Richard Ogden, Chairman

I suspect that if you were to stop people in the street and ask them to identify some of our most innovative industries you would be unlikely to find many or indeed any who would nominate the construction industry. I would anticipate a flood of nominations for IT, telecoms, automotive, aerospace, medicine, media and the arts...even finance (once rehabilitated)...but as for nominations for the construction industry – I suspect that you'll be waiting around for a very, very long time.

It is probably a truism that although architecture and the architect is often celebrated from an image perspective construction itself just does not make the grade. From the outside it is not seen as innovative, it is not seen as modern and forward looking, and does not generate interest and excitement. Our treasured buildings of the past and also of the present tend to be credited to their designers but rarely if ever to those organisations and individuals who actually carried out the construction. If you can think of an exception to this "rule" then let me know.

The reality may well be that this lack of recognition of the extent of innovation within our sector has always been the case and our industry should simply learn to live with what I suspect the "media" would regard as a failure of the brand to make a positive impact. However, it does rankle and I also suspect that it leads directly to some unfortunate implications that may well serve to hold our industry back. I shall return to this point towards the end of this piece.

There can be no doubt that in policy terms we are now at the start of a period when unprecedented demands are going to be placed on the construction industry. A demand for volume in the case of new housing but especially a demand to deliver a low carbon built environment – whatever this might mean in practice. The industry is also faced with a timetable that is likely to be massively challenging. At the same time the UK economy and the public sector in particular is likely to be under sustained severe pressure so it can not simply be a case of throwing money at the problem. In any event previous bouts of throwing public money has certainly served to boost demand but frankly have done little, if anything, to boost efficiency and to stimulate innovation within the sector – indeed the reverse is probably the case.

So how are all these demands going to be satisfied by an industry that generally has a poor image in terms of construction innovation and a client base that with a few distinguished exceptions is undemanding in terms of requiring and stimulating innovation in process, in performance, and in value. Come to that where, in challenging economic times is the resource going to come from to drive the investment necessary to bring forward new technologies and to develop new products that will enable the delivery of a low carbon built environment. Indeed to what extent is the Government prepared to collaborate with the industry so that the scale of the investment likely to be required to bring about the necessary changes can be managed without compromising the viability of the industry itself. Let me suggest that any counter argument based on the premise that the industry will ultimately benefit through enhanced profitability from additional sales and increased margins is I suspect not a view that our hard pressed industry will find particularly compelling. I'm going to have to leave these questions hanging as I believe that there is no complete answer...

What of course I would say is that delivering on the Government's political ambitions for the built environment it is entirely likely that the construction industry will in all sectors focus even more on the opportunities to maximise the opportunities for the standardisation of construction solutions and for these solutions to be manufactured in factories for just in time delivery and installation on sites operating in accordance with the disciplines of lean production. I simply do not see any other viable business strategy for our industry. The new technical standards for building performance will push us in this direction; health and safety requirements will have the same effect, and the sustainability agenda backed up by fiscal measures will also favour this shift. It is high time that our industry addressed those perennial issues relating to the need for a step-change improvement in levels of productivity and in terms of certainty over time, quality and cost. I believe that this view of the future is already shared by the majority of our leading constructors and also enjoys a good measure of support from leading serial clients. Even at these difficult times many of our leading companies, such as Laing O'Rourke are continuing to make capital investments that reflect their commitment to this vision of the future.

A personal challenge for me is to do everything I can to explain to the Government and others that engaging positively with the challenge of poor productivity, quality and value is just as much a contribution to reducing levels of carbon as is cranking up levels of insulation and air tightness. It also has the added benefit of freeing up capital to support additional investments, which over the next few years might well be a very good thing for the UK economy.

Finally I said that I would come back to a practical problem facing some of our members and perhaps the industry more generally that I believe stems from a widespread failure by those outside of the industry to recognise that our industry is not just inherently innovative, certainly needs to become even more innovative to meet the challenges that are before us but that it also needs help to make the investments that are needed to move forward. This is a very specific point and I am well aware that others may disagree or have a different experience. However it is based on a real situation, which I am aware of.

Finding investment to support product R&D is as we all know hard to come by. It's hard to secure when times are good – it is just about impossible to secure when times are hard, where markets are uncertain, investment capital is tight, where confidence about the return on investment involves little more than waving a finger in the air. Precisely "the perfect storm" situation in which we find ourselves. In such circumstances it is vitally important that our industry can with confidence bid for collaborative funding from government and public agencies to support some of the cost of its planned investments and can expect a fair hearing. Now no one expects a free ride and a significant element of competition is vital in order to bring forward the very best proposals. However, given that the funding bodies are now substantially divorced from the Whitehall Departments that have detailed knowledge of the industry I do fear that our manufacturers will find it difficult to win the argument for public funding.

I have seen some briefing from one of the most respected and innovative companies in our industry, which suggests that within the funding bodies there may well be an unfortunate lack of awareness of our industry and how it operates that may be getting in the way of a balanced assessment of research proposals. I would very much like to hear from others so that we can gauge whether I am being unduly pessimistic or whether there is a fundamental problem out there. Given the state of the economy and the massive task that lies ahead of us it is essential that everything that can be done is being done to support innovation that will make a real difference to our industry and also to all those other industries and interests that are

almost totally dependent on the actions and outputs of a dynamic construction sector.

All members and supporters of Buildoffsite will want to join with us in offering congratulations to Nick Whitehouse, the former chairman and Managing Director of Terrapin who has been awarded an MBE in the 2010 New Year Honours in recognition of his long and distinguished services to the UK construction industry.

Nick Whitehouse MBE.
Nick is a member of Buildoffsite's Executive Management Group

New member – Tekla (UK) Ltd

Tekla's model-based software products make customers' core processes more effective in building and construction and infrastructure management. Tekla Corporation has area offices and partner organisations worldwide. International operations account for approximately 80% of net sales. Founded in 1966, Tekla is one of the longest operating software companies and established a dedicated UK office in Morley near Leeds over ten years ago. Tekla (UK) Ltd now supports almost 600 customers across the UK and Ireland.

