



*Richard Ogden,
Chairman*

Reaching out

2013 has got off to a busy start for Buildoffsite with many important activities, engagements and collaborations either already delivered or underway.

Several new members have joined us, which is great news and I am confident that during the course of the year some significant additional names will join us.

Those who know Buildoffsite will be aware that we are instinctively a collaborative organisation. We believe that we can best make progress when we can work with others to pursue common goals. You will have heard me mention the particular importance that we attach to developing positive relationships with the industry's key representative bodies including of course the professional bodies. We want to work with these bodies to spread the message of offsite construction, and to have the opportunity to engage constructively with legitimate concerns and interests. At the end of the day I believe that most of us who work in this industry would really like to be in a position to help the industry to move forward, to work just that bit more smartly, to give a better service and better value to our customers, and significantly to become that bit more attractive to the next generation of clients, engineers, architects, surveyors and professionals of all kinds – including constructors without whom we can achieve nothing.

In the spirit of working with the professions, I was delighted to co-chair with Guy Leonard the conference that Buildoffsite



and Mott MacDonald delivered on 15 January in collaboration with the Institution of Civil Engineers. The event was hosted by Geoff French – the ICE President Elect and in my view this was one of the best events that I have ever attended. Our focus was on creating a 21st century civil engineering sector and exploring the role that offsite construction solutions could and would play. We had an absolutely first rate line-up of speakers, each of whom are clearly at the very top of their game. We were taken through some of the very best examples of innovation in the delivery of infrastructure assets for the transport, energy and water sectors. Projects that I am certain would rank alongside the best across the globe. The consistent message was one of the significance of innovative thinking close-coupled to innovative technologies and practices, including the increased use of offsite construction methods where this makes project sense. My special thanks go to Derek Fryer, Mark Enzer and their colleagues at Mott MacDonald who worked alongside the Buildoffsite Team and so generously shared their expertise to plan and deliver this exceptional conference.

Shortly afterwards, I joined a Buildoffsite delegation that spent a week in India. What an eye opener! India is without doubt emerging as a global force and is rapidly developing an infrastructure to match. The opportunities for UK construction businesses to work with Indian partners are incredible. The common language, the shared heritage and the very close links between our industries help to shape the sort of commercial opportunities that comes around only once in a generation.

However, it is essential to get out there and meet potential partners.

Our visit was a bit of a whistle-stop tour but we met some great people and real business was done by those on the visit. We owe special thanks to Salford University, the Institute of Technology Delhi, the UK-India Education and Research Initiative, UKTI, to Modern Prefab the first Indian based member of Buildoffsite and also to RICS India. All of these organisations did a brilliant job in contributing to our visit and enabling some highly productive networking and business to business discussions. Members from as far afield as New Zealand, USA and Ireland joined us for this Discovering Offsite visit.

We are planning a Buildoffsite briefing session on the Indian Market and the opportunities for offsite – so watch out for a diary date. Finally, to give you some idea of the breathtaking scale of the thinking that is driving investment in construction infrastructure in India, we visited a site outside of New Delhi, which is being developed to deliver 18,000 new homes – imagine that. These homes are being built using precast concrete units manufactured in a factory purpose built for the purpose. This was a single development – and compares with a total of 120,000 new homes built across the entire UK during 2012. India is in the process of bringing about a step-change in construction infrastructure and offsite construction has a major role to play. UK business must be out there and must be part of the revolution that is underway. Remember, India needs 26 million new homes today!

On 26 March 2013 Buildoffsite, in collaboration with RICS, will be delivering a half-day conference that will focus on the residential sector and the increased role for offsite construction methods. I think that we all know that outside of self-build projects it is hard but by no means impossible for offsite solutions to win work in the volume housing business. Housebuilders have established incredibly efficient supply chains that for the most part are constructing homes using traditional site based methods.

It may not be common knowledge but even on the largest sites house-building is a small scale operation with rates of build fine-tuned to match the rate of private sales. Even the largest sites involve very slow rates of build – achieving sales of less than one new property a week. This slow rate of build inevitably makes it difficult for offsite suppliers to come up with a commercially attractive offering. However, things are changing and coupled with a need to achieve a step-change increase in the rate of housebuilding it may well be that significant commercial opportunities for offsite suppliers will start to emerge.

At this event we will also be launching the Buildoffsite Property Assurance Scheme (BOPAS). This scheme, which is jointly owned by Lloyds Register, Building Life Plans (BLP) and Buildoffsite, is now market ready. The BOPAS offering which has been endorsed by the main UK lenders will provide an assurance of mortgageability and will underwrite the fitness for purpose of offsite solutions in use. This launch event marks the start of a campaign to present this unique scheme to the industry and to clients. Understandably the construction industry is risk averse – the BOPAS scheme provides a solution to any concerns regarding the project and performance risks associated with the use of offsite construction products. No such risk management scheme exists for traditional construction.

The event at RICS will also provide an opportunity for the audience to be briefed on a report into offsite housing that has been carried out for the Government by Professor John Miles and Professor Nick Whitehouse – both non-executive directors of Buildoffsite. Their report will deliver a series of recommendations to the Government and Industry on the need for more housing and the opportunities that arise from the increased use of offsite solutions. This represents an agenda for change in a sector of the market that to date has been remarkably resistant to the use of offsite solutions. It is interesting that this report was commissioned by the Government. I

am delighted that Buildoffsite has been able to play an active role to support the development of the report.

So, as you see, there is a lot going on and some very positive developments underway. Significant reasons for those involved in the development and use of offsite solutions to be just a bit more confident about the opportunities in a market that is still very fragile. There can be little doubt that when the recovery finally comes there will be an increasing role for offsite solutions. The job for Buildoffsite is to work with others to make the case for business and project case for offsite solutions, which in turn will benefit not just our Members but also the industry and its clients at large.

