

March 2009 Newsletter



Richard Ogden - Chairman

Making an Exhibition of Ourselves – Let's Talk!

The publication of this Buildoffsite Newsletter has been scheduled to coincide with the start of the Futurebuild and Ecobuild exhibition which this year takes place at Earl's Court from the 3rd to the 5th of March.



We believe that these combined annual exhibitions which are delivered by International Business Events (IBE) have evolved year on year and as a consequence have emerged as one of the most significant and useful exhibitions to support the business needs of those who work or engage with the built environment and the construction industry. Buildoffsite has since the beginning supported IBE to constantly refresh its offering to engage with the fundamental changes and challenges that are impacting on the industry and to help maintain the contemporary feel that the exhibitions demonstrate. Once again we are pleased to be participating at Earl's Court and to play our part in the promotion of off-site solutions and, with the support of our Members, deliver some unrivalled opportunities for visitors to the exhibitions to meet with and network with some of the industry's leading decision takers.

Those who are familiar with Buildoffsite will understand that we are an unusual organisation. We may even be unique in terms of the way we are

structured, the way in which our Membership is drawn from across the client, design, constructing and manufacturer community, and also in the way in which we work. We are certainly unique in our ambition to give both support to the supply side and also to challenge the industry to articulate the business case for a step-change in the rate of adoption of off-site construction solutions. No one owes the off-site supply side a living and if the industry is to prosper then it must be delivering the value that clients and customers are looking for.

In turn there is an absolute and pressing need to ensure that those same clients and customers are aware of and appreciate just what it is that off-site solutions can offer them and also to understand that they may need to revise the way in which they currently operate in order to be able to benefit from these new methods. Ensuring effective means of communication between clients, customers and those providing off-site solutions is an urgent but far from straightforward challenge. This is particularly so in those parts of the industry where too few clients and their advisors are familiar with innovative construction solutions and processes and where their design and contracting teams, for whatever reasons, may be resistant to the sort of innovative processes and techniques that the rest of the manufacturing world has embraced as "business as normal".

Over recent years the market for off-site construction solutions has grown very rapidly in some sectors of the market with the business case for off-site solutions already well established. In such cases the nature of the requirement based on a close working relationship between all those involved in the supply chain is to come up with ever more innovative ways for increasingly sophisticated building elements to be delivered to site on a just in time basis, for final assembly by an experienced crew with zero defects, zero waste and in minimum time. This close working relationship can be highly beneficial to all concerned but in much of the industry it is still the case that final decisions about design and build form are taken before discussions with potential suppliers and solution providers take place. It is difficult to understand how such practices can possibly deliver value to the client or indeed be in the client's best interest. Working in support of early and effective engagement with off-site suppliers is a priority for Buildoffsite.

The previous comments make it clear that although the benefits of off-site solutions are increasingly well understood there is a substantial need for Buildoffsite and the off-site industry at large to engage in a continuous process of communication, information sharing, awareness raising and discussion with the industry at large. The job is far from done and with the supply side increasingly able to provide solutions that deliver a number of engineering and service

functions, the opportunities for off-site methods to be the method of choice for construction clients will continue to expand.

Buildoffsite will be exhibiting at this year's Futurebuild because it provides us with an opportunity to promote the case for off-site solutions to a significant number of visitors based not on manufacturing and management theory but based on the hard won expertise of our Members who will be on our stand. Our messages will be simple:

- There is absolutely no reason why the UK construction industry is so special that construction can take place only on a construction site. No other industry operates in this way
- Off-site solutions can offer substantive business (including sustainability) benefits to clients and constructors in all sectors of the industry. These benefits need to be understood by all concerned.
- Use of off-site solutions does not impede high quality and bespoke design. The challenge lies with designers to demonstrate their understanding of the genre
- Early communication with off-site suppliers is essential to establish what the industry can do to add value to the client and to deliver more effective construction solutions. Engaging with the industry only after all substantive project decisions have been taken is unlikely to be the best way to protect the client's interest.
- The off-site industry needs to communicate more effectively with clients, designers and constructors. In turn it would help if these parties were willing partners in a dialogue
- The need for the off-site industry to work together in order to achieve maximum impact
- Off-site solutions and their impact on construction processes and mindsets represent a tangible mechanism to achieve step-change in the performance and competitiveness of the UK construction industry.