Tekla's technology creates new opportunities for the construction industry. Tekla Structures, the most advanced BIM (Building Information Modeling) software on the market, provides an accurate, dynamic, and data-rich 3D environment that can be shared by contractors, structural engineers, steel detailers and fabricators, as well as concrete detailers and manufacturers.

The highly detailed as-built structural models created in Tekla Structures enable the highest level of constructibility and production control. Centralising model and non-model based data into the model allows for more collaborative and integrated project management and delivery. This translates into increased productivity, elimination of waste, and an enhanced value for structural modelling.

Tekla Structures offers comprehensive solutions for all construction industry disciplines.

Modular construction – light metal framing and timber structures

The flexible nature of Tekla Structures' modelling functionality means that units of any material can be created and detailed specifically to a client's individual requirements. Combined with the inherent accuracy of the 3D model and the software's clash check and change management functionality, this makes Tekla the ideal solution for designing modular solutions. Tekla's CNC links to machinery such as Howick and the FrameCad system ensures accuracy and reduces the possibility of error so that units manufactured offsite will be guaranteed to fit together at the build site.

Tekla Structures integrates the entire project workflow from sales and bidding to detailing, manufacturing and erection. This enables designers to detect and prevent any possible issues within a given construction project before they get to the site. The clear advantage is increased efficiency in the design phase, which ultimately results in minimised product cost and shorter delivery times. Users can receive design information from third party sources in traditional 2D and 3D formats, which would otherwise require time-consuming review and collaboration by project designers.

Precast concrete

Enabling error-free detailing and easy change management, the 3D model can

also be used to support the entire precast workflow from sales and bidding, cost estimation and conceptual design, to detailing, integrated manufacturing, erection and project follow-up, and site management. Tekla Structures is also able to interface with production management systems (ERP) and automated machinery software.

By reducing errors and enhancing information flow, Tekla Structures can make even the most challenging projects, such as Finnforest's Modular Office in Tapiola, Finland, a success story (courtesy of Kingspan Offsite)

Steelwork contractors and detailers

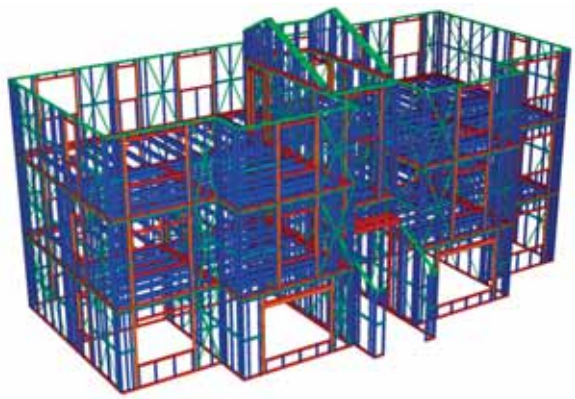
Modelling with Tekla Structures is the most advanced and integrated way to detail and fabricate every type of steel structure from the simplest to the most complex, covering everything from miscellaneous metalwork and commercial to industrial and offshore. The vast array of system tools included in the software ensure that detailed models can be created quickly and accurately. This leads to increased productivity through higher automation of fabrication and project management by interfacing with MIS systems and CNC machinery.

Structural engineers

Structural engineers can use Tekla Structures to widen their role in building projects. This will increase the value of structural engineering and ensuring the highest-quality end results by moving from design-oriented to construction-oriented engineering. The Tekla model can be used to offer more services for other disciplines in the project supporting the whole design-to-construction process. All types of structure can be modelled in the software and the nature of Tekla's open platform means that interfacing with architectural, analysis and design software and MEP packages is a simple process.

Contractors

Tekla's construction management configuration supports contractors, sub-contractors, and project management professionals by using the model to centralise project data into highly visual 3D and 4D contexts. All the key elements of project delivery – data from pre-construction and construction planning through to site management – can be embedded into the Tekla model to schedule and monitor project performance from design to supply and installation.



Light Metal Framing solutions can be quickly and accurately modelled in Tekla Structures, increasing efficiency and improving quality (courtesy of WSP Kortes)

Andrew Bellerby, Managing Director of Tekla (UK) Ltd stated: "We are delighted to join Buildoffsite, we believe that we can learn a lot from the group and its member companies as we develop our solution further for the needs of offsite construction and supporting lean construction methods. Our experience in building information modeling also offers us the opportunity to bring our experience to the group and share that knowledge with the aim of moving the construction industry forward and helping overcome current fragmented processes."

For more information, contact Tekla UK on:
Tel: 0113 307 1200
Website: www.tekla.com/uk

Discovering offsite tours – visit to Circle Bath

Setting the standard for 21st century hospitals

More than 30 Buildoffsite members and guests attended the *Discovering offsite* visit to Circle Bath's new landmark hospital on 19 November 2009.

Occupying a prominent hillside location south of Bath, this 6500 m² development has been delivered for Circle by Health Properties Management. This is the first health facility to be designed by architects, Foster and Partners anywhere in the world. Taylor Woodrow (now part of Vinci Construction UK) was the appointed main contractor.

The client has been fastidious about design excellence and build quality, but has also set challenging requirements in terms of sustainability, waste minimisation, programme management and capital expenditure employed.

This project is the first of a planned development programme of hospitals across the country, and the client will be looking to build on the innovations and best practices secured at Bath on future schemes. The lessons from Circle Bath are already being incorporated into their next project at Reading. Substantial savings in project cost and time are already being achieved, while maintaining the level of design and build quality set by the Bath scheme. The client and their construction teams will be looking to substantially increase the percentage of projects delivered by the use of standardised and off-site manufactured solutions on all of their future schemes.

Circle Bath opens for patients during February 2010

Circle Reading is scheduled for completion in mid 2011, closely followed by the delivery of new Circle schemes in several major city locations in 2012.