Benefiting from BIM – the Mott MacDonald experience



The uptake of Building Information Modelling is a game-changing development that supports the increased use of offsite construction. It is very good news in terms of improving the efficiency of design and construction processes and the quality, performance and client value of built assets in use.

But what does this mean in practice? With thanks to Mott MacDonald we are here



reproducing a brief summary of 10 benefits that this world class consultancy is realising day to day through the use of BIM.

Benefit 1: Better outcomes through collaboration

All project partners – different design disciplines, the customer, contractor, specialists and suppliers – use a single, shared 3D model, cultivating collaborative working relationships. This ensures everyone is focused on achieving best value, from project inception to eventual decommissioning.

Benefit 2: Enhanced performance

BIM makes possible swift and accurate comparison of different design options, enabling development of more efficient, cost-effective and sustainable solutions.

Benefit 3: Optimised solutions

Through deployment of new generative modelling technologies, solutions can be cost-effectively optimised against agreed parameters.

Benefit 4: Greater predictability

Projects can be visualised at an early stage, giving owners and operators a clear idea of design intent and allowing them to modify the design to achieve the outcomes they want. In advance of construction, BIM also enables the project team to 'build' the project in a virtual environment, rehearsing complex procedures, optimising temporary works designs and planning procurement of materials, equipment and manpower.



Benefit 5: Faster project delivery

Time savings of up to 50 per cent can be achieved by agreeing the design concept early in project development to eliminate late stage design changes, using standard design elements when practicable, resolving complex construction details before the project goes on site, avoiding clashes, taking advantage of intelligence and automation within the model to check design integrity and estimate quantities, producing fabrication and construction drawings directly from the model, and using model data to control construction equipment.

Benefit 6: Reduced safety risk

Crowd behaviour and fire modelling capability enable designs to be optimised for public safety. Asset managers can use the 3D model to enhance operational safety. Contractors can minimise construction risks by reviewing complex details or procedures before going on site.

Benefit 7: Fits first time

Integrating multi-disciplinary design inputs using a single 3D model allows interface issues to be identified and resolved in advance of construction, eliminating the cost and time impacts of redesign. The model also enables new and existing assets to be integrated seamlessly.

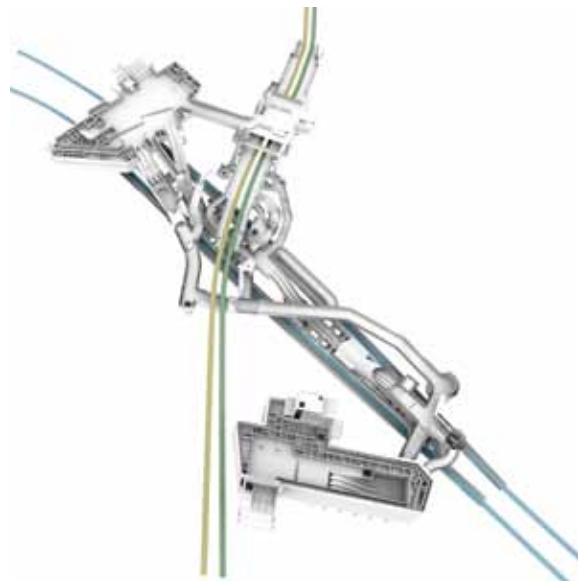
Benefit 8: Reduced waste

Exact quantity take-offs mean that materials are not over-ordered. Precise programme scheduling enables just in time delivery of materials and equipment, reducing potential for damage. Use of the BIM model

for automated fabrication of equipment and components enables more efficient materials handling and waste recovery.

Benefit 9: Whole-life asset management

BIM models contain product information that assists with commissioning, operation and maintenance activities – for example sequences for start-up and shut-down, interactive 3D diagrams showing how to take apart and reassemble items of equipment, and specifications allowing replacement parts to be ordered.



Benefit 10: Continual improvement

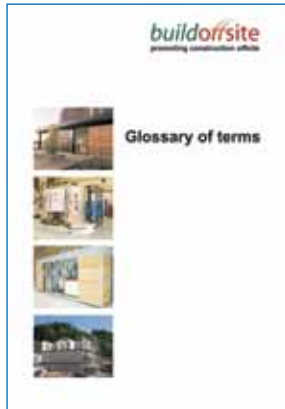
Members of the project team can feed back information about the performance of processes and items of equipment, driving improvements on subsequent projects.

These are the benefits that have been specially noted by Mott MacDonald. Other users of BIM will have their own perspective on the value added to their business and the enhanced quality and value that they can provide to their customers. BIM supports informed decision making, making selection of appropriate technologies easier – and making the value gained more visible.

So what is your experience of using BIM in your business and how has it created opportunities to increase the use of offsite

solutions? Do please let us know so that we can share your experience with others. Contact Anna Whiting on: anna.whiting@buildoffsite.com

Glossary of terms



The market for off-site construction methods is growing rapidly with even more companies bringing off-site solutions onto the market. These solutions are available to meet the needs of all sectors of the market including

housing, general building, civil engineering and building services.

To promote awareness of developments in off-site solutions and to inform debate and raise awareness, in 2006 Buildoffsite published the UK's first illustrated *Glossary of terms*. The *Glossary*, which is supported by BIS and by several leading industry organisations, has now been updated and describes the most common methods of off-site construction. This *Glossary* is regularly reviewed by Buildoffsite to accommodate developments in products, services, methods of procurement and tools to measure business and operational value.

Buildoffsite

Buildoffsite has been set up with support from BIS to connect clients and supply side organisations who are committed to the effective exploitation of off-site solutions to deliver step change in levels of construction industry performance, levels of quality, sustainability and safety.

