Case Study

Business process integration with GroupBC technologies

BC products are now part of Bentley Systems

Overview

Primarily known as a Tier 1 main contractor, Balfour Beatty is a UK-based multinational infrastructure group providing construction and related services predominantly in the UK and north America.

Since 2002, Balfour Beatty has been working to expand knowledge sharing across the group, and to improve collaboration on its projects. As the group comprises more than 60 companies, (group brands include Living Places) or which form part of joint ventures with external companies, Balfour Beatty has been developing an effective group-wide information technology structure.

The group's Major Projects division has been at the heart of this effort, which included the early implementation of tendering (including design management from tender stage through to contract), procurement and project collaboration systems. As well as identifying and deploying software platforms, the business has also sought to standardise many of its information management business processes, including the development of consistent workflows across the group, and human resource strategies to support effective information management.

Key benefits

Documented compliance with BS1192 / ISO 19650 and related BIM Level 2 requirements

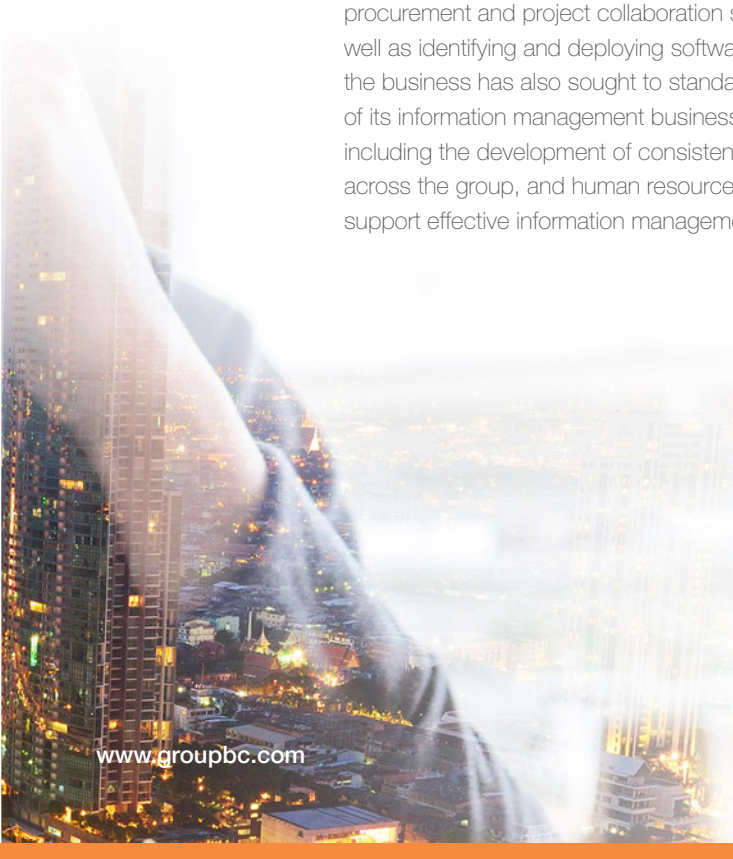
Increased data re-use, through integration with third party applications

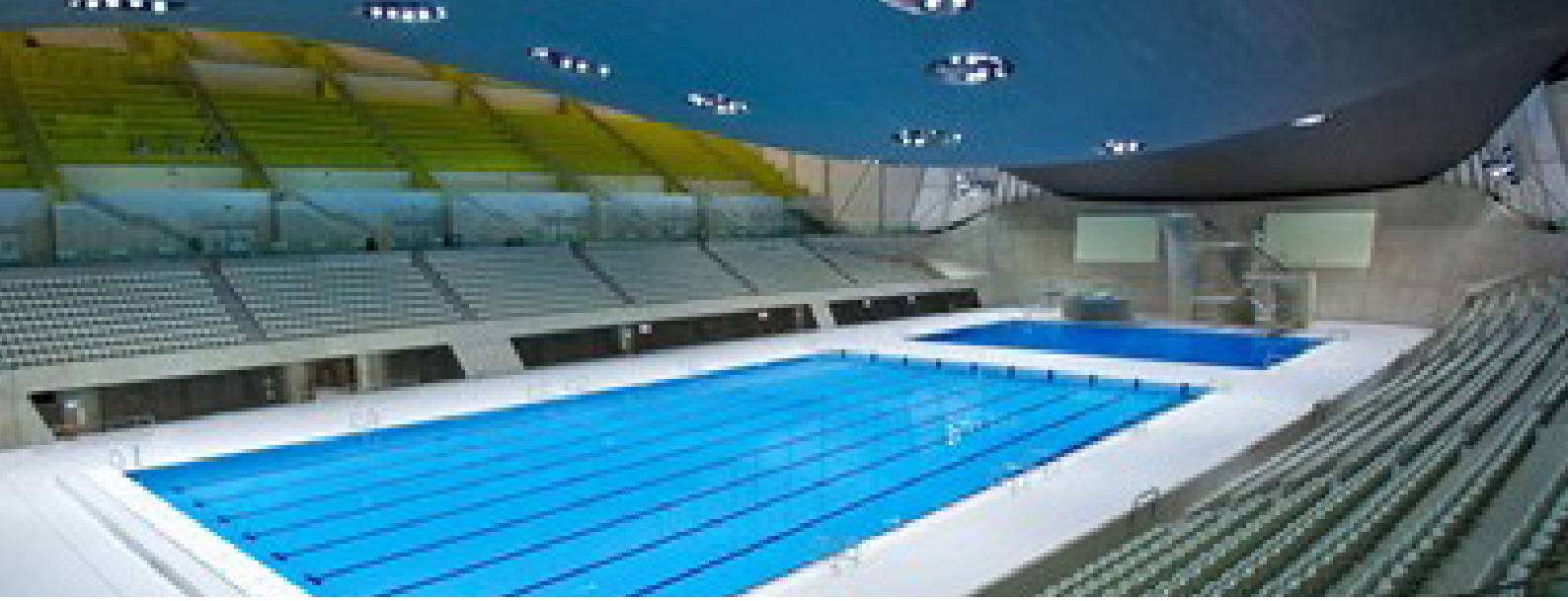
More consistent, standardised workflows across Balfour Beatty businesses and joint ventures

