



Richard Ogden,
Chairman

The use of offsite construction methods is a growing phenomenon not just in the UK but also across much of the Globe. Given the increasingly international nature of business and the free flow of knowledge and best practices this is hardly surprising but what do we really know about the development of the offsite market in other countries?

In the first of a series of articles from contributors from around the world the following piece gives a sense of how the market for offsite is developing in the US and how practice over there compares with practice over here. Our contributor is James B. Guthrie, AIA, architect and President of the Miletus Group.



James Guthrie – a man with
a mission

James is also an entrepreneur with a mission. He has established the Miletus Group as a designer and manufacturer of offsite construction systems. He made this move from traditional on-site building practices because he was not satisfied with what the market had to offer and wanted to develop better solutions. James is a great

enthusiast for modular building techniques as a means to achieve real architecture. He says best results are achieved when excellence in design is close-coupled to expert knowledge of construction practice.

James also has a strong commitment to the development of skills within his industry and advancing new knowledge. He is currently chairman of the US Modular Building Institute's Education Foundation.

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A message from America

I visit the UK several times a year on business and also to keep up to date with developments in offsite solutions on your side of the pond.

People often ask me if the US market for offsite solutions is more advanced and more sophisticated than the market in the UK. When they ask this question I get a real sense that the expected response has to be that in the US we are years ahead of you Brits. The fact is that generally we are not. Indeed in many ways the UK is far ahead of us in terms of the range of offsite solutions offered and which in many markets are becoming quite common place. Why this should be took me some time to understand. The US led the way with the development of modern manufacturing methods and the move to mass production and construction. Most people are unaware that back in 1931 when the Empire State Building was constructed that it was, in part, manufactured with large scale structural and cladding components delivered to site using what we would now describe as "just in time" practices. Assembly of large scale prefabricated components was the only way to construct a record breaking building in the time and to the budget set by the client. The construction time was compressed into just one year and 45 days

and the job came in way below budget at \$41m. So almost 80 years ago we were clearly doing something right – something that has worked brilliantly well as a sustainable commercial project and as an iconic piece of construction.



Empire state building

The parallel of where the economy is today to how things were during the global Depression when the Empire State Building was constructed is not lost on me. Perhaps we need the stimulus of a major economic challenge to get people to step up a gear in terms of their willingness to look beyond

the status quo for construction solutions that contribute a step-change in value for clients and customers.

The US housing market and markets such as Canada have always had a very efficient manufacturing and construction sector harnessing the flexibility and cost benefits of timber frame systems. We do of course grow a lot of timber in the US and Canada, and have been exploiting wood as a primary building material since the first settlers arrived in the US in the sixteen hundreds. Wood buildings are incredibly popular with US customers and very fast to construct on site from a basic set of factory made components. In the housing market the US is already in large part committed to the use of offsite solutions whereas for the most part the UK is addicted to new build homes mainly constructed using masonry. So the US tradition for timber frame is matched in the UK by a long established tradition of brick and block construction. Both traditions have their established supply chains that, of course, are very comfortable but which in no way provides

any sort of incentive to spur those involved to want to change to an alternative. Instead alternatives such as the employment of offsite modular components are viewed as untested and therefore full of potential risk.

Curiously in the UK I find that people seem very reluctant – even hostile – to the use of the term “prefab” when talking about house building systems. The reason has been explained to me but frankly I still don’t get it. In contrast, in the US in some circles to talk about “prefab” when describing new homes built from a kit of quality factory made parts is just about the coolest thing you can do. There are even websites devoted to the topic. Who was it who talked about “two peoples separated by a common language.....?” The dichotomies and similarities between the US and UK are really quite fascinating. I recommend Colin Davies’ *History of Prefab* as providing a superb overview of how the offsite sector has evolved in both countries.

Colin Davies traces the history of prefabricated buildings from small-scale “prefabs” to the precast concrete mass housing of the 1960s to the present-day. www.amazon.co.uk/Prefabricated-Home-Colin-Davies/dp/1861892438

So what is the UK doing that the US is not. I have been really impressed with the way in which factory manufactured mechanical and electrical installations are increasingly being used in commercial and office developments and in other highly serviced buildings such as hospitals. The delivery and installation of large factory tested installations is still relatively unusual in the US and I can recall a project delivered by Skanska that made use of such factory-made solutions to very good effect on quality and project efficiency and that attracted some excellent publicity in the technical press. What also attracted interest was Skanska’s establishment of a manufacturing facility alongside the construction site. A mobile factory, that was a clever idea.