Buildoffsite exists to:

- challenge the industry to improve quality and value
- promote excellence in off-site construction solutions

- develop the tools and learning material to demonstrate value
- connect clients and suppliers in support of continuous improvement.

News

Buildoffsite in India, January 2013



One of the strengths of Buildoffsite is its ability to connect people, businesses, governments and institutions together.

Our ability to work this way was clearly demonstrated during the recent visit to New Delhi.

Through our links with Salford University and the UK-India Education and Research Initiative Buildoffsite was asked to speak at a major conference hosted organised by the Indian Government's Construction Industry Development Council.

Chairman Richard Ogden and members of the Buildoffsite delegation presented on aspects of cutting edge offsite manufacturing. The programme covered a wide range of subjects including presentations on the Indian Government's five year investment plan.

There was considerable interest in Buildoffsite and its work programme and services. Modern Prefab, led by Aditya Kapoor, is our first Indian member company. We also have assembled a list of contacts of industry people who have an interest in establishing Buildoffsite India.

The seven day in-country visit also included a very active day with RICS India. The discussions and presentations were very effective in promoting knowledge transfer and helping the Buildoffsite delegation to gain an increased knowledge of the Indian market as well identifying a number of commercial opportunities which were followed up during the seven day visit.

The traffic in New Delhi was something to behold and it was necessary to adjust the estimated travelling times. Visiting factories and building sites gave a great insight into what was going on in this busy city and surrounding areas, such as a building site constructing almost 20,000 (this is not a misprint) homes using precast concrete methods from a factory on the site. It is clear that India did not achieve its last five year plan and many locals were of the opinion that they will not meet the \$1.5 trillion spend for the next five year plan without a significant change in its approach.

The challenges for India's construction and infrastructure are immense, and India has set itself some challenging ambitions both in terms of quantity and quality of new buildings and infrastructure. It seems entirely likely that in order to meet these ambitions there will be a substantial increase in the use of offsite methods.

Buildoffsite will be developing plans for a follow up visit to India. Our members who took part in this visit will of course be following up the contacts they have made in the search for business and future collaboration.

Launch of BOPAS, 26 March 2013



The Buildoffsite Property Assurance Scheme (BOPAS) is being formally launched on 26 March 2013. The Scheme provides manufacturers and constructors of new homes and their developer and other stakeholders with the assurance that their construction systems and manufacturing processes have been rigorously evaluated regarding integrity and the application of best practice through manufacture and construction. The launch will take place at the Royal Institution of Chartered Surveyors (RICS) at a conference that will focus on innovative house-building technologies

and processes, and also innovative collaborations between clients, landowners and suppliers to support a substantial increase in the number and quality of new homes being built in the UK.

It is likely that over time house-building in the UK will be transformed from a predominantly site based activity to an activity that involves the on-site assembly of factory made quality building components. This is how construction has been evolving to meet the quality and performance needs of other sectors of the industry. Recommendations to this effect have been set out in the recently published *Offsite Housing Review*, which was commissioned by the Government and is now available as a download from the Construction Industry Council website:

www.cic.org.uk

The increased use of factory manufactured components has some significant advantages over traditional site based construction methods including in particular assured quality and performance of the completed structure in use. However, since the use of these products will be new to many housebuilders, developers, clients and funders it is likely that initially at least their use will be perceived by some as giving rise to uncertainty and risk.

The Buildoffsite Property Assurance Scheme has been developed to provide assurance to house-builders, developers and other stakeholders that new homes which are constructed using products, components and assemblies covered by the scheme will be assessed to ensure a minimum of 60 year durability spanning two mortgage terms. There is no similar scheme currently available on the UK market.

The BOPAS scheme has been jointly developed by Buildoffsite, The Royal Institution of Chartered Surveyors, Lloyds Register, Building Life Plans together with major UK banks and in consultation with the Council of Mortgage Lenders and the Building Societies Association.

Delivering 21st century construction

The following presentations from this event held on 15 January are available to download online from: www.buildoffsite.com/downloads_events.htm

- *Ensuring the future of civil engineering in the UK*, Keith Waller
- *Delivering construction innovation in the water sector*, Dale Evans
- *Manufacture and assembly of infrastructure*, David Scott
- *Achieving a sustainable energy infrastructure*, Nirmal Kotecha
- *Delivering the UK's new nuclear energy infrastructure*, Tony Roulstone
- *Innovative solutions in the transport sector*, Miles Ashley
- *Reading Station project*, Niall McCreanor
- *Rebuilding Victoria Underground Station – BIM as an enabler*, Rob Dickson and Glenn Keelan*
- *Delivering the MEP at Birmingham New Street Station*, Cal Bailey.

* Contains conference slides that were presented by Glenn Keelan and Rob Dickson. Copyright of Transport for London. Originator retains copyright – not to be reproduced or published without the permission of the originator.

Government commissions report into offsite housebuilding

Late last year the Department for Communities and Local Government and the Department for Business, Innovation and Skills jointly commissioned the Construction Industry Council (CIC) to undertake a review of the role of offsite construction methods in improving the delivery of homes in England and to come up with recommendations for the Government and industry. Responsibility for housing in Scotland, Wales and Northern Ireland are devolved matters outside the scope of this Review.



John Miles



Nick Whitehouse

Buildoffsite was invited to play a key role in supporting this Review and Professor John Miles and Professor Nick Whitehouse, both non-executive Directors of Buildoffsite were appointed to co-chair the Review Panel.

The report of the Review Panel has now been presented to the Government.

Although commissioned to investigate the opportunities for offsite construction solutions it was important that the Review Panel was also able to have due regard to the need for new homes, to understand the current performance of the housebuilding industry, to be able to identify drivers and incentives for change, before it could begin to consider and offer expert opinion on the questions set by the Government.