In these challenging times every individual and every organisation in the industry needs to think about their role and the added value they can give their clients and customers. Being aware of innovations that will make a real difference both now and in the future is really important. We believe that off-site innovation is a key part of the evolution of the construction industry.....Let's talk.

Introducing EcoCanopy



The EcoCanopy off-site construction system is offering quality built environment solutions whilst

achieving significant cost savings over alternative traditional methods and also substantially reduced levels of embodied CO2. The system has already been selected as the construction method for a number of school developments but is equally applicable to a wide range of construction applications.



EcoCanopy is a component-based prefabricated building system comprising a series of standard roof, wall and floor elements. The factory environment in which EcoCanopy is produced ensures a high level of quality, reliability and cost-certainty. EcoCanopy is based on a 4m x 4m plan module that can be configured to suit requirements as small as a gate-house and as large as a school. A variety of internal spaces can be achieved, with a clear internal span of





up to 8m. A 2.7m floor-to-ceiling height makes for well-proportioned spaces.

EcoCanopy can be deployed in any environment but is ideally suited to education and healthcare applications. EcoCanopy is suitable for extensions and stand-alone new build applications. EcoCanopy is a robust, permanent building system with a lifespan identical to conventionally-built buildings.

Sustainability: EcoCanopy is built predominantly from timber, a material low in embodied energy. All timber components are FSA-certified. The manufacturing process reduces material wastage and minimises energy required for construction. EcoCanopy can be naturally ventilated, or mechanically ventilated with heat recovery. The system can incorporate all micro renewables (PV, solar hot water, micro CHP, wind turbines, heat pump, ground source, etc). High fabric performance, solar control and high daylighting ensure that energy-in-use is minimised. The building and services can be maintained by local contractors.

Affordability: EcoCanopy uses design discipline and manufacturing economy to drive down costs and increase quality. It is more affordable than traditionally procured buildings, yet offers higher quality construction, materials and finish. The lower cost of EcoCanopy does not result in a reduction in quality of building, services or materials used.

Savings are made through the efficient manufacturing process and reductions in material wastage, labour content, transportation/delivery costs and site preliminaries. A recently-completed 255m² school building cost 1/3 less than a comparative traditional build, and contains half the embodied energy.

Programme: EcoCanopy reduces the construction program and disruption on site when compared to traditionally-procured buildings; site work disruption is reduced from months to days.

More information on the EcoCanopy system is available through www.ecocanopy.co.uk or by contacting the Bryden Wood Group on **0207 253 4772**.

A Discovering Offsite event to see the EcoCanopy will take place on Wednesday 5 August in Berkhamsted. For more information and to register for this event contact Anna on anna.whiting@buildoffsite.com

Buildoffsite/Lloyds Registration Scheme update

Report on the Registration Scheme Workshop held on 3 December 2008 at BERR, 1 Victoria Street, London



The Buildoffsite Registration Scheme is a risk based evaluation scheme which focuses on process and serves as a vehicle for the standardisation of best practice across the offsite supply chain.

Put simply, the aim of the scheme is to encourage the offsite provider to adopt a risk assessment framework that serves to encourage a questioning approach, by all staff, to all aspects of the business and project activities. The adoption of such processes, provides assurance that risks are identified at an early stage and will help to avoid costly mistakes by the offsite provider and which may impact the project.

BAA, as the UK's largest private sector construction client has recognised the benefits of the scheme from a client perspective and now require their 1st Tier suppliers to ensure that their offsite supply chains are accredited under the scheme. In recognition of this commitment Richard Kelly of BAA supported Terry Mundy of Lloyd's Register, the Scheme operator, in the facilitation of the workshop.

The workshop sought to demonstrate how a standardised approach to competency management, risk management and configuration management, would assist in the development of a synchronised supply chain, encouraging communication between supply chain members and an alignment of cultures.

The workshop identified a series of common failings within supply chain which impacted on project schedules and cost over runs, identified the root cause of the problems and how these problems and failings would be obviated through the adoption of the scheme.