Standardised technologies and workflows helps Balfour Beatty retain staff skills and knowledge, while helping employees progress to more senior roles

Adherence to open standards and maintenance of well-documented APIs provides a strong basis for integration of the GroupBC SaaS platform with other toolsets, both cloud and on-premise.

Reduced reliance on vendor-delivered consultancy support and training due to internal investment in staff skills





Technology implementation

BC Enterprise+, from GroupBC, quickly emerged as a key platform. It provided a foundation of 'extranet' or file-sharing functionality across project teams, but its underlying relational database (RDB) architecture also proved a strong basis for standardising and managing Balfour Beatty workflows beyond the usual transmittal and submittal processes.

Replacing outdated Access databases, today the toolset is used to support procedures including:

- requests for information/technical queries (RFIs/TQs)
- a seven-step non-conformance report (NCR) process
- health and safety (including risk assessment and method statements, RAMS)
- materials testing and approval
- permits
- inspection test plans (requiring high levels of progressive assurance)
- 'snagging' (including defective or outstanding works lists, DOWLs)
- risk capture
- temporary works
- labour and plant allocation capture, and
- file naming and numbering in compliance with BS1192:2007 / ISO 19650

GroupBC's ProcessPlan has also been trialled to check procedural compliance within Balfour Beatty's rail plant management teams. And the group values GroupBC's secure hosting model, particularly where sensitive projects such as military airbases or nuclear installations may need to be managed.

The GroupBC toolset is today integral to how Balfour Beatty works with its people, its customers and with its supply chains.

- **Over 63,000 users**
- **9,000 active users at any one time**
- **40 live project workspaces a year**
- **24TB of data uploaded**

Integration

Balfour Beatty's use of GroupBC's technologies has particularly benefitted from the vendor's flexible approach to integration with third party toolsets used across different operating businesses.

For example:

- Projects procured under NEC contracts tend to be managed using CEMAR's contract management application
- Balfour Beatty are developing integration with Microsoft's Sharepoint and Power BI provides some powerful dashboard reporting tools that can interface with other data-sources
- Balfour Beatty are developing an Autodesk integration which will facilitate enhanced design team collaboration.

In each case, workflow data from the GroupBC systems is combined with other data to populate the reports needed by project decision-makers.

People, process and technology

However, it is not just about technology. Balfour Beatty has invested in the information management capabilities of its key people. Providing a consistent set of technologies and process schemas has been vital in achieving both effective day-to-day first-line support and in developing staff's technical and managerial skills. A competency framework enables staff to progress from document controller, to senior document controller and then to information manager roles.

Over time, staff move from tactical implementation and support of the GroupBC platform to providing teams with strategic advice on information management. Such structured career progression helps Balfour Beatty retain and also reward experienced and knowledgeable staff - vital as efficient information management capabilities become critical to winning work, particularly in the group's key highways and rail sectors.

A platform for BIM and field operations

The GroupBC toolsets help Balfour Beatty teams demonstrate ISO19650-compliant BIM implementation processes. GroupBC's CDE (common data environment) is one of the IT infrastructure systems mapped in Balfour Beatty's information management plan and BIM execution plan (BEP), while it can show how design and construction information flows are controlled by reference to the CDE-managed workflows.

Once a project reaches construction phase, the GroupBC platform can also interface, when required, with mobile tools used for field data capture (for example, with Spartan's Phalanx QR code and RFID readers, or GPS-based progressive assurance solutions such as EviFile); and it can help deliver post-project handover or archive information at the end of the construction delivery phase.

On a major rail project, the CDE was used as part of an integrated management system to support an initial temporary works contract. BIM was used to help design enabling works, with tagging features in the CDE used for issue management and for knowledge and evidence capture, providing rich content to support tenders for the main civils work.

Contact us

business.collaborator@bentley.com