Anyone who has seriously considered the new build housing market will quickly have reached some background conclusions:

- the market comprises a number of substantially separate sub-sectors each with its own characteristics and competences. These sub-markets comprise: build for private sale, self-build, social housing, and build for private rent
- the build for private purchase sector is generally incredibly well informed and expert at managing its supply chains to obtain lowest first price, which to date has been the sub-sectors single focus. This sub-sector accounts for something like 65 per cent of all new homes
- the housing market is not adverse to the use of offsite construction methods and some components such as truss rafters, factory finished fenestration, and timber

frame solutions are all in common use. However, this is the case only because it is cheaper for the industry to make use of these solutions

- generally Building Regulations, or as appropriate the Code for Sustainable Homes, set the performance standards for housebuilding.

The other factor that will have been noted is that we are not building enough homes to meet the needs of a rapidly growing population. In some parts of the country shortages are starting to show up in terms of increasing levels of overcrowding and increasingly severe problems of affordability – particularly for first time buyers. Land availability is part of the problem in some areas – but so too is affordability and wider economic factors.

What is also clear is that if the Government wants to encourage the house-building process to benefit from the cost, time, quality, sustainability and health and safety improvements that offsite has helped deliver to other sectors of the construction industry then it will have a part to play and it will need to commit to action.

The report of the Offsite Housing Review Panel will shortly be published on the Construction Industry Council's website.

In the context of extending the recognised scope of offsite construction solutions across all parts of the industry this initiative by the Government is likely to be highly significant.

Premier Interlink awarded prestigious inner city building contract for UCL



Premier Interlink (Waco UK Ltd), in partnership with main contractor Mansell Construction, has been appointed to supply student accommodation



as part of a multi-million pound project for the University College London to design and build a rooftop extension to the John Dodgson House – an existing college building located in London's west end.

The contract was awarded to Premier Interlink for their understanding and expertise in the technically challenging aspects of this design and build. The 50s built sandstone faced building will have a contemporary update comprising of the construction of a fifth and sixth floor modular building, with plant rooms above. The two storey, 64 bay extension is the first roof top extension of its type and is to be supported on a structural steel grilleage with steel columns sprung from new basement sited piled pad foundations. The 64 bedrooms will be clad in composite panels encased with a facade of solar panelled, non-reflective glass and fitted out internally to FF&E standards, complete with bathroom/shower pod and plastered ready for decoration and furniture placement. Sustainability features include a 'green' roof.

This central London location demands exacting installation standards and permissions will be required to allow crane access. Installation timings will have to be exact which calls for excellent communication between the construction teams involved. A specially chosen delivery team from Premier Interlink have been involved from the beginning of the project and will produce a sample pre-production module/room as a test bed for design analysis ready for the client's approval.

UCL is ranked seventh in the world's top ten universities by the QS World University Rankings (2011) and is associated with several major teaching hospitals – such as Great Ormond Street Hospital, the Royal Free Hospital and Moorfields Eye Hospital. It is a worldwide major supplier of personnel to the medical profession and a hub of medical training. University accommodation is a big issue in Central London.

For more information, visit: www.waco.co.uk

Accio Group builds temporary TV studio for live cookery show from Sainsbury's



Accio Group's expertise is the main ingredient in a unique, purpose-built, temporary structure created for Sainsbury's. The 720sqm two-storey unit houses a state-of-the-art TV production studio for the new *What's Cooking? from the Sainsbury's Kitchen show*, starting soon on Channel 4. The modular building comprises an interactive television studio including space for the live audience, three production offices, a green room and a preparation kitchen. The ground-breaking 'branded TV' cookery show will be filmed in front of a live audience, broadcast from the studio located at a Sainsbury's store in south London and will feature an interactive element, as the audience at home will be encouraged to ask questions via social media.

The Accio Structures team arrived on site late in January and faced challenging weather conditions to complete the structural work in order to be ready for the technical teams to begin the communications and interior fit-out.

What's Cooking? is co-hosted by Ben Shephard and former *Celebrity Masterchef* winner Lisa Faulkner, with various celebrity



guests and chefs popping in each week. The hourly Channel 4 show will be on air week-day lunchtimes, with a planned run of 13 weeks.

The studio facility was complete and ready for rehearsals within two weeks and is another great example of Accio's unrivalled expertise in temporary structures.

Accio Group's Managing Director Stephen Casey comments: "Accio have been Sainsbury's preferred temporary structures supplier for the past five years and are delighted to continue providing impressive structures for every aspect of their company. We're turning the interactive TV studio idea from concept to completion in a matter of days. It's another outstanding Accio Group project, from the ground up."

For more information contact Stephen Casey, managing director, on:

Tel: **01487 773 905**

Website: www.acciogroup.com

McAvoy 'model' company for American businesses



Northern Ireland offsite construction specialists McAvoy played host to a group of like-minded businesses from the USA. McAvoy Group, who are renowned in their sector for innovation, welcomed members



(L-R) Bob Mears, BMPR Offsite Consultancy Services Ltd, Steven Williams, Modular Building Institute (USA), Tom Hardiman, Modular Building Institute (USA) and Orla Corr, McAvoy Group on the factory floor during the Modular Building Institute (USA) site visit at the McAvoy Group facility in Lisburn

of the Modular Building Institute (MBI) USA to their facility in Lisburn where visitors were given a tour to witness first-hand the market leading offsite construction methods employed by McAvoy. The visit, organised by Bob Mears, BMPR Offsite Consultancy Services Ltd, was geared towards showcasing best practice in construction methods and provide member companies with the chance to explore opportunities for potential collaboration and strategic business development. Tom Hardiman, Executive Director, MBI commented: "McAvoy Group has developed a considerable reputation for product excellence across the UK and Ireland and we were very keen to meet their team and explore first-hand their construction methods. I am confident those who have taken part in this visit will have gained much from the excellent and informed networking and from experiencing best practice on the factory floor at McAvoy."