Within the audience there was a general recognition of the value of the scheme and enthusiasm towards the level of communication and cooperation within the accredited supply chain, engendered by the scheme requirements, an issue acknowledged as a common failing within offsite supply chains

An information note on the Lloyds/Buildoffsite Scheme is downloadable from the Buildoffsite website www.buildoffsite.com

If you would like to discuss the scheme in more detail please contact Terry Mundy on **07712 787851** or email terry.mundy@lr.org

Briefing Note

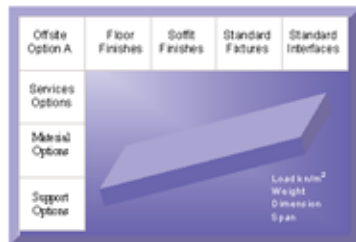
“Generic Specifications” for Integrated Floor Cassettes

Overview

In June of 2008, Buildoffsite embarked on a project with the objective to create industry wide standard specifications which are not solution specific, but rather “generic specifications”. The target markets for these specifications include: industrial, commercial type buildings, housing and non-housing applications.

An aspiration of this project is to encourage an innovation step-change in floor cassettes, increasing the amount of work completed offsite to create “integrated floor cassette systems”, enabling greater benefits to be achieved.

“Integrated floor cassette systems” have been defined as a kit of parts which are manufactured offsite and include the following:



- Floor structure
- Services (plug & play)
- Floor and soffit finishes
- Clips together on site
- Connects to pre-defined interfaces.

Although several offsite solutions already exist today in timber, steel, and concrete, many of these solutions have been developed in isolation without the benefit of collaboration from the industry and only some of the components of the floor cassette systems are manufactured offsite. The remaining work is completed on-site by specialist trades, reducing the offsite benefits that could be achieved. In addition, there is no standard approach for interfacing with other building components.

The use of “generic specifications” will encourage innovation, enable a standardised approach, and emphasise what is actually needed within the industry. These specifications will also allow for use of different material types, applications, and interfaces with other building components.

Once the “generic specifications” are completed

(April 2009), suppliers will have the opportunity to submit their products for accreditation through the Buildoffsite Registration Scheme operated by Lloyds Register. This accreditation will provide clients with the assurance that products satisfy the “generic specifications” requirements and that best practice within the offsite construction industry has been achieved.

The University of Salford’s International Research Week 2009



The University of Salford’s International Research Week 2009 started with the Industry Day entitled Sustainable Delivery of Housing. The event was jointly organized by the Salford Centre for Research & Innovation (SCRI), The Salford Housing and Urban Studies Unit (SHUSU) and CIRIA.

The current difficulties within the UK Housing market and the interaction between the current economic climate and the policy drivers for social and environmental benefits formed the core of the event which was attended by over 90 delegates. The presenters for the day discussed the current context of the state of the housing sector as well as offering solutions which might be used to address some of the key problems.

The morning, Chaired by Visiting Professor Ken Treadaway, discussed the key issues the housing market currently faced. Josh Miller, a Royal Institute of Chartered Surveyors economist, put the housing market in the context of the current financial crisis. Julie Craig, from Procurement for Housing discussed the issue of green housing and how procurement can drive the sector. Professor Andy Steele, from the University of Salford, focussed the issue around how housing services a community’s needs, and how the sector needs to recognise that the built environment must respond to this.

The afternoon session which was chaired by their CIRIA Chief Executive Bill Healy, looked towards possible approaches to address these issues. Chris Woods, Research and Development Director from Wates, discussed how thinking about design and construction in a different way, real efficiency savings

could be made. Professor Aguinaldo de Santos talked about different approaches to sustainable construction from around the world showing the impact of different social and economic contexts. Gavin Hodgson from BRE talked through the performance and issues surrounding the demonstrator environmental homes in Watford and the lessons that had been learned. Finally, Bob Patterson discussed new models for the ownership and development of homes using Community Land Trusts. The event closed with a lively debate and discussion, chaired by Richard Ogden from Buildoffsite.

The leader of International Research Week, Professor Ghassan Aouad, said, *"I would like to thank all of the people who gave up their time to make the event as enjoyable as it was. The housing sector is important both nationally and internationally, making this event a timely contribution to a much needed debate."*

Higher Education Qualifications in Off-Site Manufacturing with World-Wide Appeal



Salford University is now offering courses in Advanced Manufacturing in Construction. These courses involve either full time study or distance learning with the programme capable of being completed anywhere in the world. Awards are available at MSC, Postgraduate Diploma and Postgraduate Certificate. The next Programme start date is October for both the full and part time course.

More information on the courses is set out below.

Those seeking more information should contact Dr Mohammed Arif on: m.arif@salford.ac.uk

If anyone has information on other Universities offering courses that support the better understanding and application of Off-Site Construction Methods would they please contact Anna Whiting anna.whiting@buildoffsite.com with the details.

Build Offsite visit Innovaré and their new manufacturing facility in Coventry for their sister company I-S manufacturing.



