

## CASE STUDY

# Producing an electronic Health and Safety File

Sainsbury's Property Company worked with ICT provider BIW Technologies, ICT consultant Info-Matrix and professional project team members to develop a system capable of producing an electronic Health and Safety File, building on information already routinely exchanged using BIW's web-based collaboration technology. The File is faster, easier and cheaper to compile, maintain and update, and is more accessible to FM staff who need to manage post-construction operation and maintenance processes throughout each built asset's 'whole life'.

### Key benefits

- **Faster compilation of Health and Safety File**
- **File more complete at hand-over stage, with full File delivered more quickly**
- **Easier access to File; constant availability 24 hours a day, seven days a week**
- **Less expensive to compile - File re-uses existing information; single documents can be referenced several times without duplication**
- **More user-friendly; simpler, faster and more efficient to use**
- **Easier to keep up-to-date during the FM stage of the asset lifecycle**
- **Less expensive to maintain - documents cannot be removed, lost or replaced (a full audit trail is maintained of all File changes)**
- **Reduces the need for traditional hard-copy archive**

### Background

Under the 1994 Construction (Design and Management) Regulations (CDM), the client and project team must produce various health and safety documents during and after construction. One requirement, the Health and Safety File, has traditionally been a substantial, comprehensive and expensive-to-produce library of documents. Collation requires extensive inputs from across the team; often the File can fill over 20 thick ring binders, and several copies of the whole File may be required. Typically, the File is not completed until weeks after project hand-over.

Once compiled, the File, usually in paper-based form (sometimes CD or microfilm), is passed to the client, who must then store it, maintain it and make it available to anyone needing information about the facility - whether for routine operation and maintenance (O&M) or for longer-term use, eg: major alteration works. If the client sells all or part of the facility, the File, updated to reflect any further works, must be passed to the new owner. It is, therefore, a key part of a built asset's 'whole-life' documentation.

Sainsbury's Property Company manages in excess of £4.5bn property assets for major UK retailer Sainsbury's, and is responsible for hundreds of new-build, extension and refurbishment projects every year - each of which generated a

substantial paper-based File. The company has a dedicated facilities management (FM) department responsible for managing post-construction O&M activities across its estate. Asset documentation was difficult and expensive to maintain, access to information was slow, and many Files could quickly become out-of-date or incomplete.

Since 1999, Sainsbury's had been using web-based collaboration applications - BIW Information Channel from BIW Technologies (BIW) - to support its project delivery processes. BIW Information Channel makes data available across every Sainsbury's project team through a unique, secure, project-specific website - accessible by authorised individuals from any location 24x7. Users can create and access information including drawings, comments, notes of meetings, requests for information (RFIs), specifications, etc.

The system was already used to manage some health and safety documents (eg: the Health and Safety Plan). Given that much of the information produced during a typical project ended up in the Health and Safety File at the end of construction, and recognising the inherent problems of a paper-based File, Sainsbury's Property Company's Health & Safety Manager invited proposals to devise an 'electronic' solution. Specialist construction IT consultancy Info-Matrix recognised the potential of the existing BIW Information Channel and a joint proposal with BIW to develop a pilot system was accepted.

## The approach

A core team of Sainsbury's, BIW and Info-Matrix was augmented by professionals from project delivery teams. Contractor Simons Construction and planning supervisor PCM had experience of both using the Channel and working in a cluster group responsible for fast-track store refurbishment projects.

The Health and Safety Executive was approached to confirm that an electronic Health and Safety File would be regarded as CDM-compliant, so long as minimum requirements for certain hard copy paperwork (eg: inspection certificates, statutory documents, certain key drawings) were satisfied at each site.

An experienced client, Sainsbury's had a 'Health and Safety File brief' which stipulated the structure and content of a conventional paper File. This was reviewed, revised and used to create a list of health and safety 'attributes' that could be used to electronically 'tag' drawings or other documents when published to the Channel. As some documents may concern more than one area or aspect of the facility, the BIW system allowed multiple 'tagging' of document attributes, so that a single document could be accessed from different sections of the File.

The system also had to support the health and safety coordination work of the planning supervisor. Previously, he/she had to compile the File retrospectively at the end of a project (ie: when teams - and information - are usually rapidly dispersing). Using the BIW system, PCM could continually monitor published documents and their health and safety attributes (and, if necessary, amend them), and start building and safeguarding the integrity the File from the outset.

Instead of getting the traditional set of ring-binders or a read-only CD some weeks later, the store manager or FM helpdesk can be given a login and password, and be able to access the File online immediately. BIW developed a user-friendly File Explorer tool (similar to Windows Explorer) that uses the familiar 'tree structure' to help such users locate items in the File.

The system was tested on Simons-led refurbishment schemes at Huntingdon, Bradford and New Barnet during 2002. As the File was effectively a "live" document, compiled progressively throughout design and construction, it was delivered more quickly and economically at the end of each project's construction. At Huntingdon, the File was over 75% complete at project hand-over (and 100% complete just two weeks later); at Bradford the File was over 80% complete, an achievement then topped at New Barnet - partly because supply chains were now submitting information destined for the File in electronic form (ie: not paper that had to be scanned-in).

Once proven on refurbishment schemes, the system was tested on a substantial store extension project in Somerset. This was a significant step forward in type, scale and duration of project, extending use of the system to a new team, led by Kier. Meanwhile, however, news of the pilot projects stimulated numerous requests from other teams (covering the whole range of Sainsbury's projects) to use the new functionality.

In late 2002 Sainsbury's Property Company decided to adopt the revised File brief and deliver electronic Health and Safety Files as standard for all projects starting from 1 January 2003.

## Management issues

Sainsbury's Property Company has reviewed its procurement processes; it now requires suppliers and manufacturers to provide O&M manuals, etc in electronic form for inclusion in the electronic Health and Safety File. As stores, depots, etc, may not always have PCs and/or facilities to print drawings, etc (or the skills needed to do so), the company's central FM helpdesk is likely to become an important resource for in-house staff. The company is also developing protocols to ensure as-built drawings are marked-up and commented appropriately to reflect any post-construction works undertaken by FM contractors.

## Key lessons

- Strong leadership - client communicated need to manage 'whole-life' asset information more efficiently to rest of development team
- Encourage 'buy-in' from key players - client, contractor, planning supervisor and ICT provider agreed process and worked progressively towards delivery of effective system
- Build on existing (familiar) processes - the initial building block for the development team was Sainsbury's Health and Safety File brief; the objective was to improve, not to start from scratch
- Test, test and test again - the new File system was trialed on pilot projects before being rolled out to the full project community

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