.... factory manufactured mechanical and electrical installations are increasingly being used in commercial and office developments

Use of modular wiring systems in construction is something that although I believe started off in the US has been taken forward in the UK as a technique for fast track installation of factory manufactured and tested components. Certainly there is a discipline involved in the installation of such systems but that seems to me to be a good thing. There is also the point that using a factory made solution minimises material waste and also minimises the amount of labour and supervision required on site, with the opportunity for a major uptick in quality. Adopting within construction those practices that are common place in other manufacturing sectors seems to me to be an absolute “no brainer” and I really do find it frustrating that the US is not making more use of the practice.

In both markets there is increasing use of pods and modular systems. In the UK you have some really good manufacturers who are producing quality product for a number of market sectors where speed of construction on site and an assurance of build quality, delivery and price is absolutely essential. I couldn't help but notice that the hotel room I stayed in when I last visited the UK had been made in a factory... the major tell tale was the fact that the service connections had been designed to enable simplicity of installation and connection and oh yes – the standard of finish was superb.

Helping clients to understand the business case for choosing an offsite construction solution is I suspect somewhat simpler in the US where the client is likely to want to focus on what we call the “financial pro forma”. Put simply this involves us in being able to give the client an absolute assurance that by adopting offsite construction solutions he is buying a fixed price, certainty as to quality and a fixed construction time – no ifs and no buts. The client will understand precisely that they are assured that from a specified date, the

building will be ready to generate revenue and this certainty is then built into the financial appraisal of construction system. Clients are most unlikely to have this level of certainty if they select any other form of construction.

One very significant issue that requires much more attention in both the US and the UK is the need for our workforce to be trained in the new skills and practices needed to get the most out of the technology advances possible through the increased use of offsite construction. For example during their professional training young architects are taught very little if anything about the integration of offsite components with *in situ* construction methods. They are taught very little about designing for assembly and with great regret I suspect that their training does not challenge them to think of themselves as an integral and integrated member of the construction team. In my view this is a major gap in US professional training practices and it is one that the MBI Education Foundation is seeking to address. I believe that much the same situation applies in the UK. Perhaps this is an effort that would benefit from cross-county collaboration.

A development that is having a real impact on design and construction practice in both the UK and the US is environmental legislation and the drive for increased sustainability. Perhaps the biggest difference in approach is that in the US we have an incredible number of different regulatory systems that dictate minimum levels of building performance depending on the State and County Codes. At least in the UK your regulatory systems are for the most part set nationally.

Both in the UK and in the US the drive is on for the design of buildings and the building process to become much more efficient. The regulatory requirements and the requirements of leading clients will require increased efficiency in the form of energy required to run buildings. Moreover, economic factors will require more efficient

construction processes in order to bring down costs and to deliver improved value for clients and customers. Certainly the UK's regulations are well ahead of where things are in the US but we will catch up quickly just as you have been catching up with leading EU and Scandinavian practice.

I believe that these developments and the demands of the market place are going to serve as a real stimulus to the offsite sector and it will make no material difference if your preferred material is timber, steel, concrete, a composite or more likely a combination of all of these. The ability to construct building components that will deliver a high quality performance is always going to be that bit more straightforward in the controlled environment of a factory as compared to a temporary construction site. Reducing levels of waste is also much easier to manage in a factory than on a construction site.

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Improving productivity can really only be tackled by carrying out as much construction as

possible away from the construction site. I have absolutely no doubt that the future of construction is going to be offsite and in case you have any doubts about my commitment just bear in mind that I am so confident that I bought the company.

I am really pleased to have developed contacts with the UK's Buildoffsite organisations and to share ideas and learning. In the US we don't yet have the equivalent of a Buildoffsite, in that our various industries remain silo'd, but we are working on greater knowledge sharing and integration to expand the idea of offsite to all sectors.

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For more information on the Miletus Group visit: www.miletusgroup.com

New member



ISG has joined Buildoffsite as it recognises the continuing importance of off site techniques in driving efficiencies and sustainability throughout the construction

process. Buildoffsite not only brings together a host of complementary organisations to share and develop best practice within the industry but also acts as a catalyst for future innovations and initiatives within this dynamic sector. ISG is delighted to add its support and experiences, whilst positively contributing towards the promotion and wider understanding of off site techniques across the construction industry.