With an absolute commitment to design and build quality, coupled with an ambition to achieve scheme by scheme cost reduction, it is envisaged that Circle developments will quickly establish a model that will have considerable relevance to the delivery of new health assets for the NHS.

Mark Cammies, Property Director for Health Properties, said: "We are delighted with the Circle Bath facility and I am sure the patient experience will fully endorse this. I am confident we can demonstrate several new benchmarks for the development of UK hospitals as the Circle programme progresses."

For more information on the Circle future investment programme, contact Kimberley Bird on tel: 0207 034 5274.

Mark Cammies – Property Director for Health Properties

Discovering Britspace

A *Discovering offsite* visit to Britspace's manufacturing centre at Gilberdyke in East Yorkshire took place on 25 November.

Britspace is one of the most respected names in the off-site industry having been in business for more than 40 years and now designing, manufacturing and installing modular solutions for some of the industry's most influential and demanding clients.

This very popular visit was attended by more than 50 Buildoffsite members and guests.

During the factory visit delegates were able to see all stages of the manufacturing process for a wide range of structures including bathroom pods for some of our leading hotels along with products for the retail, educational, health, housing and prison sectors.

As with other high quality manufacturing facilities the visit clearly demonstrated the ability of the off-site sector to manufacture products to the most demanding performance specifications, achieving levels of accuracy and workmanship with little if any manufacturing waste in a way that would be all but impossible with traditional site based construction methods.

For more information on Britspace contact Emma Cade on tel: 01430 444400.

Buildoffsite on the inside track

Courtesy of the Ministry of Justice and Interserve their main project contractor – Buildoffsite members were invited to join a private visit to the £140m ISIS Young Offender facility on 12 January. The facility, which is under construction, is within the external walls of Belmarsh Prison in South East London, and is scheduled for practical completion this April.

The purpose of the visit was to hear at first hand how the MoJ, as one of the UK's most significant and progressive construction clients, was working with Interserve to achieve significant improvements in quality, cost and time in their projects. In particular this involved the use of off-site methods and the application of lean production techniques to identify and eliminate waste in all its forms.

ISIS, Belmarsh

During the tour the visitors were able to see for themselves how the client and construction team were making extensive use of off site solutions. This included the use of factory manufactured products and systems both for the construction elements including the extensive use of precast concrete panels and cells and also the use of prefabricated services. This approach had been taken in order to achieve the required levels of project quality, predictability and productivity as well as supporting requirements for enhanced health and safety and the minimisation of waste. Significantly suppliers were increasingly being integrated with the design team in order to identify as early as possible in the process fresh opportunities to deliver value and to make maximum use of the experience of the suppliers. The ability to add value in the factory and so reduce the requirements for site based working in a secure area was an additional benefit.

It was noted that both MoJ and Interserve have a shared commitment both to the continued development and application of off-site construction solutions and to the use of lean manufacturing techniques to support informed and effective project management.

Terry Stocks, MoJ

Ian Renhard, Interserve

OSC awards

OSC awards 2009: winners announced

OSC Magazine has announced the winners of the 2009 OSC Awards. From 60 shortlisted entries, the 10 winners were revealed to a high-calibre audience of offsite and construction industry professionals, who gathered for a glittering lunchtime ceremony at the NEC, in Birmingham, on 20 October.

Celebrating all that is great and good about the world of prefabrication and modern methods of construction, the OSC Awards are now in their third year, with the judges noting that the field of entries is getting stronger and stronger.

Martin Goss, Managing Director of Mtech Consult, who sits on the OSC Awards Judging Panel, commented: “I was most impressed by the standard of entries this year. The quantity was clearly up and the standard was a joy to see. This year’s entries prove that offsite is most definitely here in the construction mainstream. I am already looking forward to seeing next year’s line up.”

The 2009 Awards saw the introduction of two new categories: *Best Small Scheme* or *Self-Build Project* (in recognition of the increasing breadth of applications of offsite to one-off bespoke developments and individual sites), and *Design Excellence* (to acknowledge just what Architects can really achieve when they engage fully with offsite).

The big winner on the day was Vision Modular Structures, which picked up two category awards for steel and education, as well as the supreme Gold Award for Offsite Excellence (winner of winners).

Jim McClelland, Publisher of OSC Magazine, commented: “These awards are designed to celebrate the high hopes and hard work, endeavour and excellence, commitment and creativity of all those achieving distinction and success in the field of offsite construction. The sheer quality on show generated a positive buzz around the room and the expectations for the new Hospitality Category in 2010 prompted a great deal of talk about projects and prospects.”

Entries are now being invited for next year's event, which promises to be bigger and better than ever – complete with the new category for Best Offsite Hospitality Project, officially launched at the 2009 ceremony by Ahmed Akudi, Vice President Global Projects, at Sponsors Grohe.

OSC awards 2009: shortlist and winners

Best use of concrete

Aggregate Industries (Quantum Leap)

Buchan Concrete Solutions (John Perryn Primary School)

Danilith UK Ltd (Wortegem-Petegem, Belgium)

Structherm Ltd (Briar Croft, Stratford-upon-Avon)

Tarmac Termodeck (BGS Nottingham) *** **WINNER**

Best use of steel

Alumet (MOD project, Home Counties)

U-Roof (Common End Farm, Brighouse)

Vision Modular Structures (Wolverhampton University) *** **WINNER**

Best use of timber

Accord Group (Redditch Co-op Homes)

Advanced Panel Systems (UK) Ltd (Hardy Court)

Bryden Wood EcoCanopy (Egerton Rothesay School) *** **WINNER**

SupaWall Ltd (Middle Farm, Tallentire)

Urban Salon (Times & Tides Pod, London)

Best offsite health project

Laing O'Rourke (Stepping Hill, Stockport)

McAvoy Offsite Building Solutions (Royal Victoria Hospital, Belfast)

Structherm Ltd (Briar Croft, Stratford-upon-Avon)

Yorkon/Medicinq Osborne (Watford General Hospital) *** **WINNER**

Best offsite education project

Bryden Wood EcoCanopy (Egerton Rothesay School)