Late November saw the latest delegation of Buildoffsite members and paying guests visiting the brand new manufacturing facility set up by Innovaré Systems under the name of I-S manufacturing.

The Structural Insulated Panel (SIP) assembly line was commissioned by Innovaré, a wholly owned subsidiary of the Osborne Group a South Eastern based contracting company, mid summer 2008 to enable Innovaré to develop their SIP based building system.

The guests were treated to "death by PowerPoint" which outlined some of the philosophical thinking behind the facility in Coventry, the history of Innovaré and why I-S manufacturing.

The headlines being:-

The use of automotive assembly working on the production line and in many other aspects of the business. *"We wanted to maintain a culture of engaging with the construction industry in a different way and the use of non construction personnel means we are not held by traditional thinking"* said Andrew Orriss MD of Innovaré and tour guide for the day

Why SIP? He went on *"we use i-SIP as the building system in which to go to market as we see it having many benefits over traditional build, the thermal performance and speed of construction being the most significant."*

The tour moved into the 33,000-sq ft facility where they were walked through the assembly process for the i-SIP panels and ancillary products that make up the i-SIP building system. The thinking behind this

very modern approach is all about the assembly of components, not construction or crafting. It is fundamentally one continuous process that finishes some way away from the start point but an assembly line non-the less, echoing the ethos of Buildoffsite.

After the tour Richard Ogden chaired a lively discussion over lunch on Offsite matters in general, scene setting for another Innovaré / Buildoffsite tour in 2009 where the end of the assembly line can be examined...a site visit.



Roger Bullivant *Discovering offsite* Tour

As a leading manufacturer of pre-cast concrete, Roger Bullivant Limited (RBL) operates out of a strategically located, 250 acre, Midlands headquarters site in Burton-on-Trent. This is supported by eight other regional specialist centres across the UK, two of which are also manufacturing facilities. Visitors to the headquarters site have the opportunity of viewing the manufacture of pre-cast piles, foundation caps and beams as well as pre-cast walls, dock leveller pits and pre-cast for prison and education facilities. Segmental precast for the UK tunnelling market is also manufactured at the headquarters for our sister company Buchan Concrete Solutions.

For more information contact RBL Press and PR Manager Karen Makin-Wall, **01283 525019**

Buildoffsite's next *Discovering offsite* tour will take place at Roger Bullivant's on Wednesday 8 April 2009 commencing at 10am.

Venue: Walton Road, Drakelow, Burton-on-Trent, Staffs DE15 9UA

To book please contact Anna Whiting on **0207 549 3306** or email anna.whiting@buildoffsite.com

December Stakeholder's Event Feedback



Once again the setting for the December Stakeholder Programme was the Department for Business's 1 Victoria Street Conference Centre. BERR's ongoing practical support for our Programme of activities in support of a better, more effective, more sustainable construction industry is greatly appreciated.

Buildoffsite is always looking for new ways in which it can deliver value to its Members and their guests. In

planning the 3 December Stakeholder Event we decided to supplement the late afternoon plenary session with a precursor programme of Workshops to offer attendees additional opportunities to get even more out of the afternoon.

As subjects for the Workshop sessions we chose to deliver an update on the Buildoffsite/Lloyds Register Registration Scheme and also a session during which the Ministry of Justice – one of the public sector’s most significant clients – would report on their use of Lean Production Management techniques to eliminate wasteful activities and to improve productivity and value. Both Workshops were very well supported with the Ministry of Justice session attracting more than 100 delegates. This was a fantastic expression of interest and as a result we



Chris M Grieve Terry Stocks

will be arranging some more sessions around the Country.

“MoJ leads the way”

You might be asking why we have this interest in Lean practices and what possible connection this can have with off-site solutions. The answer is absolutely straightforward in that the focus on those activities and processes that add client value rather than cost tend to result in a step-change in the use of off-site solutions as an entirely rationale response to the requirement to simplify the construction critical path, to significantly improve productivity and right first time quality on site and to minimise construction and contractual risk. It is no coincidence that the Ministry of Justice is now looking to deliver 85% of its build programme using off-site solutions.