ISG is an innovative business and early adopter of off site technology across its projects within the UK and internationally. With over 2,000 staff, 28 offices and a turnover approaching £1bn, the business works with public and private owners, developers and occupiers across a broad range of industry sectors. Within the UK, ISG focuses on construction, fit out and food retail solutions, with a portfolio that includes numerous FTSE 100 companies, leading supermarkets, government departments and social housing organisations. Internationally, ISG has a strong presence in mainland Europe, Asia and the Middle East, and delivers high-quality project management and fit out services for its multi-national client base.

For more information on ISG visit: www.isgplc.com

New member



Fusion Building Systems was established in 2000, in response to a growing demand for offsite building solutions in the UK and Ireland. Having invested in the relocation of the two former manufacturing sites into one 80,000 sqft, "fitted out for purpose", centrally located Northampton manufacturing base, Fusion continues to lead the way in offsite methods of construction with the design, manufacture and installation of light gauge steel frame structures.



Fusion's key products are:

- pre-insulated, light gauge steel frame buildings
- infill panels using Fusion patented StIF™ panel technology
- light gauge steel flooring cassettes.

The company, one of the UK's largest producers of pre-insulated light gauge steel structural building systems continues to develop its legacy of significantly reducing on-site build times enabling faster completion, improving health and safety and reductions in environmental impact.

Fusion's complete service offering takes a customer from design, through manufacture, and on to installation on site. The superior technical performance of the Fusion products is fully certified and tested.

Fusion has significant experience in having supplied and installed building systems to over 5,000 buildings, ranging from care homes and housing developments of up to 700 homes to luxury six storey apartment developments to various hotels and even a five star hotel complex, not forgetting numerous individual dwellings.



Our average contract value is around £550,000 ranging from £35,000 to projects in excess of £2m, which clearly shows the flexibility of the product and the manufacturing process.

The key to success is the involvement of the Fusion "design team" at the very earliest stages of a potential project. This enables us to work with our client and assess the realistic potential for the system as a solution. Furthermore the vast experience of the team simplifies the whole design/pre-con stage working closely with the client and the clients architects reducing design times and costs.

Our structural engineers are on hand at every stage of the process from design right through to completion often initially advising on the basic structure and then on line loads optimising slab build up and costs accordingly. Each project is then

designed, framed and erected with the structural engineer “signing off” the job upon completion.

This approach along with the patented pre insulated panel technology are clear differentiators and as more and more new clients take their first steps towards a “built off site” solution the reassurance and advice the team deliver is an essential ingredient in our success.

In addition to our structural external panels we are experiencing increasing demands for our “in-fill panels” for concrete or structural steel buildings. These panels are design engineered to enclose the building allowing follow on trades to commence their work sooner. With robust deflection plates and high quality fixings our system delivers an excellent solution. Our ability to fit these panels from within the building can dramatically reduce costs of scaffolding and again decrease build times.



Delivering essential change

A high level discussion hosted by Buildoffsite

Buildoffsite is convinced that the current commercial pressures within the UK economy will encourage more and more clients to react against the status quo in terms of how projects are delivered. We believe that clients will increasingly recognise that their requirements in terms of increased value, cost and time certainty,

quality and enhanced sustainability will stimulate the opportunities for offsite solutions to take an increasing share of the UK construction market.



To encourage informed discussion about the need for change within the industry Buildoffsite hosted an invitation only event for senior clients and constructors. Notwithstanding travel disruption caused by snow and freezing temperatures the event, which took place on 1 December, was attended by almost 30 senior figures. The meeting was facilitated by Tim Hall and Chris Ellins of TotalFlow – a Buildoffsite Member Organisation

The context for the discussion was set out under five headings comprising:

- incentivising investment in construction
- delivering better performing, more sustainable buildings
- achieving step-change increases in productivity
- offering substantial improvements in client value
- enabling the supply side to earn a reasonable profit.

The discussion that followed recognised the need for change and started to identify the specific actions that clients and the supply chain could take to introduce fundamental improvements in the performance of the industry. The discussion was informed by worked examples from a number of the leading clients present, which included sustained programmes of continuous improvement in the integration of design and construction and the

adoption of modern methods of delivery that were already showing cost reductions of around 30 per cent. Switching from construction using traditional on-site methods in favour of the on-site assembly of off-site manufactured elements represents a key contributory factor to achieving this level of success.