Buchan Concrete Solutions (John Perryn Primary School)

Prater Ltd (Sedgefield/Catford High School, Lewisham)

UPP Ltd (Lancaster University)

Vision Modular Structures (Wolverhampton University) *** **WINNER**

Best offsite housing project

Advanced Panel Systems (UK) Ltd (South Cadbury)

Danilith UK Ltd (Wortegem-Petegem, Belgium)

Ocean Housing (Cheviot Road, Newquay)

Oregon Timber Frame Ltd (Trafalgar Street, Rochdale)

Paradigm Housing Group (Birchway Eco Community) *** **WINNER**

Shropshire Constructing Excellence Club (Build a House in a Day)

Best small scheme or self-build project

Bryden Wood Associates (Tallis Lock House)

Cfes Ltd (Cardinal House, London) *** **WINNER**

Modcell (BaleHaus, Bath)

Ocean Housing (Cheviot Road, Newquay)

Shropshire Constructing Excellence Club (Build a House in a Day)

SupaWall Ltd (Tarbat Park, Kildary, Easter Ross)

Tower Hamlets Community Housing (Blythe Canrobert)

Thermonex (Stockingwood Farm)

Best demonstration of sustainability

Foremans Relocatable Building Systems (Alperton School)

Gazeley (G.Park, Blue Planet) *** WINNER

Innovaré Systems Ltd (Gallon Close, Greenwich)

Modcell (BaleHaus, Bath)

Paradigm Housing Group (Birchway Eco Community)

PV Systems (NG Bailey HQ, Strathclyde)

SupaWall Ltd (Tarbat Park, Kildary, Easter Ross)

Tower Hamlets Community Housing (Blythe Canrobert)

UPP Ltd (Lancaster University)

OSC award for design excellence

Aggregate Industries (Quantum Leap)

Bryden Wood EcoCanopy (Egerton Rothesay School)

Gazeley (G.Park, Blue Planet) *** **WINNER**

UPP Ltd (Lancaster University)

Yorkon/P&HS Architects Ltd (Christ College)

Best product or system

ACS (Fastclad)

Euroform Products Ltd (Versachimney)

Hanson (Cobiaxdeck)

Mantle Panel Ltd (The Mantle Building System)

Oregon Timber Frame Ltd (Edge Protection System)

SAS Modular Solutions

Servaccomm Redhall Ltd

TI Dynamic Façades Ltd (Aerolite Stone)

Pipe Center, Wolseley Modular Engineering *** **WINNER**

Yorkon Frame Ltd (High Performance Concrete Floor)

Gold award for overall offsite excellence (winner of winners)

Vision Modular Structures (Wolverhampton University)

For further information on the 2009 Awards or to receive an entry form for the 2010 OSC Awards, please contact:

Tel: 0161 950 4500

Email: awards@oscmagazine.com

Benchmarking supply chain

Best practice

The Buildoffsite Registration Scheme operated by Lloyd's Register EMEA is a risk based assessment scheme designed to benchmark offsite providers against best practice in terms of risk management, competency management and process control. The scheme serves as the vehicle for the standardisation of best practice across the offsite industry.

BAA have acknowledged the value of the scheme and have made it a requirement that their first tier suppliers must have their off-site supply chain accredited against it.

The scheme has been recognised as a pragmatic approach to business performance improvement combining the latest thinking in compliance standards and also business improvement techniques but without the "jargon" and bureaucracy that is so often involved.

The principles of the scheme are being used as the basis for establishing a nuclear supply chain accreditation process, jointly developed by the UK Nuclear Regulator, the Nuclear Licensees and Lloyd's Register.

A workshop to take place on the 9 March in Coventry, represents a view of the scheme and its benefits from the accredited provider perspective as well as that of the scheme operator.

Buildoffsite registration scheme workshop details

How a standardised approach to Competency, risk and configuration management will assist in the development of a synchronised supply chain. In turn this will provide greater assurance to the client and help reduce potentially costly mistakes by the offsite provider

Presenters: Paul Cooper, Ormandy and Terry Mundy, Lloyds Register

9 March 2010

Lloyds Register, Coventry

8.30–10.00 am

To register for this workshop contact: Anna Whiting, Buildoffsite Administrator, on tel: 0207 549 3306 or email anna.whiting@buildoffsite.com

Delegate places at this event are free on a first come first served basis.

Sustainability feature

Rowlanda Fredricks, MSc Engineering Business Management, University of Warwick

My name is Rowlanda Fredricks and I am presently on an MSc (engineering business management) program at the University of Warwick.

Together with Buildoffsite and its members, I am undertaking a project to quantify the sustainable benefits of off-site construction. This project will contribute to the consortiums sustainable strategy, which is back at the top of the agenda especially with the recent climate talks in Copenhagen.

In-depth research will be carried out to quantify the potential social, environmental and economic benefits of off-site construction.

The environmental benefits include cutting down on the CO_2 emitted from buildings due to the reduced energy demand in heating, lighting and cooling that off-site construction can achieve. Social benefits of offsite include workers benefit from having a constant job and not having to travel far from home in relation to work. Economic benefits of offsite result in low energy bills.

I intend to carry out this research based on case studies, interviews and questionnaires. I would like to use this opportunity to welcome any suggestions from individuals or companies that are interested in this project.

I am available from January 2010 to receive any information that you may have that could help this project. I am interested in using Buildoffsite members as case studies. Please contact me on:

Tel (mobile): (+44)07534 387368

Email: rowlanda_fredricks@yahoo.co.uk

HSE Offsite Conference, 8 December 2009

In December the HSE hosted an offsite conference attended by some forty construction inspectors. The event was organised by Angelica Rutherford-Hacon and Stephen Taylor, who are both HSE specialist inspectors and contacts in HSE for offsite construction and Richard Ogden of Buildoffsite. The event was held at HSE's Head Quarters in Bootle, Liverpool.