The Modular Building Institute (MBI) is the international non-profit trade association serving modular construction. "It is MBI's mission to expand the use of offsite construction through innovative construction practices and recognition of high quality modular designs and facilities. McAvoy has clearly demonstrated how there are great opportunities especially within the education and health sectors for modular construction companies like our members," added Mr Hardiman.

Earlier this year McAvoy helped host a two day fact finding visit to the Province by leading members of the UK's Buildoffsite Organisation. Orla Corr OBE, Marketing and Business Development Director with McAvoy, said the Group was delighted to host a second visit to their production facilities at Lisburn. "It's terrific that a company such as ours is viewed as world-leaders in the modular construction industry by esteemed organisations including the American Modular Building Institute. It has been a pleasure to meet other professionals in the offsite industry and I am confident this visit it will open doors to collaborations in the future."

For more information, please contact Orla Corr on tel: **028 8774 0372** (ext 227) or visit: www.mcavoygroup.com

Yorkon completes off-site construction project at new academy in Birmingham



Off-site construction specialist Yorkon has delivered a two-storey modular classroom building in a completely enclosed courtyard at Ninestiles School – an outstanding 'converter' academy in Birmingham. The sub-contract package was awarded to Yorkon by principal contractor Thomas Vale Construction. This challenging project had to be delivered in a tight timescale in order to meet stringent funding requirements.





The scheme involved the use of a large 350-tonne crane to lift the steel and concrete building modules over the top of the existing school building, and into a totally enclosed courtyard. The installation was timed to coincide with the half-term holiday, minimising disruption to teaching. The building has provided the school with six new classrooms to help meet the increased demand for places, replacing an outdated facility. Features include brick cladding to the ground floor with a contrasting white finish to the upper floor; windows, doors and aluminium cladding panels in anthracite grey; a full height glazed stairwell, and a link corridor to the main school. There is a high performance concrete floor throughout, which was pre-installed in the Yorkon factory to further reduce work on site. This is a robust design option for high traffic areas and reduces sound transmission.

Commenting on the project, Christine Quinn, Principal of Ninestiles School, said: “The new building’s design is fresh and modern, and the use of glass makes it

light and airy. Two of the classrooms on each floor can be opened up into one large flexible space, which allows more creative use of the teaching accommodation when we need it. We felt the off-site approach was the only solution for this project, given the building’s location in a totally enclosed courtyard with no vehicular access. School life continued unhindered during the construction process.” Martin Hier, Project Leader at Ridge & Partners (the architects and project managers), added: “We worked closely with Yorkon to ensure the highest standard of aesthetics, with all the benefits of a standardised and cost-effective building model. There was a strong team ethos throughout, particularly in ensuring the project delivery was achieved to a tight timescale. The off-site approach has also delivered greater cost certainty on the project and on a very difficult school site, dramatically reducing any health and safety concerns the client had.”

Yorkon has an extensive track record in the primary and secondary education sectors, having completed a wide variety of bespoke modular projects including self-contained teaching buildings, classroom extensions and complete schools, delivering all the speed, quality, sustainability and efficiency benefits of off-site construction.

For further information:

Tel: **0845 2000 123**

Email: **info@yorkon.com**

Website: **www.yorkon.info**



New video from Yorkon – changing perceptions in off-site construction



Yorkon has launched a new video to help the change perception of off-site construction and to demonstrate what is now possible with the latest developments in modular technology.



The video can be viewed online at www.yorkon.info/reality and follows the launch of the new Yorkon building system, which is set to revolutionise off-site construction in the UK. It now has thousands of different configurations and permutations, and its innovative structure can accommodate almost any architectural design, size, site or building footprint. The video shows:

- how the steel-framed buildings are manufactured off site, including roof, floor and wall sub-assemblies
- the level of fitting out before a building goes to site
- factory-installed concrete floors that will achieve low response factors for the highest specification buildings
- how the building system is installed on site
- a range of finished buildings from Yorkon's portfolio of award-winning education, health and commercial projects.

Commenting on this latest initiative, Simon Ambler, Director of Yorkon, said: "Our research has shown that many organisations in both public and private sectors are just not aware of how far off-site construction has come in recent years. The launch of our new building system presented us with a fantastic opportunity to demonstrate the design flexibility, unrivalled construction efficiency and superior build quality of what can now be achieved by moving the process into a controlled factory environment. As the video shows, we're not changing the materials – we still use a steel frame, plasterboard, any manufacturer's window

systems and claddings, for example – we are just making the process much more efficient by reducing work on site. This allows us to halve programme times, reduce disruption, radically reduce the risk of budget overruns and delays, improve thermal performance and bring a host of other advantages to a building project, to the benefit of the contractor, the client and the building occupier."

The new Yorkon building system has several important innovations and features:

- manufactured to very tight engineering tolerances of 1mm in 18m – this level of accuracy is considerably higher than can be attained with site-based construction solutions and helps to significantly improve thermally efficiency
- can reduce heat loss by 32 per cent compared to Building Regulations requirements
- can achieve a total saving of 24 per cent in overall energy demand, for lower running costs and reduced carbon emissions
- low floor response factors can be delivered with the pre-installed concrete floor option for projects such as high specification medical facilities
- allows the use of larger but fewer steel-framed building modules which is much more efficient and cost effective
- widest choice of cladding, glazing and roofing options to create both bespoke landmark buildings and facilities which complement existing schemes
- columns are no longer visible either internally or externally, for a seamless façade that can be specified with or without cladding.

The new Yorkon off-site building system has many applications, from teaching facilities for schools and academies, hospital buildings and health clinics, and laboratories, to control centres and amenity buildings in the energy and utilities sectors, superstores, retail kiosks and convenience stores, and passenger and operations facilities for railways and airports.

