

Topic:
Collaborative
Solutions

Collaborative solutions in the construction industry – BuildOnline & Balfour Beatty

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In April 2001 Balfour Beatty, the international engineering and construction services group, announced it had chosen BuildOnline as its preferred supplier of e-business software solutions, spanning project collaboration, tendering and procurement. We asked **Mark Oliver, Managing Director of BuildOnline UK**, and **Mel Zuydam, CFO e-commerce of Balfour Beatty Plc**, to consider the impact of web-based collaborative solutions on the construction industry.

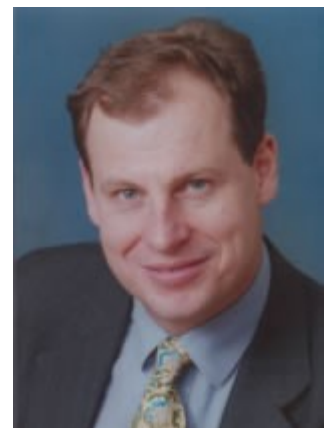
Web-based project collaboration solutions have developed faster in other industries; is the construction world now ready for this way of working?

Mark Oliver - One of the reasons why the construction industry has been slow to adopt collaborative solutions is that traditionally, it has not invested heavily in IT in any areas of the business, and for good reason. Construction is a very low margin, highly cyclical industry and people don't want to make a big investment in IT when they're not quite sure whether the cycle is going to turn or not. So typically, it has been more labour and less IT investment orientated.

The Internet changes that; you no longer need to invest in a lot of hardware and software when you can just have an Internet connection, a browser and rent the software from a provider like BuildOnline. I think we're now at a turning point where collaborative software will be much more widely used. The publication 'The New Civil Engineer' quoted in a survey recently that most civil engineers think it's a question of when it's going to happen, not if. I think that by 2003, 80% of projects will be using collaborative extranets.

Balfour Beatty has a turnover of £2.6 billion through international operations that include commercial and civil construction in building services and asset management, specialist rail engineering and services, and investment and development.

BuildOnline's suite of products is designed to speed up the existing processes in the property and construction industry. The company recently announced its third round funding of £10m, the largest funding base for any European Internet software company for this industry. BuildOnline operates in the UK, Ireland, France and Germany.



Mark Oliver

Mel Zuydam - Sure, on the e-commerce front the construction industry is somewhat behind in many respects, but that's not a criticism, it's just the way

they've built things for 40 years. Changing that methodology too quickly could actually be quite dangerous. I think now though that the door to e-commerce has finally been opened. Balfour Beatty certainly intends to try and lead the field in this, because there is certainly some 'first mover' advantage. Eventually, when the rest of the industry catches up, the end result will be that buildings can be built more cheaply, and the benefits will be passed onto the client.



Mel Zuydam

Where do BuildOnline's solutions begin and end?

Mark Oliver - We have an integrated product set of collaborative tendering, procurement and specifications tools, so we're really starting right upstream with the property owners and clients with tools that can be used throughout the construction supply chain, including the design phase. One of the key concepts of our strategy is that we don't want people to have to re-enter data in different phases. For example, data entered using our collaboration tool, 'ProjectsOnline', can be accessed easily when the project moves into the tendering phase. This principle extends right beyond project completion; facilities management people can access the full set of information on how the building was built and all the specifications.

So why did Balfour Beatty select BuildOnline?

Mel Zuydam - After an exhaustive review of the fifteen or so players in this field with a strong presence in Europe, BuildOnline easily came top of our list. There are three main reasons for this. Firstly, the quality of their management team - this combines industry knowledge, innovation and vision and probably most important of all, people who are able to actually implement change in business processes.

Secondly, the quality of their funders and their continuing willingness to support the venture. I had meetings with the investors directly. We had to satisfy ourselves that the investors were genuinely behind them.

"Remember that we're talking about having to convince Project Managers, some of whom don't even use PCs."

Thirdly, their product set, which is the best one around in my view. This is not because it is all bells and whistles and multi-functional, but because it is useable and practical and relatively simple compared to some of the other collaboration tools. Unlike others, they are not trying to run before they can walk, and they recognise the needs of an industry that is just coming to terms with this way of working. Remember that we're talking about having to convince Project Managers, some of whom don't even use PCs. You've got to make sure that the actual people using the tools actually like them, and quickly see the benefit from using them.

What about the collaboration solution providers supported by the architectural CAD vendors, such as Buzzsaw.com and Viecon.com? Do they not have a strong appeal to their CAD using customers?

Mark Oliver - They have an advantage in that they have a lot of relationships with designers and professionals using their software. Two things I would say to that though - in our experience, the adoption of this collaborative technology has actually been driven more by clients, i.e. the overall owners of a project, rather than the design team. However in terms of having to raise capital to develop the new web based technology, they still face the same challenge of needing to raise the cash to carry on till they can become profitable.

Mel Zuydam - Balfour Beatty is seeking to examine just about every part of its business - both customer facing and supplier facing - and make it more efficient. Project collaboration is just one of three or four initiatives in our overall e-commerce development. E-procurement is another very important area, and Buzzsaw doesn't offer that and neither does Bentley's Viecon. They would probably argue that they do, but it's not officially part of their strategy.

Balfour Beatty spends £2 billion a year buying things. I've calculated that our procurement process costs £100 million per year, basically because it's based on inefficient paper processes. So e-procurement offers a great opportunity to achieve cost savings and efficiency gains and fits well with our shift over the last four years towards the development of strategic alliances with preferred suppliers.

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Electronic tendering is another key area. Currently, the process of tendering for a job and then sub-contracting out sub-tenders to other specialised businesses is massively laborious and inefficient. Again, BuildOnline offers a very good electronic tendering tool, and that again is an important area that we want to develop in Balfour Beatty.