The aim of the conference was to give inspectors an insight into the latest offsite construction methods and innovations being used in UK construction projects in various industry sectors. This included discussions and presentations on the main topic of logistical issues and ever changing safe systems of work at all stages of the offsite process. This was to allow inspectors to gain a greater insight into health and safety requirements of these technologies as opposed to traditional construction both on site and during the manufacturing process.

The presenters for the day were mostly Buildoffsite members along with some non-members. The morning was chaired by Angelica Rutherford-Hacon with presenter Sean O'Driscoll from Vinci Plc starting off proceedings. Sean is Project Director of Whiston Hospital PFI and took inspectors through the construction and logistical aspects of constructing a £240m Hospital project while interfacing with the existing operational hospital. The overall construction of this hospital involved 40% of offsite manufacturing by value of the project. Sean was followed by Colin Preece from Laing O'Rourke who gave an insight into the University Hospital of North Staffs site and their new manufacturing plant at Steetley.

The afternoon session was chaired by Stephen Taylor and kicked off with Richard Ogden giving the inspectors an overview of the Buildoffsite organisation and its aims. Richard was then followed by David Lynch H&S manager from NG Bailey talking about M&E projects. Andrew Underwood MD of Prestoplan discussed manufacture and erection of timber frame structures for commercial and house building sectors. The conference concluded with a final explosion of information when David Appleford MD and entrepreneurial inventor from AcerMetric Ltd discussed his latest big idea – a versatile and precision-built building system targeting the affordable housing sector. This comprised of a three bedroom house constructed using a single bolt locking tool.

There was a considerable amount of debate and intriguing questions raised by many of the inspectors and the conference was well received by all.

Angelica Rutherford-Hacon and Stephen Taylor would like to thank the presenters for giving up their time and making the event a success.

Composite completes fourth houseblock at HM Prison Swaleside for PCSL

Design and build contractor Composite has completed a precast concrete, 180 cell houseblock at HMP Swaleside, on the Isle of Sheppey in Kent, its fourth for this Category B prison.

Composite was responsible for total construction management of the three-storey, L-shaped unit, including full structural design and detailing, health and safety, commercial and project management. The houseblock has been given a BREEAM Excellent rating, and meets Building Regulation Approved Document L2A, which relates to the conservation of fuel and power.

Composite undertook the contract for Precast Cellular Structures Ltd (PCSL), its joint venture partnership with Tarmac. PCSL has been supplying secure accommodation to HM Prison Service through the Ministry of Justice's Strategic Alliance for Prison Building constructors and PFI contractors since 1995. Willmott Dixon was the Strategic Alliance contractor at HMP Swaleside.

The modules were precast concrete by Tarmac in blocks of four and delivered to site fully fitted with sanitary ware, windows, grilles and services. The unit also includes administration and facility rooms, a servery, segregation block, isolation and safe cells, an education centre and medical facilities.

Modular construction is perfectly suited to the specific requirements of the custodial sector due to its competitive cost, safety and security, high quality, low maintenance costs and speed of erection.

Vincent James, Composite's Business Development Director, said: "Composite

has a strong track record of delivering high quality houseblocks to the custodial sector, competitively, quickly and efficiently. The similarity of this latest houseblock to its three predecessors at Swaleside enabled us to make an earlier start date, and thus reduce costs."

Composite designed and constructed its first houseblock for PCSL in 1995 at HMP Fazakerley (later renamed Altcourse), near Liverpool, Britain's first PFI prison. In total it has built 32 precast concrete, modular prison houseblocks in the British Isles, including six for the Scottish Prison Service, and one in Guernsey. This year it has also provided houseblocks at HMPs Long Lartin (Worcs) and Nottingham.

For more information contact Helen Symes or Phil Bryant, Hallmark PR on:

Tel: 01962 774833

Email: helen.symes@hallmarkpr.com or phil.bryant@hallmarkpr.com

Oxford Brookes University opens new research and innovation facility

Technology group offices, Oxford Brookes University

A new technology laboratory to support step-change improvements in the sustainability and energy performance of construction systems, as well as structural testing and accreditation, has been established at Oxford Brookes University. The facility will meet many of the current and future needs of the off-site and cladding sectors.

Oxford Brookes University, through its technology research group based in the School of the Built Environment, has an outstanding reputation for the quality of its work with industry. In partnership with business, the University has pioneered many developments in modular and light frame construction, innovation in cladding and building envelope solutions and developments in many other related areas. It also has a long standing research programme aimed at improving the energy performance and sustainability of buildings, building performance monitoring and post occupancy evaluation.

The laboratory will increase the University's capacity to support the off-site sector, which it has historically strong links with. In particular the facility will be seeking opportunities for product development, accreditation and performance testing in relation to existing and forthcoming standards. This complements existing strengths in the application of predictive computational analysis, now used extensively to analyse and improve buildings and for certification and compliance purposes.

The new facility at Oxford Brookes will help bridge the gap between leading edge research and real building performance. Testing capabilities include structural performance, robustness, air-tightness, and thermal performance.

Supporting a low carbon future

The laboratory will provide a substantial additional resource to support the development of low carbon sustainable construction solutions. The carbon reduction agenda provides challenges for all sectors, but also presents significant opportunities for the off-site sector to

demonstrate benefits in both embodied and operational energy, waste minimisation and environmental impact, as well as improved quality and value.

Supporting testing and accreditation

Building regulations are developing rapidly particularly in areas such as thermal performance (Building Regulations Part L will be revised again later this year) and CE marking will shortly become compulsory for most construction components.

As a result of these and other developments, there is an increasing need for testing and accreditation of construction products in order to demonstrate compliance with codes and regulations.

Many components and building systems will struggle to comply with the new regulations and will require certification. Proven detailed performance will for instance avoid default penalties in thermal calculations and therefore deliver significant commercial advantage. The new laboratory is equipped to provide the necessary testing that many manufacturers will require to demonstrate compliance and for accreditation, including CE marking, SCI Assessed, “Q” Mark, NHBC etc.