Those attending the meeting were unanimously in favour of reconvening to continue the discussion and to identify practical opportunities to collaborate on taking matters forward. Buildoffsite and Totalflow will be arranging a follow up meeting along with a separate catch up meeting for those who wanted to be at the 1 December event but were prevented from attending because of the bad weather.

Buildoffsite will shortly be publishing a précis of the discussion points from the 1 December event including a commentary on the potential next steps. The details will be reported on the Buildoffsite website: www.buildoffsite.com

Buildoffsite news



Richard Ogden, Chairman of Buildoffsite, presenting the certificate to Ron Brown, Quality Assurance and Safety Manager at Unite

The Buildoffsite Registration Scheme, operated by Lloyd's Register EMEA is gathering momentum in the UK construction sector.

Working in conjunction with Building Life Plans (Allianz) and with the direction and support of the Royal Institute of Chartered Surveyors (RICS) and Buildoffsite, Lloyd's Register has now developed the Property Assurance Scheme. The scheme has been developed to provide assurance to

mortgage lenders that they will not be exposed to undue risk in lending against properties constructed using innovative construction methods.

Following a successful presentation to the lenders at the RICS in July, four of the principal lenders, Lloyd's TSB, Santander, Nationwide and RBS have agreed to participate in a number of pilot development projects that will be operated under the assurance scheme.

The assurance scheme comprises:

- accreditation against good practice in design, manufacture and construction
- 60 year durability assessment of the system of construction
- 12 year latent defect insurance
- web accessed database, which details the structural elements of each property by postcode.

This represents a major breakthrough for the non-traditional construction sector, critical to achieving the UK Government's 2020 carbon emissions target, as to date the lenders have been loathe to risk lending against innovatively designed and constructed properties.

New accreditations

Lloyd's Register has recently accredited Unite Modular Solutions Ltd (UMS) under the Buildoffsite Registration Scheme in the design, manufacturing and construction scopes. Unite Modular Solutions Ltd, based in Gloucestershire, has designed, manufactured and installed some 17,000 fully fitted volumetric modules into a diverse range of projects across the UK since its inception in 2002. At the award ceremony, Richard Ogden, Chairman of Buildoffsite said: "Buildoffsite are delighted to present this certificate to Unite, which is a testament to the application of best practice in the delivery of design, manufacture and construction to the offsite construction industry."

NG Bailey appoint business development manager



Jason Malik



Leading national building services provider NG Bailey has announced the appointment of a new business development manager for its off-site manufacturing division.

The Ilkley-based company, with its headquarters at Denton Hall, has appointed Jason Malik business development manager of the West Yorkshire-based division.

He will be responsible for developing the division's external customer base with an emphasis on formulating and implementing a strategic approach to new markets.

He has previously worked in business development roles at companies including Hewden PLC GE Capital Modular Space and Elliot Modular Buildings as national accounts director.

Mr Malik said: "I am delighted to have joined NG Bailey. I have long since admired the company's dedication to high standards and I look forward to being a part of such a well-respected company, one with a reputation for delivering innovation in the off-site manufacturing field.

As a founder member of Buildoffsite, NG Bailey continues to lead in this field, bringing solutions to the table that will yield lower costs, improve H&S due to a reduction of labour on site, whilst also reducing transportation and waste."

UNITE modular solutions gains constructionline accreditation

The heart of
student living



Unite Modular Solutions Ltd, industry leaders in off-site volumetric construction, has further boosted its standing in the construction industry after gaining the Constructionline accreditation.

Constructionline is a nationally recognised registration board that supplies over 2000 organisations working within the building sector with its approved suppliers and details of relevant scopes of excellence.

The service is recommended by the OGC Common Minimum Standards and The Local Government Task Force and helps make significant administration savings for the client by linking them with relevant approved suppliers.

Unite Modular Solutions Ltd (UMS) achieved the accreditation by completing an exhaustive pre-qualification questionnaire, which was supplemented by a comprehensive suite of documented evidence demonstrating compliance in a number of key areas of off-site volumetric manufacture and installation.

Ron Brown, SQA manager for UMS, comments: "Gaining this accreditation is another success for UMS and will help to enhance the company's already excellent reputation within the industry. Having Constructionline accreditation will simplify the tendering process as most major potential construction customers and local government accept it, thus alleviating the need for protracted pre qualification questionnaires."

**For more information please visit:
www.unite-modular-solutions.co.uk**

Project SLAM



The 15,000th Project SLAM bedroom has been completed thanks to modules provided by Caledonian Building Systems. The £500m project is modernising the single living accommodation for the armed forces throughout the UK.