For further information about the new Yorkon off-site building system:

Email: contact@yorkon.co.uk

Tel: **0845 2000 123**

Website: www.yorkon.co.uk/modular-building-system.html

Portakabin launches new range of exterior and amenity options for interim office buildings



Quality - this time - next time - every time

Portakabin has launched a new range of exterior options and outdoor amenities to

help integrate and equip interim facilities, and provide a complete, ready-to-use working environment. Modular buildings available for hire can now be supplied with an even wider range of architectural options and essential amenities. Each option complies fully with British Standards, such as wind and snow loadings. Sourced and installed by Portakabin, the new range is designed to give interim buildings a more permanent feel. It includes:

- cantilevered structures or canopies supported by posts that can enhance the entrance to a building
- covered walkways provide a practical solution to link an interim building with other facilities on the site and provide shelter from the elements
- vinyl wraps are low maintenance finishes, which are simple to install and remove, and can be applied to the exterior of a building to transform its appearance
- free-standing outdoor structures to extend interim facilities outside
- cycle storage provide safe and secure storage, and encourage more people to cycle to work, which lessens the demand for car parking
- specially designed smoking shelters provide dedicated areas to control where

people smoke, ensuring compliance with legislation

- street furniture to cover additional temporary requirements.

Robert Snook, Director and General Manager of Portakabin Hire, said: "We can now supply and install all the exterior furnishings and amenities needed for an interim building. This highly flexible package of solutions will reduce our customers' time and resources spent sourcing quality products for short-term use, and the options will help to integrate the facility on the site, providing a more attractive and productive place of work. We believe there should be no compromise on the quality of the working environment just because the accommodation is not permanent, and this range of solutions reflects that ethos."

Applications for interim modular buildings are diverse and include open plan office accommodation, security buildings, canteens, training suites, teaching blocks, shower and changing rooms, clinics and decant ward buildings. These facilities can be supplied and installed just days from receipt of order complete with fire and security systems, access ramps and furnishings, and can remain in use for as long as required. Modular accommodation can be easily extended, reconfigured or relocated to meet an organisation's changing needs.

For further information about modular buildings for permanent and interim applications

Email: information@portakabin.co.uk

Tel: **0845 401 0010**

Website: www.portanews.co.uk

HMP Oakwood – a Buildoffsites case study

HMP Oakwood has been developed by the Ministry of Justice on behalf of NOMS – the National Offender Management Service. This massive project which was completed in June 2012 demonstrates the project and financial benefits that can be achieved



when the client and the supply chain commits to maximise the use of offsite construction methods in support of project and business objectives.

The HMP Oakwood case study has been added to the Buildoffsite website as a superb public sector example of the benefits of offsite solutions to deliver a £200m project. Congratulations to Terry Stocks and his team at MoJ, to the design and construction team and to the project suppliers.

Description

HMP Oakwood is a £200m self-contained prison complex at Featherstone in the West Midlands. It is the largest project undertaken to date by the Ministry of Justice.



When fully occupied this new prison will be the largest in the UK and the second largest in Europe. Construction work started in January 2010 with works fully complete by June 2012. Kier was main contractor – Balfour Beatty Engineering Services delivering the prefabricated service modules.

Key facts

- 15,000 pre-cast walling and flooring components with windows, security features and service ducts cast in
- 12,500 conduit assemblies including shower heads and drains incorporated within the concrete panels
- 4,416 heating mats incorporated within the floor panels
- 240 pre-fabricated vertical service risers incorporating pre-installed ductwork and pre-installed wiring looms
- 30 air handling skids
- 40 hot water skids
- extensive use of roof cassettes.



The scale of the use of pre-cast concrete elements was so substantial that product from six separate suppliers was coordinated to ensure quality and production. Mechanical and electrical (M&E) installations were pre-tested before installation.

Benefits of off-site construction

- **cost:** capital savings estimated at £5m
- **time:** delivered time but judged to be substantially faster build than traditional construction
- **sustainability:** substantially reduced waste on site, significantly reduced manpower on site
- **quality:** excellent quality of factory made components – right first time fit
- **health and safety:** three reportable

accidents in 2.7 million man hours of work. Pre-cast concrete panels with finished external façade minimised the need for scaffolding.

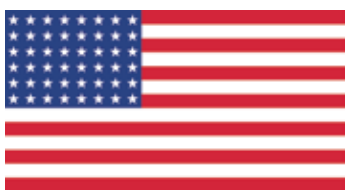
International high rise – ‘reaching for the sky’



Across the world more and more high-rise buildings are being constructed using offsite construction. The construction techniques will be different, but in all cases the justification for the decision to build using offsite solutions is based on the benefits of faster construction on site, improved quality of finish, predictable cost of ownership, enhanced sustainability, improved health and safety, or a combination of these. New examples of bigger, faster and better quality buildings are emerging all the time. The technologies are developing rapidly and new and increasingly imaginative applications are being developed. Globally the big question being asked is one of if it makes business sense to assemble buildings on site using offsite methods why would you want to build in any other way?

Let’s look at three recent examples which give an indication of how rapidly construction technologies and construction processes are developing:

In the US



Late last year, Skanska USA and Forest City Ratner Companies (FCRC)

broke ground on B2, a planned 32 storey residential building in Brooklyn, New York, which currently represents the tallest modular building in the United States. Together, Skanska and FCRC created FC + Skanska Modular, LLC (FCS Modular), and are building B2’s modular components in a 100,000 square-foot site in the Navy Yard, which will be shipped just in time to the Atlantic Yard site for assembly.