More information on the new facility is available from Dr Bousmaha Baiche on:

Email: bbaiche@brookes.ac.uk

An exclusive behind the scenes visit – Thursday 15 April 2010

The University will be hosting an exclusive guided tour of the new facility for Members of Buildoffsite on Thursday 15 April. This tour will include a series of presentations on the technical and support services available as well as providing a chance for Members of Buildoffsite to meet with the University’s research team. Full details of the visit will follow shortly.

If you would like to register your interest in attending the visit please contact Anna Whiting on:

Email: anna.whiting@buildoffsite.com

Offsite showing the way

Yorkon and Tesco set new record for speed of construction following cumbria floods

Off-site specialist and Portakabin subsidiary, Yorkon, has set a new record for speed of construction to help Tesco ease some of the problems facing the flood-hit community of Workington in Cumbria.

A new 13,300 sqft purpose-built interim Tesco supermarket was delivered and installed on a brownfield site in an unprecedented 18 hours. It was open for trading just 13 days after start on site.

Yorkon and main contractors Johnson Construction worked through the night, completing the installation of the store at 6.00 am ready for shop fitting to begin.

Now open, the supermarket will operate in addition to Tesco’s main store in Workington, which remains open but is now out of reach to the thousands of residents cut off on the north side of the River Derwent. The community in the Seaton and Northside areas of Workington, as well as those along the coast to Flimby and Maryport now face a detour of up to 40 miles to Workington town centre after bridges were destroyed or closed following the floods.

Commenting on the project, Daniel Frith, Tesco Development Manager, said: “This is the first time we have ever built a store in such a short time. At this time of year our customers are busy enough without a three

hour journey just to get to the supermarket. Many of our own staff have been badly affected by flooding so the temporary store will help them too."

"Yorkon has been part of an outstanding construction team. This project is a really exceptional achievement in such a short time."

David Johnson, Director and General Manager of Yorkon, said: "We are immensely proud of what has been achieved at Workington. Tesco, Johnson Construction and the Yorkon team – both in the factory and on site – have pulled out all the stops to make this happen. The entire building was manufactured less than a week after we received the order from Tesco and we worked around the clock to install the store on time and in less than 24 hours."

Yorkon craned 26 14m long modules into position in an accelerated programme of one unit every 30 minutes. This involved two teams of ten Yorkon site staff working in shifts through the night and at a weekend, and using two cranes to achieve a watertight envelope as fast as possible, ready for the shop fitting teams to move in.

The store, which has a retail sales area of 10,000 sqft, is a new modular supermarket design that Yorkon has developed with Tesco, used for the first time at Barnsley in South Yorkshire. It is almost three times the size of the convenience stores previously manufactured by Yorkon for Tesco, and has been engineered to minimise the number of internal columns for maximum clear spans.

Facilities at Workington will include an in-store bakery, frozen food and chiller sections, office, store room, staff facilities, plant room, cleaner's area and bulk storage.

Yorkon has worked with Tesco for the past eight years, delivering modular convenience stores for both standalone sites and petrol forecourts, and is the UK's market leader in off-site construction solutions for the retail sector.

To see a video of the rapid building installation go to: www.yorkon.co.uk/tesco

For further press information, please contact Joanne Bridges, PRO – Yorkon, Bridges Communications on:

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Breakfast sessions

To assist individuals deal with the challenges relating to renewable technologies and the impact of climate change on buildings the ICSF has set up a series of breakfast sessions to help to raise awareness, improve understanding and also have a working knowledge in terms of design and on-site construction.

The Innovative Construction Skills Forum is funded by ConstructionSkills with the aim of understanding the impact of innovative methods of construction and providing solutions to upskill contractors and designers.

Renewable energy technologies – an introduction to delivery

3 March 2010

Dakota Hotel Glasgow, Eurocentral Business Park, Glasgow, Scotland ML1 4WJ

The breakfast sessions are being delivered by BRE Scotland and John Wheatley College.

Cost: £75 + VAT (payable in advance)

Sustainable refurbishment of the UK building stock: challenges and opportunities

11 March 2010, 8.15 am

WMCCE, Embassy House, 60 Church Street, Birmingham B3 2DJ

The breakfast sessions are being delivered by BRE and Wates Living Space

Cost: £75 + VAT (payable in advance)

For more information and to book online go to: http://www.bre.co.uk/eshots/icsf/

LLOYD'S Register awards Ormandy Ltd for offsite excellence

Lloyd's Register EMEA has awarded Ormandy Ltd, accreditation to the Buildoffsite Registration Scheme. The certificate was presented at the Buildoffsite breakfast briefing held at the offices of Buildoffsite in London on 2 February 2010.

The certificate was presented to Paul Cooper, CEO of Ormandy, by Richard Ogden, the Chairman of Buildoffsite. Upon receiving the award Paul said: "Our thanks to the Buildoffsite team from Lloyd's Register for the guidance and comments both at the gap analysis and the assessment stage of the accreditation process...as a direct result we have taken a number of positive actions that will benefit the entire business group not just the offsite activity".

Off-site, on target?

The UK construction industry needs a change in mindset and skills if our housing targets are going to be achieved, says Richard Ogden. In many parts of the UK, there is a pressing need for high quality, new and refurbished homes to meet the requirements of a growing population.

But how can we fulfil our housing shortage, and have we considered learning from other countries?

I recently travelled to Japan with a group of manufacturers from Ireland, the UK and New Zealand to review the Japanese off-site market. Over the last 50 years, Japan has led the world in using off-site manufacturing techniques for construction projects.

For the most part, this is a housing and apartment based market but on a pro rata scale is unmatched anywhere in the world. Their total annual output is about one million homes to meet the needs of a population approximately twice that of the UK. Some 20% of this market will be met by housing that has been fully manufactured in factories.

Components

To design, specify and then receive factory-made components for on-site assembly we need a new set of skills – but can today's project managers adapt and rise to this challenge?

Also, most modern manufacturing industries use the techniques of standardisation and component assemblies – why not the construction industry?