This project is being delivered by Debut Services Limited for the Ministry of Defence (MoD). Graham Jeffery, Project SLAM Program Director at Debut Services Ltd comments: "We are delighted to have reached the 15,000 bedroom milestone with the help of Caledonian, working closely with them has helped us to deliver quality accommodation for service personnel on a large scale across the country, in a highly efficient and sustainable way. Modular construction will continue to play a principal role in delivery of this project."

For more information contact:

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Yorkon wins another award for NHS treatment centre



Off-site construction specialist and Portakabin subsidiary, Yorkon, has won another award for the acclaimed Emersons Green NHS Treatment Centre in Bristol.

The project for independent healthcare providers UK Specialist Hospitals (UKSH) is believed to be the largest complete hospital to be built using modular construction.

The scheme has just won the award for Best Product Used in the Exterior Environment at the Building Better Healthcare Awards.

The awards are the UK's most prestigious for healthcare design and facilities management, celebrating the people, products and projects that have excelled in improving the healthcare environment.

According to the judges: "Each year the standard of entries has grown.....a positive indication of the ever-improving environment of the country's health service. The winners of this year's awards have far exceeded present standards in today's healthcare built community. As pioneers of the future environment of our healthcare, these winners have set a benchmark for all future developments, and as a result, should be congratulated."

Designed by architects TP Bennett and built by Yorkon, the Emersons Green NHS Treatment Centre is a new purpose-built surgical hospital, which provides a range of elective surgical services for NHS patients, including inpatient treatment.

Commenting on the latest award for the project, David Johnson, Director and General Manager of Yorkon said: "To complete a project of this scale and complexity, which was open and treating

patients just 12 months after the start on site, was a significant achievement for the whole project team.



It involved taking an innovative approach to construction that minimised on-site working and reduced the programme time – and it was successfully delivered both on time and on budget.”

We are absolutely delighted with this latest award, and the recognition it gives to the client, the design and construction team, and to the success of the off-site approach.”

The three-storey 4,842 sqm hospital comprises 114 steel modules that Yorkon craned into position in just three weeks to reduce the build time to only 12 months. The programme was critical as patients were booked in for treatment, and was achieved despite winter working and adverse weather conditions, which would have had a major impact on traditional site-based construction methods.

The project’s other achievements included:

- challenging programme. Within just four weeks of Yorkon’s contract award, the infrastructure works had been completed ready to receive the specially manufactured modules
- outstanding site management. Yorkon’s site management team was recognised with Considerate Constructors “Performance Beyond Compliance” certification
- excellence in health and safety. There were no reportable incidents or accidents on the site for the duration of the project and in more than 120,000 man hours.
- an attractive, welcoming healthcare facility. The building demonstrates the design flexibility and architectural quality of off-site construction
- innovative floor solution. The scheme was the first application in the healthcare sector of the new Yorkon high performance pre-installed concrete floor system
- integrating off-site construction and site-based building methods. A highly glazed traditionally-constructed atrium to the front elevation demonstrates how modular construction can be successfully integrated with conventional building methods.

The treatment centre also has strong environmental credentials. It achieved a BREEAM “very good” rating and features services monitoring, water conservation devices, a high level of natural light, solar reflective glass, leak detection system for the kitchen, and cycle storage. A sustainable green roof was used for the adjacent service building.

The project has already won an LABC Building Excellence Award, and was Yorkon’s third healthcare project for UKSH.

Foremans releases new figures for delivery on time, on budget and customer satisfaction research results



Figures just released by Foremans Relocatable Building Systems, the UK's largest supplier of recycled and refurbished modular buildings, have shown how its approach is delivering outstanding customer satisfaction and the consistent completion of projects on time and on budget.

Foremans has successfully delivered 96 per cent of its projects on time and 99 per cent on budget in the last three years.

This performance is in sharp contrast to government statistics for the UK building industry, which showed that only 46 per cent of construction projects were completed on cost and only 59 per cent on time last year (source: *Construction Statistics Annual*, Office of Public Sector Information, 2009).

In research carried out to measure customer service, Foremans achieved an average score of 91 per cent for overall satisfaction, including both building and service quality, over the last two years. 100 per cent of customers surveyed would recommend Foremans building solutions.

A further endorsement of the Foremans approach is the fact that 80 per cent of its business is from past customers.