Robert Francis, Director of Plant Operations for FC + Skanska LLC, said: “At Skanska, we’ve been implementing modular construction techniques on projects worldwide for an array of industries, such as healthcare for example. The method produces countless benefits for our workers, our clients and the community, and we’re thrilled that it is catching on and being used to construct B2 in Brooklyn. With the ability to increase safety, enhance quality, reduce schedule and cost savings, eliminate waste, and increase productivity, the traditional construction method as we know it may soon be considered history.”

The project will involve the fabrication of 930 modules which in turn will create 363 apartments, of which approximately half will be affordable housing. It is estimated that the form of construction will reduce the impact on traffic in an already congested area and will result in a 90 per cent reduction in waste compared to traditional construction methods. The project is also expected to deliver substantial benefits in terms of improved health and safety. Construction will be completed in 2014 and is expected to achieve LEED Silver Certification.

In India



A 10-storey office development has been constructed in just two days in the town of Ajitgarh (formerly Mohali) in the Punjab. Yes, you read that correctly... a 10-storey building in just two days. The structural frame was

formed using an innovative bolted tubular system – a technology, which is considered to have great potential to transform construction practices.

The building was not only constructed in an incredibly short timescale but is also said to be highly sustainable in that in use it will consume only one third the energy of a traditionally constructed building. The Council of Scientific and Industrial Research in Chennai has reported that the frame technology is capable of being used to construct buildings with a height up to 150 storeys.

In China



A 30 storey 5* hotel has been constructed in just 15 days in the Lin Gang Industrial Zone in Xiangyin County using a

novel steel structural system. Constructed by the Broad Group using a steel frame solution with prefabricated floor cassettes approximately 93 per cent of the structure was assembled from factory manufactured elements. The hotel includes 350 rooms, restaurants, a top floor swimming pool and a helicopter pad.

The same Group is also working on what is planned to be the World's tallest building. The Sky City project is located in Changsha, Hunan province in South Central China. The total height of Sky City will be 838m, which is 10m taller than Burj Khalifa – currently the world's tallest building. It is claimed that the building which will be constructed using offsite techniques will be completed in just 90 days. Let's bear in mind that it took five years to construct Burj Khalifa. In order to meet this incredible timetable it will be necessary to construct five floors a day. Construction started in January 2013 with completion scheduled for this March. The building will have 220 floors and will accommodate almost 18,000 people.

These examples provide just a snapshot of what is happening now – and provide a

breathhtaking vision of the future. Innovative offsite solutions are being applied to deliver homes, offices, commercial and retail buildings of high quality, at incredible speed and great quality. Project and business solutions made possible only through the use of offsite methods close coupled to the ambitions of clients and designers to bring about a step-change in the way the world builds. There is a clear message here for the future competitiveness of the UK construction industry.

So what next – what's just around the corner? We simply don't know but what we can be certain of is that investment in innovative offsite construction methods is a global phenomenon. The technology and construction processes will continue to evolve and the future will inevitably be even faster, even better quality, even more sustainable and even better value buildings for clients. Watch this space...

New members

IBP



IBP (Integrated Building Products) is an award winning integrated design, manufacture and construction company that specialises in the design, production, assembly and installation of factory manufactured building components, and structures that offer intelligent solutions to deliver an improved programme, high quality and reduced risk. Whether new build or refurbishment, IBP has an established track record and its lean construction strategy is suited to all sectors of the construction industry.

IBP was founded by the Byrne Group and Bryden Wood to deliver the highest quality



construction solutions by utilising advanced construction techniques. Efficiency and value are the drivers in all aspects of work. IBP is fluent in the language of integrated design, manufacture and construction, providing a unique set of skills and services that are large enough to bring economies of scale and lean enough to deliver on time and at the right time, every time.

Using a combination of internal and retained external specialists with expertise and an understanding of specific customer needs, IBP strives to find solutions that offer greater utilisation, faster delivery and low embodied energy products for the construction industry. Not only do we share a culture of collaborative working with clients and their project teams, but also with supply chain partners, to ensure the management of efficient project delivery is seamless. This gives IBP a unique ability to absorb and overcome the most demanding challenges. IBP's client drivers and benefits include:

- core business disruption
 - minimises client business impact
- programme
 - manufactured and pre-assembled off-site
 - fast on-site installation periods
- designed and delivered using Lean methods

- less waste = more competitive cost base
- better quality control
- ideal for complex operating environments
 - high security/safety critical
 - sensitive stakeholders
 - constrained time windows for delivery.



EcoCanopy is the latest website to be launched under the IBP umbrella. EcoCanopy offers unique cost-effective permanent building systems utilising the best of modern methods of construction to provide high-value, pre-engineered buildings. EcoCanopy produces products designed and developed by Bryden Wood, and IBP manufacture, erect, fit out and commission EcoCanopy permanent building systems.

For more information on IBP, please visit: www.integrated-building.co.uk/p/h/Home/Home/21/

For more information on EcoCanopy, please visit: www.ecocanopy.co.uk/p/h/Home//21/

Stewart Milne Timber Systems



Stewart Milne Timber Systems is the UK's leading provider of precision engineered timber system solutions. Part of the Stewart Milne Group, we have unrivalled



expertise spanning over 35 years. At Stewart Milne Timber Systems our aim is to provide quality build systems that meet the expectations of our customers in terms of design, manufacture, innovation and cost. We are one of the largest and most recognised brands in our industry, serving customers across the UK.

We lead the market for many reasons, but the key benefits to our clients are that we design and manufacture innovative, cost effective solutions, and work with you to deliver high quality projects on time and to budget. Our services cover concept design information and technical guidance, full design service, manufacture, delivery and construction on site. We offer alternative solutions to meet varying regulatory requirements (such as acoustic and thermal performance), specifications and finishes (windows, doors, cladding, etc) and we offer tailored solutions for different sectors. We can also act as a single supply source for joinery, windows, plasterboard and insulation.