Reaching for the "book of excuses" for an explanation of the relatively modest take up of off-site solutions, we hear that off-site is always more expensive. I accept that if looking to off-site as something to be fitted in with traditional construction methods then you might be able to justify this perception. However, an increasing number

of serial clients look to off-site solutions to help them simplify and rethink the overall construction process, to identify and drive out waste and, as a result, deliver a step-change in quality and value. Ask leading offsite clients such as BAA and MOJ what they do and why they do it. It's all about client value.

Price over value?

The UK new homes market has long been dominated by price competition rather than a broader view of value. However, things are changing with the cranking up of the requirements in the Code for Sustainable Homes. I believe that the Code, backed up by new Building Regulations, will drive the industry towards the wholesale adoption of off-site solutions. Change will happen and the industry will have no commercial choice but to respond to the new demands and new working practices.

This then brings me back to Japanese practice and the preparedness of Japanese consumers to accept that housing and other construction products carrying a "factory made" badge is a confirmation of quality and value. It is not for the supply side of our industry to tell consumers and clients that they are wrong. If the UK is to avoid repeating the various manufacturing mistakes of the recent past then we need to acquire new skills and embrace these new methods…and not merely find reasons why they will not work in the UK and delude ourselves that our construction industry is different. In an increasing global market for skills as well as products, this would be a very short-sighted view.

The UK has a huge housing need – over three million new homes by 2020. However, delivery is at an all-time low and last year only 70,000 homes were built.

The UK's best-ever annual figure for new build homes was 440,000 to cope with slum clearance and post-war reconstruction. This figure was mostly enabled by adopting industrialised building systems and redeploying wartime manufacturing facilities.

These new prefab homes had a design life of only 10 years and were intended as a short-term solution to the housing crisis; however in Birmingham recently, some of these 50 year old prefabs gained listed status. So much for temporary buildings.

So, how can our industry adapt to the latest housing challenge? What new skills do construction professionals need to meet these demands? What new thinking and leadership needs to be deployed by industry and politicians? I believe that old project management skills, while highly relevant to the traditional construction sector, need to change to embrace an assembly process involving an increasing range of off-site products and not your average prefab.

Richard Ogden is Chairman of Buildoffsite
www.buildoffsite.com

Not your average prefab

Bill Healy makes the case for the increased use of off-site manufacture (OSM) and provides some advice on how to make it a success on projects

The industry is facing a number of tough challenges: money for investment is tight, buildings are becoming more complicated, the heat is on to reduce carbon emissions and clients are challenging the industry to come up with ways of delivering better value for their investments.

In an environment such as this, it is hardly a surprise that a growing number of clients, designers and constructors are looking at alternatives to traditional construction methods to deliver the buildings they want at a price they are willing to pay. Indeed, for many clients, the construction site has already become the place where factory-made components are merely assembled – as the value adding processes have already taken place in the factory rather than on site. Some professional and construction teams are in the vanguard of

this new off-site way of working but the implications are likely to impact the industry as a whole.

The use of factory-made material components to assemble buildings on site can be an attractive commercial and project proposition because of the potential benefits of faster construction on site, predictable project time and cost, assured quality and accuracy, minimisation of waste etc. Specific benefits include:

- services that have been designed for simplicity and speed of installation, and have been tested in the factory
- a level of manufacturing accuracy and fit on site that cannot be matched by traditional construction methods
- simplification of the project's critical path
- increases in levels of productivity on site
- fewer trades on site
- reduced waste of materials, manpower and capital
- improved health and safety
- maximising returns on investment.

Factory-made components are also becoming ever more sophisticated as innovative manufacturers and designers identify ways to incorporate additional structural or service features with high accuracy and quality. However, these developments are possible only if there is a very close and sustained working relationship between the client, their consultants and manufacturers. For much of the industry, this represents a substantially new way of working with increased collaboration across the construction team becoming a necessary reality rather than simply an aspiration.

Regulatory drivers

The case for non-traditional construction methods is also being driven by changes in UK legislation.

In particular, new regulations to support the UK government's targets for carbon reduction will have an increasing impact on design and construction practices to deliver buildings with the required level of performance. The pressure is on to create buildings that use substantially less energy and the way to achieve this will be through better design and specification, new construction products and, critically, substantially higher standards of workmanship. No sector of the industry is exempt from these new requirements and the Code for Sustainable Homes and changes to Building Regulations will specifically drive this requirement in new-build housing.

Impact on the industry

But it is going to be very difficult, if not impossible, for the industry to meet these new challenges by tinkering with current site-based construction methods.

We know that in the UK the history of prefabrication has had some serious ups and downs and many in the industry may have substantial reservations about the use of off-site solutions based on their past experiences or possibly their perceptions of the sector. Some will conclude that although a strong case for the use of off-site solutions might exist in the new build sector, the industry does not as yet have the product offerings to compete effectively in the repair and refurbishment markets. At present, this may well be the case.

Many will also have concerns relating to potential restrictions on design flair, on the

flexibility of solutions, site handling and the challenges of incorporating offsite solutions into construction projects that are still substantially dominated by on-site construction methods. There will, of course, also be concerns over the price of off-site solutions when compared to the price of traditional construction methods.

These are legitimate concerns for the industry just as much as they are for clients and contractors. However, the reality is that the industry has to change the way in which it delivers buildings to meet the volume and quality required. The challenge is to engage with the off-site industry, to learn the lessons from serial clients and to begin to think of off-site solutions as a radical opportunity for the industry to adopt the practices that other manufacturing industries have been embracing for decades.

Practical guidance for clients and their advisors Crucial to the successful use of off-site solutions is ensuring that the design process and the issue of tender documentation allows effective input from off-site manufacturers.

Our consultations with clients, designers, contractors and manufacturers who have experience of using off-site solutions have come up with the following basic prerequisites for off-site success:

- the initial design should be kept outline and flexible with basic layouts, plans and elevations with accompanying performance specifications
- introducing a 'design freeze' as early as possible in the programme to avoid the effects of any late changes that may give rise to particular difficulties for off-site suppliers. It is surprising how many clients will delay their design freeze without appreciating that this will inevitably delay and increase the cost of their project
- the importance of involving off-site suppliers during the design stage to work with the main design team
- ensuring that off-site suppliers have the appropriate level of competence.