The December Stakeholder Event which followed on from the Workshops was also very well attended with approximately 150 delegates taking part. The theme of the presentations was deliberately structured to avoid the doom and gloom that so many industry events are currently embracing and instead to focus on the need for industry to focus hard on how to learn from the current challenges in order to come up with those business offerings that will stand companies in good stead when the upturn comes. The need to refresh skills and offerings in response to client and customer expectations never takes a rest – regardless of the current economic challenges. This positive approach seemed to be very well received by delegates and we will take this on board



John Miles Cal Bailey

“Making sense of sustainability with off-site solutions”

when planning the next – May - Stakeholder Programme.

In addition to a presentation on the initiative being taken by Buildoffsite to demonstrate the tangible ways that the adoption of off-site solutions can make a significant impact on sustainability objectives whilst delivering business value, delegates received a number of thought provoking presentations on making the most of offsite solutions from some of the leading thinkers from some of the UK’s most respected client, design and contracting organisations.

Buildoffsite Breakfast Briefings

Lean Project management in practice

Do you want to know more about Lean Project Management?

Do you want to hear how one of the UK’s largest construction clients is achieving significant improvements in project time and value?

Do you want to hear how off-site solutions are being applied to achieve a step-change in project performance?

If so then why not join us at one of these Buildoffsite Business Breakfasts

When: Thursday 26 March or Thursday 23 April 2009

Where: Buildoffsite, Classic House, 174-180 Old Street, London EC1V 9BP

Time: 08.30 – 10.30

(Registration and refreshments from 08.00am)

These Breakfast Briefings will feature:



Ali Mafi – Lean Thinking Ltd

- **An Introduction to Lean Project Management** by Ali Mafi of Lean Thinking Ltd
- **a case study: getting on track for radically better value** by Terry Stocks & Chris Mackenzie-Grieve of the Ministry of Justice

The Ministry for Justice is applying Lean Project Management techniques and off-site construction solutions combined with a newly devised value indicator to achieve greater and more effective control over project delivery processes and at the same time to achieve significant improvements in project value and on time completion.

The lessons learned by this innovative public sector client will be shared at this breakfast briefing

Content: The presenters will describe how by applying the Lean Project Management techniques it has been possible to achieve substantial savings in the time and cost of their construction projects without compromising on quality and other key client requirements. The techniques have allowed the client to distinguish those processes that genuinely add value from those processes that simply add cost.

The techniques have also ensured that projects are managed around the work-flow to satisfy the requirements of the critical path rather than to meet the convenience of suppliers and constructors.

All of the MoJ supply chains have now been asked to apply the new Lean techniques and Value Indicator performance measures to their projects. MoJ expect to improve to radically improve their project cost and increase their project on time delivery to 80% by the end of 2010.

Ministry of Justice also recognise the significance of taking early decisions on the incorporation of off-site solutions into their schemes both to ensure quality and predictable cost and shorter project duration. Ministry of Justice anticipate that as much as 85% of their new build projects will be delivered using off-site methods.

One of the ambitions of Buildoffsite is to provide opportunities for Members and non-Members to gain first hand knowledge of modern business techniques which other industries have adopted to improve their production and management practices. There is no fundamental reason why these advanced manufacturing techniques should not be more generally applied within construction.

The principles of Lean Manufacturing were pioneered within Toyota in order to deliver a step change in levels of productivity, quality and value and to support continuous improvement. Lean Manufacturing is now generally accepted within the automotive sectors - so why not also in construction?

The principles of Lean are based around the identification and elimination of impediments to flow within the production or construction process. The poor performance of much of the construction industry in terms of ensuring both the predictability of project activities and the effective management of trade interfaces suggests that the increased use of Lean techniques could deliver substantial project and sustainability benefits to clients and suppliers. Typically the application of Lean techniques will also serve to favour the adoption of off-site manufacturing techniques in order to deliver increased certainty into the construction process. It is not by accident that leading automotive manufacturers have become assemblers of components

Cameo Case Studies – more exemplars on the way

The Buildoffsite web-site contains almost 180 Cameo Case Studies describing the use of off-site construction solutions in a range of project applications. Each of these Case Studies have been contributed by the participating project teams.

Buildoffsite is continuing to expand and develop the suite of Case Studies and to ensure that these continue to reflect contemporary best practices in the use of off-site methods. Additionally some of the original suite of cameos will be revisited and put into an electronic archive which will be created in the Cameo Library area of the Buildoffsite website.

Cameos being progressed for addition to the website include approximately 15 new contributions from:

- BAA
- Buchan Concrete
- Britspace
- Roger Bullivant
- Bourne offsite

It is anticipated that these will start to appear on the web-site with effect from March 2009