For further information, please contact:
Debi Lama, Business Development Manager
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Email: dlama@stewartmilne.com
Website: www.stewartmilne.com/

UK Power Networks



Nirmal Kotecha

If you live in London, the East or South East of England then there's a good chance it's our underground power cables, overhead lines and substations that deliver power to your home or business.



Our electricity networks distribute electricity using more than 160,000km of underground cables and overhead lines, and more than 135,600 substations. From small rural substations to complex delivery networks in the capital, we're working on the electricity network 24 hours a day, 365 days a year, making sure the lights don't go out. Safety and customer service are our top priorities; these are at the heart of everything we do. More often than not, our work goes unnoticed and we are happy if it stays that way, as it means we are meeting our stakeholders' expectations.

For more information, contact Nirmal Kotecha:
Tel: **020 7397 7772**
Email: nirmal.kotecha@ukpowernetworks.co.uk
Website: www.ukpowernetworks.co.uk/

Events

Buildoffsite Breakfast Briefing: Building Information Modelling (BIM)

Date: Wednesday 3 April 2013

Time: 08.30 to 10.00

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

Speakers: Nigel Fraser, Buildoffsite, and Anna Winstanley, AW Design

Context

The Government's decision to make the use of BIM compulsory for public sector construction projects has led to massive interest in the subject and a priority need for businesses to find out what this non-negotiable shift means for them.

The Breakfast Briefing

This Briefing will explain what BIM is, how the tool enables different working processes and the impact on each party in a project. It will also provide a summary of the UK Government's BIM Strategy objectives and what is happening to deliver them, highlighting the synergies between Lean, BIM and off-site construction.

The Briefing will provide an insight for different parties who are considering implementing their own BIM strategies, including clients, design consultants, contractors and suppliers. It will also highlight sources of information to support strategy development.

Reserving your place

Attending this Briefing is free of charge for Buildoffsite Members. Non-Members may attend, but a fee of £50+VAT will apply. To book for this Briefing contact Anna Whiting, Buildoffsite, on email: anna.whiting@buildoffsite.com or tel: **020 7549 3306**.

Discovering offsite tour: Premier Interlink (Waco UK Ltd)

Date: Wednesday 26 June 2013

Time: 13.30 to 17.00

Venue: Premier Interlink (Waco UK Ltd), Catfoss Lane, Brandesburton, East Yorkshire YO25 8EJ

Host: David Harris, Divisional Director

Description

View offsite manufactured buildings currently in production for Leeds City Council and others. See the innovative construction techniques that offer real value for money solutions with a high quality build in a dry and safe environment. With a tour of the facilities visitors will be able to see exactly how the buildings are constructed and installed and get an honest feel for the superior quality of a Premier Interlink building. Visitors will also learn how Premier Interlinks offsite construction systems can improve their budget for their particular building programme.

Tour programme

13.30–14.00	Arrive, refreshments, meet and greet
14.00–14.15	Introduction by Buildoffsite
14.15–15.00	Presentation by Premier Interlink
15.00–16.00	Tour of Premier Interlink Head Office and factory facilities
16.00–17.00	Q&A session
17.00	Depart

Discovering offsite tour: MoJ

Date: Wednesday 3 July 2013

Time: 10.30 to 15.00

Venue: Cookham Wood, Rochester, Kent ME1 3LU

Host: Terry Stocks, Head of Project Delivery, Deputy Head Estates Directorate, Ministry of Justice, Interserve

Description

The MOJ have been implementing Lean delivery for the past four years. This tour will provide an opportunity to see inside one of the MOJ's Custodial Sites, with a tour around their current Cookham Wood project, which is the Cabinet Offices first BIM Pilot Project under the Government's Construction Strategy.

The day will also involve presentations from the Ministry's Head of Project Delivery and the Cookham Wood delivery team, which will demonstrate how the MOJ's delivery philosophy comes together in delivering high calibre public sector projects. The day will demonstrate how the MOJ have taken Lean and BIM practice and incorporated them into a practical system of delivery that is proving to be very successful.

Tour programme

10.00–10.30	Arrive, tea/coffee/ refreshments, meet and greet
10.30–10.45	Introduction by Buildoffsite
10.45–11.30	Presentation by MOJ: Introduction to MoJ, Terry Stocks MoJ Delivery initiatives, Terry Stocks Implementation of BIM, Neil Sanderson
11.30–13.00	Tour of Cookham Wood
13.00–14.00	Lunch
14.00–14.45	Q&A session
14.45–15.00	Round up and close
15.00	Depart

Buildoffsite Breakfast Briefing: Maximising R&D tax relief

Date: 1 May 2013 and 20 October 2013

Time: 08.30 to 10.00

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

Host: Gareth Edwards, el8

We all know that the business environment at the present time is very challenging and the construction sector is under particular strain. An obvious concern is that construction businesses should be taking maximum advantage of the opportunities for R&D tax relief.

Buildoffsite is pleased to host a special Breakfast Briefing on *Maximising R&D tax relief*, hosted by Gareth Edwards of el8. This is your opportunity to find out if you could be recovering more of your investment.

Key issues

- exchange up to 25 per cent of your losses for cash
- reclaim your corporation tax, or reduce future liability
- immediately claim 100 per cent of your capital spend against tax
- claim for the last two years
- significantly enhance your existing claims
- "above the line" tax credits for large companies – from 1 April 2013 claim cash if loss-making
- get tax relief on revenue due to patented technology.

Workshop programme

- an introduction to R&D tax relief and the latest budget changes
- what activities and expenditure can be eligible
- examples of eligible projects
- Q&A session.

Reserving your place

Attending this Briefing is free of charge for Buildoffsite Members. Non-Members may attend, but a fee of £50+VAT will apply. To book for this Briefing contact Anna Whiting, Buildoffsite, on email: anna.whiting@buildoffsite.com or tel: **020 7549 3306**.