Our discussions with the off-site supply side have also identified some factors that may impact the successful use of OSM. These include:

- practicality of build ignored – is it suitable for OSM?
- client standards (especially M&E) that are not compatible
- over-design by consultants
- over-prescription in non-essential areas
- lack of clarity in required performance standards
- specifications for services that are inappropriate
- consultants designing for manufacture without the necessary experience or specialist skills
- lack of understanding of the structure of the off-site supply chain.

The use of OSM is likely to be difficult for:

- small-scale refurbishment projects
- repairs and maintenance
- extension of service runs
- drainage and sewerage installations
- domestic extensions and conversions
- any project where the client is unwilling or unable to freeze the design
- projects where site access is severely restricted.

Early involvement of off-site suppliers

As with most collaboration, it is important to have early involvement with potential off-

site suppliers before final decisions on the form of construction are taken. These suppliers will have knowledge in the project and commercial aspects of off-site solutions and how they can be integrated into the project. Early involvement can begin with a review of the strategic brief. However, if in the circumstances this is not a practical proposition, off-site suppliers will be able to advise on issues such as:

- manufacturing concerns
- costing considerations
- ensuring that the initial design is kept as simple and as flexible as possible
- that the whole life costs of the building are taken into account when considering construction solutions.

Prefabricated foundation solutions in association with piles can achieve a horizontal accuracy of +/-1mm and so eliminate the need for shimming It is going to be very difficult, if not impossible, for the industry to meet these new challenges by tinkering with current site-based construction methods

Design and specification

Also, to help increase the chance of success of OSM, it is important to ensure that the design and specification approach is integrated.

So, do:

- share project ambitions with off-site suppliers
- keep specifications simple
- be receptive to supplier ideas
- understand factors such as speed, quality, waste reduction and predictability.

And don't:

- be over-prescriptive too early in the process
- allow consultants to over-design
- design for manufacture without understanding capabilities and cost drivers
- select the off-site supplier on the basis of cost alone without understanding their critical capabilities and competences.

Performance specifications

I would also stress the importance of appropriate performance specifications and the need for programming to be realistic, given that off-site solutions tend to require longer preparation time while work on site is invariably much shorter than traditional methods. Requirements for future flexibility need to be realistic and specific and consideration should be given to the need for future adaptability, extension or modification in order to avoid unnecessary costs.

Typically, these specifications should include:

- limiting dimensions and volumes
- critical functional relationships
- service requirements
- cladding preference and thermal performance
- fire and acoustic performance
- logistic requirements
- requirements for finishes
- sustainability
- maintainability requirements
- relocatability.

The challenge for the industry

It is inevitable that the increased use of off-site solutions will provide additional challenges for construction professionals, particularly in those cases where off-site methods might be perceived to be competing directly with well-understood traditional construction methods. Techniques for measuring the cost of traditional construction methods are well understood, whereas it may well be that the cost and the project value of the corresponding off-site method may not be directly comparable. For example, what price do you put on a 'right first time' installation method, enhanced accuracy, a

predictable construction programme, greater predictability of cost, simplified construction programme, etc?

Measuring comparative value is a big challenge and we are currently working with a number of industry organisations (such as BAA, Terrapin and Crown House Technologies) to consider developing a tool to support a fair comparison between off-site solutions and traditional construction methods.

Getting the most value out of the off-site industry requires fresh thinking to deal with some of the barriers to innovative ways of working. For example, it is not helpful that there is often a substantial practical and contractual divide between the traditional processes of design and construction. Issues relating to accuracy, tolerances and technical detail may well be left to be sorted out on site, but these can lead to confusion and disruption with inevitable impacts on project programme and cost. It is also not very helpful that the supply side tends to operate as a strict hierarchy with the manufacturer or supplier at the bottom of the pile. That many clients are still content to accept the above as normal practice is an oddity that you would probably not find in any other industry. Making a success of off-site construction is dependent on acquiring the necessary knowledge and skills, and developing the working relationships and mindsets that at this point in time are perhaps more familiar in the automotive or aerospace industries. This is clearly a big 'ask' for our industry but one that it must rise to if client and regulatory expectations are to be met.

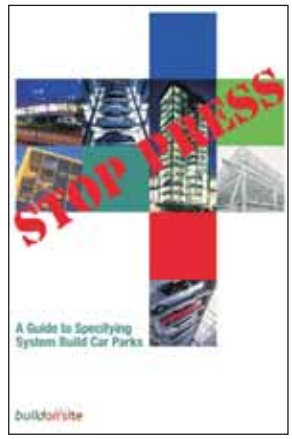
Further information Buildoffsite's *Your guide to specifying off-site manufacture: maximising value and minimising risk* is available for free from: www.buildoffsite.com

A guide to specifying system build car parks

Often car parks are required on high value sites close to a primary business activity such as a retail outlet, an air terminal, railway station or a commercial centre. In situations such as these car parking (quality, well designed, well lit and "safe") can become a major source of revenue. The attributes of offsite manufacture and supply can become extremely attractive. These attributes include speed of construction on site with minimum disruption, predictable performance and cost, and the opportunity to design for reuse on other sites that gives residual value to the structure and maintains flexibility for later site development – a highly sustainable approach.

So why is a specifiers' guide required? Multi-storey car parks lend themselves to a standardised approach as the performance and spatial requirements are relatively straightforward and repetitive. Generally, this building type does not require an intensive redesign for every circumstance. This Buildoffsite produced guide sets out to help potential clients and their agents decide on appropriate levels of specification, product process and delivery to suit their requirements.

Standardisation should deliver considerable commercial benefits in addition to the generic process benefits of offsite construction. The end product can be functional in appearance or exceptional. Careful, skilful consideration of the building's spatial and visual context will have a major impact on a successful outcome.



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