Ultimately, BuildOnline's strategy matched our needs in these key areas, and importantly they have a supplier database and a customer database that links all these tools together. Buzzsaw has a very impressive tool but its strategy is somewhat different, and importantly it doesn't have a presence in the UK.

There is a range of concerns that some industry observers feel will hinder the take-up of web-based collaboration solutions. Firstly, security; how can customers be sure the Web is a safe place to host their mission-critical data?

Mark Oliver - In terms of security levels, we have a three-tier architecture system with firewalls between each level. Firstly, access to our website is protected by a firewall; further firewalls protect the link between the web servers and the application servers; then we have firewalls between the application servers and our database servers. So you cannot hack into our database servers unless you're actually on the application servers. You can't get onto the application servers unless you got through the web servers, you can't get onto the web servers unless you've gone through that firewall!

Our servers are hosted at a site with 24-hour security, with full fire protection etc; we also have back up servers on location, plus data is also loaded onto tape and sent to an off-site back-up location.

BuildOnline has raised £22 million to develop this technology. It can be done more cheaply, but then you're not building for scale and not building in this level of security. We simply cannot afford to take any risks.

"It can be done more cheaply, but then you're not building for scale and not building in this level of security."

What about the issue of bandwidth and the reliability of the Web infrastructure for hosting vital data?

Mark Oliver - It is reliable enough at present, but certainly more bandwidth brings more benefits. Generally, our systems work best using a 56Kbs modem and above. At 33Kbs it's good, at 28Kbs it works. And we've had it working successfully on as low as 9Kbs in Greece. But the faster you get, the more benefits you get from it.

There is a bottleneck in the consumer market for higher bandwidth. In general the telecommunications providers are not investing in the higher bandwidth because there's not enough interesting content around, and the content providers are not investing in interesting content because there's not enough infrastructure. And people are not prepared to pay £40 a month for ADSL without receiving interesting content over it.

BuildOnline has formed a strategic alliance with BT to deliver online services to the Construction industry throughout the U.K. BT (British Telecommunications plc) is one of the world's leading providers of telecommunications services and one of the largest private sector companies in Europe.

One of the reasons we've developed our partnership with BT is that we see that we have applications that can actually drive the demand for greater bandwidth. By offering bundled packages of applications plus ISDN or ADSL, we then enable the business case to be put forward to invest in more bandwidth.

Are fears over the survival of dotcom ventures holding back the growth of this market?

Mark Oliver - I think people are hesitant because they know the market will consolidate down to a few standards, and they want to know who is still going to be around in five years time. That's the key reason we went out and raised so much money at this stage in the game when we've actually already developed our technology - it gives confidence to our customers that we'll be around because we can survive on those funds, well past the point of profitability.

A crucial question for potential customers is, *'If our project management solution provider goes bust, what happens to the data?'* We provide our customers with the assurance that their data is safe with us, by taking frequent, regular back ups of all customer data and archiving it off-site.

How does BuildOnline's software facilitate design collaboration?

Mark Oliver - We have a viewer that enables people to view drawings whether or not they have the same version, or indeed any version, of the software that created it. As we further develop our viewing technology we'll bring more features in. We currently have the ability for someone to view a drawing, put red lines and comments on it and send it and have it seen by the originator or others.

Our software ensures that people are only working on the most up to date version; if one person is modifying it, no one else can modify it at the same time. When modifications have been made and the drawing is checked back in, the system automatically creates an audit trail showing who made what change when.

What about enabling collaboration on 3D CAD models?

Mark Oliver - That very much depends on whether the proprietors of that 3D software will allow other people's viewers to view it. Any document or data produced with any software can be uploaded onto BuildOnline, and it can be viewed with the integrated viewer that we have. At the moment it does two-dimensional drawings. We're very much customer driven. If the demand is there for 3D viewing capability, and the providers of 3D software release viewing capabilities to third parties, then we will incorporate this facility.

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How do you see the use of project management solutions developing in future?

Mel Zuydam - In the medium term we've got to develop better collaboration across the entire vertical supply chain in the construction industry. Looking at the top of the chain, we won't reap the full benefit of these collaborative solutions until we involve the ultimate clients with them, i.e. the big businesses like Shell who want things built, or the major property developers. Then you have the consulting engineers who also need to be involved in this collaborative process. This then extends through a company such as Balfour Beatty who actually does the building with all our suppliers, sub-contractors and other partners.

We need to wash away the competitive atmosphere; I'm thinking for example of a consulting engineering company that is driving its own project management solution and views BuildOnline as a competitor. We've actually got to work together. They've got to be happy recommending our collaboration tool as much as we've got to be happy recommending theirs. My view is that in the end, there needs to be a menu of collaboration tools available to anybody. Some of them will be very complex tools, some of them will be very simple, and, depending on the complexity and size of the project people will choose the one that best suits them.

Mark Oliver - Our focus is very much on collaborative software, whether that's collaborative during design, during tendering or purchasing, because any time up to the point of making a decision, people need to collaborate and share information.

So in terms of adding particular functionality, we will make sure we keep abreast of what our customers want. But we will move as adoption of these other technologies happens in the industry. Our aim is to give people simple tools that help them with today's processes rather than trying to re-engineer the way they do things. Enabling them to do things they do already, faster and with less mistakes is really the message.

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Many thanks to Mark Oliver and Mel Zuydam for talking to iCAD. What aspects of web-based collaborative working would you like to see covered in future issues of this e-zine? E-mail [David Eaton](mailto:David.Eaton@business-advantage.com) with your suggestions.

Please [Click HERE](#) to leave a comment or question.