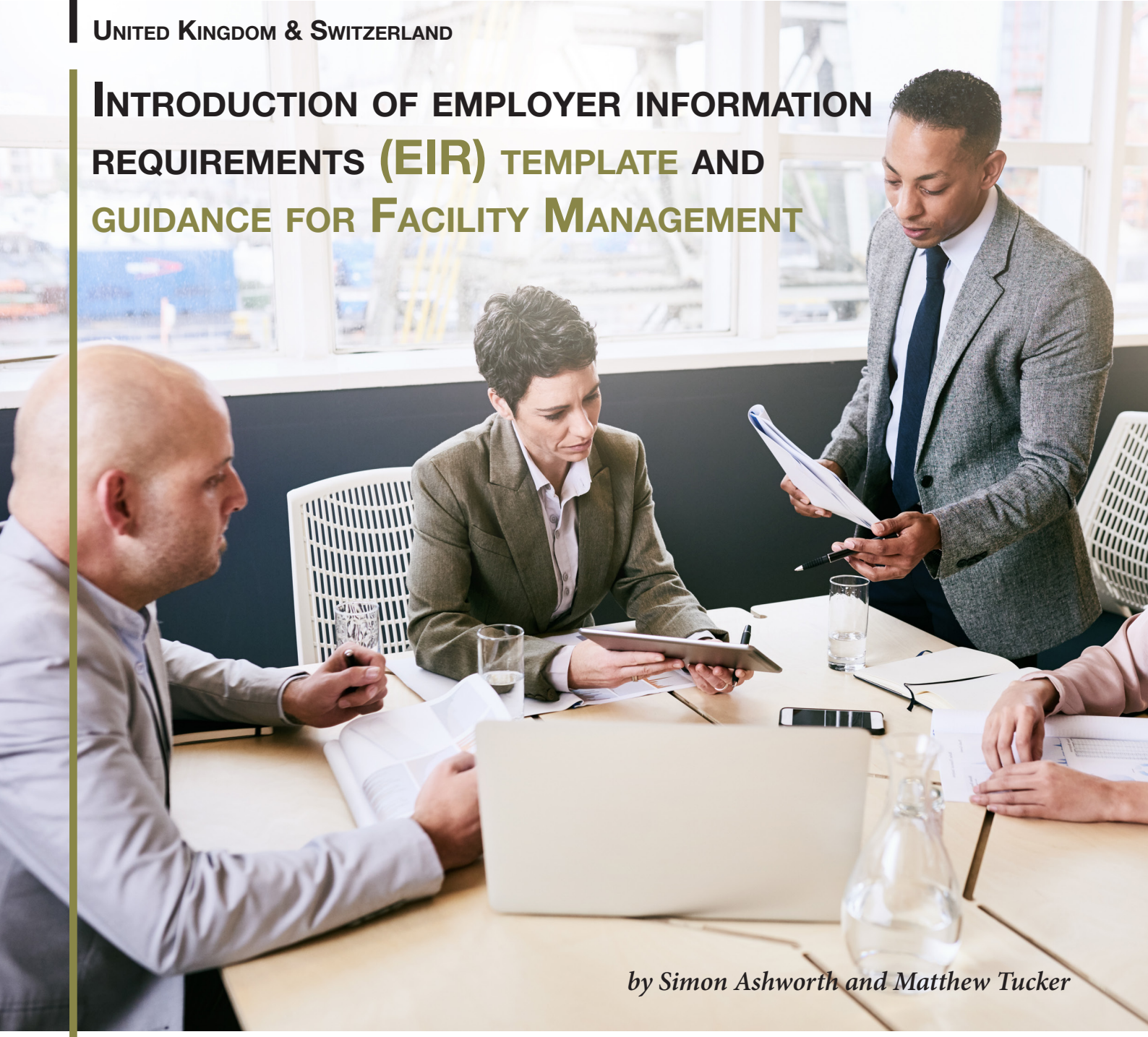
Introduction of employer information requirements (EIR) template and guidance for Facility Management



by Simon Ashworth and Matthew Tucker

Building Information Modelling (BIM) is now widely used within the property and construction industry. However, its role and utilisation within the facility management (FM) industry is constantly being debated. Increasingly, awareness is growing across the industry, but there are disparities in the level of sophistication, maturity and application of BIM in FM across specific organisations, sectors, industries, and countries. The growing importance of appropriate standards and academic research to bridge such gaps have never been more important. For example, Tucker and Masuri (2016) justify the importance and criticality of the involvement and integration of FM in the early design phases of a building. Moreover, the British Institute of Facilities Management (BIFM) recently published a guide on the 'operational readiness' (BIFM 2016) of FM to implement BIM.

