

DATASHEET

Mobile access to BIW's web-based collaboration platform is now a reality. BIW has developed an integrated suite of applications that allow users to capture data using mobile devices and to share that data with its market-leading BIW collaboration platform. Equally, updated information can be uploaded from the BIW system to mobile devices for re-use on-site. The first BIW mobile service, BIW: Quality Manager, is a flexible and robust inspection and defects management solution, fully integrated with the core BIW system.

Closing the site-office technology gap

Often accused of being 'techno-phobic', the UK construction industry was actually one of the most enthusiastic early adopters of mobile telecommunications during the 1980s – due to the wide geographical dispersion of construction organizations and the projects on which they work, and the mobility required of their workforces. Since the 1980s, mobile telephones, laptop computers and pocket-sized personal digital assistants (PDAs) have become common sights in the offices of construction professionals – propelled by widespread adoption of computer-aided word-processing, spreadsheet, design drafting and other software solutions.

With more and more information being produced electronically, the parallel expansion of internet access within many construction organizations has meant that much of this information is increasingly likely to be exchanged electronically rather than in paper-based form.

However, away from the office environment, due mainly to the lack of robustness and issues relating to connectivity, mobile IT solutions have only slowly begun to be used out in the field. As a result, inefficiencies can arise.

For instance, those undertaking site inspections or condition surveys may use pen and paper, take photographs, and/or record their observations on a voice-recorder for later transcription. In an increasingly IT-reliant industry, delays may arise and errors may be inadvertently introduced as these details are transferred into Word documents, spreadsheets, emails, etc. Further delays may arise due to the time-lag between collating the information and its transmission to the intended recipient (eg: a facilities or estates manager, an external contractor or supplier, a customer, etc).

While new mobile computing hardware can speed up the data-capture process, true efficiency requires that the applications hosted on the device be seamlessly



integrated with other information management systems. For example, can details of a particular defect be automatically associated with a particular work package and forwarded to the relevant contractor for resolution? And, once actioned by the contractor, will the inspector be notified to re-inspect the work?

Making construction collaboration technology mobile

BIW delivers a web-based collaboration platform currently used by hundreds of project teams divided across thousands of organisations, working for scores of clients. Drawings, documents and numerous other types of file can be quickly, easily and – above all – securely managed online by authorised members of the project team. The technology is also easily configured to manage electronically common industry processes (such as transmittals, requests for information (RFIs), instructions, change orders, etc) that used to be undertaken using paper-based forms.

Through its collaborative process management (CPM) toolset, BIW has expanded the range of project, programme and enterprise processes that are manageable via its platform. Building on a vision of making asset information available anywhere, anytime, anyhow, BIW has simultaneously been exploring the potential of hand-held PDA-type devices, and designing software solutions that (a) exploit the convenience of these tools and (b) are fully integrated with the powerful BIW platform. The resulting applications:

- **are configurable to suit project, programme or organisational processes**
- **allow synchronisation of information held in BIW and on the mobile device** - field-captured data can be added to the relational database at the heart of the BIW; similarly, updated data from BIW can be made available out in the field
- **manage specified communication processes** – for example, lists of defects are automatically forwarded to the relevant package subcontractor via BIW
- **link processes and information** - users can associate drawings, specifications or other documentation with the process
- **provide feedback and reporting mechanisms** – key information can be re-used by the process originator via the mobile device; for example, an inspector might receive a report detailing rectified defects that require re-inspection.

The mobile element of the application has been developed specifically for Windows Mobile 5 and the latest hardware, and gives users access to project data via hand-held PDA-type devices equipped with 3G, GPRS, wi-fi or direct cable connectivity.

Defects Control

BIW's first mobile solution is a flexible and robust inspection and defects management system. It allows remote capture and updating of data, and, crucially, it offers seamless integration with the BIW collaboration platform for notification, recording and reporting.

BIW: Quality Manager is configurable to suit the process requirements of each customer organization and its project(s). Typically, the system will reflect the detailed work breakdown structure created for the project. After synchronization, the mobile device interface allows users to drill down into that work breakdown structure to identify the area of the facility they wish to focus upon. If defects are identified, the user can enter pre-defined defect codes into the application along with text describing the problem. Timescales for resolution can also be specified.

If necessary (and if the hand-held device incorporates video, still image or sound recording facilities), the user can enhance the defect record still further; where available, global positioning satellite (GPS) coordinates may also be recorded – invaluable for infrastructure projects.

After completing details of the defects, the user will synchronise the data recorded on the mobile device with that held on the BIW platform. As the work breakdown structure will reflect the project's division into work packages, the solution automates the production of lists of defects by package for immediate onward transmission via BIW to the relevant subcontractor. BIW: Quality Manager can also be used 'privately' – for example, a subcontractor may adopt the system for its internal use, perhaps in advance of inspections by the main contractor.

Throughout the process, the time and date of each stage is recorded in the BIW system, helping to maintain a clear audit trail of who did what and when.

As each defect is rectified, the subcontractor reports the fix via the BIW platform, a step which usually prompts a further inspection. This re-inspection stage is also supported by BIW's mobile solution: the inspector downloads a report of the reported fixes, inspects the work undertaken, and, assuming the inspector is satisfied, the defect can be signed-off or closed via the hand-held device. Reporting tools are available both to manage day-to-day progress and to enable performance reviews – for example, a customer or contractor may want to assess the quality control performance of individual suppliers on a project.

Benefits

- **faster, more accurate and detailed data capture** – information can be recorded in situ and textual information can be enhanced with other media
- **less re-keying of data**
- **less ambiguity** – creates a single database of defects
- **greater consistency** – information captured to a consistent level of detail and managed according to agreed processes
- **faster collation and transmission of defects to relevant contractor**
- **easier access to context-sensitive information** – relevant drawings, specifications, comments, etc, can be associated with a defect and viewed in situ
- **faster resolution of defects through removal of paperwork bottlenecks**
- **real-time reporting on defect resolution progress**
- **improved reporting on supplier performance**
- **clear audit trail of defect resolution processes**

BIW Technologies Limited

21-25 Church Street West, Woking, Surrey GU21 6DJ

T 0845 1300 800 Int +44 (0)1483 712620

F 0845 1300 900 Int +44 (0)1483 756325

E info@biwtech.com

www.biwtech.com