM and BIM in practice
  - Searching for partners

BIFM survey to benchmark perceptions of BIM within FM

31-01-17 9:10 BIFM

FM professionals are being urged to take part in a new piece of BIFM research to measure the level of understanding and awareness of Building Information Modelling (BIM) within the FM sector.

The survey, which has been developed in partnership with Liverpool John Moore University and the Zurich University of Applied Sciences, aims to establish a benchmark of the current perceptions of the impact of BIM on the FM sector and the benefits and challenges it presents.

BIFM research and information manager Peter Brogan said: "Working with Liverpool John Moore University and the Zurich University of Applied Sciences through our Operational Readiness group, it was clear from all parties that there was a need to develop a suite of guidance tools to help FM professionals navigate their way through the BIM process.

250+ responses

Zurich University of Applied Sciences
zh aw Life Sciences and Facility Management
Institute of Facility Management

LIVERPOOL JOHN MOORES UNIVERSITY

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Questions?

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