An essential element to starting a successful BIM project in line with the RIBA Plan of Work (2013) as discussed by Ashworth et al (2016) and put forward in various BIM standards is the creation of well-specified Employer's Information Requirements (EIR). This requires all parties involved to "start with the end in mind". The EIR helps the process is defined in PAS 1192- 2 as a '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' (BSI, 2013).

The EIR can also be used as a

powerful tool to encourage cooperation during critical early stages in the BIM process between the main parties to agree on what they are setting out to create, what it will cost and how they will work together to achieve the desired outcome.

The EIR helps clients and facility managers define their information requirements both during the project and for the "in use" phase of the project. It gives clear direction to the design team and construction supply chain regarding appropriate information needed by the client as well as the suitable formats and times for tendering in the BIM process, during the course of the project, and in operation.

As such, a good quality EIR is an essential tool to all stakeholders in the BIM process. The BIFM EIR Template and Guidance document (BIFM, 2017) has been developed through a collaboration between Liverpool John Moores University (LJMU), Zurich University of Applied Sciences (ZHAW), the BIM Academy and the -BIFM. It provides a tool for clients and facility managers unfamiliar with the BIM process to use as a starting point in their BIM projects. Its key aim is to help establish and plan the information needed to ensure future optimisation of assets and their operation. It also encourages people to consider the level of detail and complexity, along with core project stages and objectives. The EIR is linked to the RIBA Plan of Work (2013) as well as key industry BIM standards and documents which underpin the BIM process, for example, PAS 1192 standards (BSI 2013, BSI, 2014, BSI 2015),

4. Management Requirements	▪ 4.1 Applicable standards and guidelines ▪ 4.2 CIC BIM protocol ▪ 4.3 Project roles and responsibilities ▪ 4.4 Existing client CAFM/IWMS or enterprise asset management systems ▪ 4.5 Model creation and ongoing management ▪ 4.5.1 Planning the work and data segregation ▪ 4.5.2 Model management plan ▪ 4.5.3 Collaboration process ▪ 4.5.4 Model size ▪ 4.5.5 Model viewing ▪ 4.5.6 Volumes, zones and areas ▪ 4.5.7 Naming conventions ▪ 4.5.8 Model co-ordination, quality control and clash-detection process ▪ 4.5.9 Use of BIM to help health and safety ▪ 4.5.10 Delivery of asset information to the client ▪ 4.5.11 Information publishing process ▪ 4.5.12 Security of model information ▪ 4.5.13 Training ▪ 4.5.14 Model audits by the client
5. Technical requirements	▪ 5.1 Software ▪ 5.2 IT and system performance constraints ▪ 5.3 Data exchange formats ▪ 5.4 Common co-ordinates system ▪ 5.5 Levels of definition ▪ 5.6 Specified model and information formats ▪ 5.7 Site information, floor and room data information
6. Commercial Requirements	▪ 6.1 Exchange of information in line with RIBA project stages ▪ 6.2 Supplier BIM assessment form ▪ 6.3 BIM tender assessment

BS 8536 standard (BSI 2015), and the Construction Industry Council (CIC)BIM Protocol (2013).

Clients and facility managers can download a fully editable version of the EIR Template and Guidance document from the BIFM website, which should then be adapted to meet their own specific project needs. The EIR has been tested in a real life case study BIM project with Glasgow Life and the Burrell Renaissance Project. The EIRs covers issues such as:

- *The need to provide clarity on information formats and naming conventions and guidance on how to supply information.*
- *Defining clear roles and responsibilities*
- *The need for a well-structured asset information delivery plan or information schedule unique to each project which identifies which information deliverables should be delivered, by whom and when.*
- *The need to review existing Computer Aided Facility Management (CAFM) systems and other enterprise management systems and consider the Construction Operations Building Information Exchange (COBie) to ensure the information and data can be easily transferred into these FM systems.*

Below is a summary of some of the key EIR content from the management, technical and commercial requirements sections of the document. These are an overview of some of the key content an EIR should aim to cover in line with guidance from the CIC (2013). The EIR also has appendices to help people compiling the EIR. These include items such as a "supplier BIM assessment form" which can be used to help clients and facility managers assess supplier's capabilities in terms of ability to deliver BIM projects.

The work forms part of a wider PhD study conducted by Simon Ashworth (ZHAW) and supervised by Dr Matthew Tucker (LJMU), focused on establishing the level of awareness of BIM by FM and established the critical success factors required to deliver successful BIM projects.

The EIR helps clients and facility managers define their information requirements both during the project and for the "in use" phase of the project

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