Commenting on the new figures and research results, Kevin Jones, Managing Director of Foremans Relocatable Building Systems, said: "We believe these results reinforce our position as the UK's leading supplier of recycled and refurbished modular buildings. Our teams both on and off site work tremendously hard to ensure

we deliver the highest levels of customer service on every project, and our outstanding performance over the past three years, is testament to their ongoing commitment, as well as the quality of our buildings."

Our approach to re-using quality modular buildings combines all the advantages of off-site construction – speed and reduced disruption – with the additional benefits of exceptional cost efficiency, shorter lead times and greater sustainability.

Foremans building solutions meet the requirements of the revised Building Regulations Part L2A 2010 (England and Wales) and Section 6 2010 (Scotland). Each building is fully refurbished off site at one of Foremans' two production centres. Only the structure of the building is recycled, adding even more value to the pre-owned modular approach.

The buildings are reconfigured to exact project requirements and specification, and fitted with new windows, wall linings, partitions, M&E services, doors and flooring, creating high quality accommodation for a range of permanent and interim uses.

For further information about recycled and refurbished modular buildings

Website: www.foremansbuildings.info

Email: info@foremansbuildings.co.uk

Tel: 01964 544344

Building energy reduction

There is now widespread agreement that DEC's (Display Energy Certificates) – prominently displayed in every building – will, over time, create the necessary awareness amongst occupiers. This will drive a desire for buildings with better energy performance among tenants. It will create differential rents incentivising landlords appropriately to undertake energy focused refurbishment.

Government may be willing to support such legislation, and will find this easier if there is a groundswell of support from major businesses and industry bodies.

The proposition has been developed and championed by Cal Bailey, NG Bailey's sustainability director, with the active support of BSRIA, Buildoffsite and the UKGBC. It is also gaining backing from other businesses that see the value of demonstrating continuing improvement of their property assets. We are therefore seeking to co-ordinate a list of leading property and construction businesses that support efforts to reduce CO₂ emissions from buildings and are willing to take a leadership stance by signing the proposition below.

The proposition: market incentivisation by visible DEC's in non-domestic buildings

Carbon is invisible, out of sight and largely out of mind. Buildings represent the single largest cause of carbon release but this is poorly understood, and it is hard to differentiate between good and bad performers. This problem was overcome in the white goods market by making energy performance visible via the familiar energy label, which has successfully driven the development of greener products.

The property market needs stronger incentives to enable landlords both to build better new buildings and especially to refurbish existing buildings to higher energy standards.

If non-domestic buildings displayed their DEC performance prominently in circulation areas (especially receptions), this would:

- raise the awareness of users to their building's energy performance
- drive tenants to require higher performance from future premises
- raise the value of better performing buildings

- properly reward landlords who construct/refurbish buildings to high energy standards.

We recognise that government is reluctant to regulate. However, we believe the prominent display of DEC's will drive the right behaviour and incentives, and so call on the government to require this.

We are willing to demonstrate our support for this proposal and our leadership in this matter by committing to place prominent DEC's in our non-domestic office buildings over 1,000 m² by December 2011.

Signatories to date:



Become a signatory

You are invited to put your organisation's name as a signatory to the proposition. It involves a commitment to display voluntarily a DEC in all your office buildings over 1,000 m² by December 2011.

To commit your support to this, please email now with your company logo for the signatory list below. This proposition, with the list of signatories, will also be taken to Government through a variety of means.

Email: val.grundy@ngbailey.co.uk

Laing O'Rourke and Cambridge University to establish Centre of Excellence in Engineering



Laing O'Rourke and The University of Cambridge have today announced the creation of a new multi-disciplinary academic centre of excellence to advance the engineering profession and leverage innovative thinking to benefit the construction industry.

The UK's largest privately-owned engineering enterprise, Laing O'Rourke, will fund the Laing O'Rourke Centre for Construction Engineering and Technology at Cambridge as part of their multi-million pound collaboration with the University.

An agreement signed by Cambridge Vice-Chancellor Professor Dame Alison Richard, and Laing O'Rourke Chairman and Chief Executive Ray O'Rourke formally launched the new centre, which is set to play a leading role in shaping the future of the construction industry by responding to the environmental and sustainability challenges facing the planet.

The Centre will be a focus for innovative research and teaching, using the insights to help shape the built environment of the future in order to give as many people as possible access to the benefits of sustainable construction.

A new two year part-time Masters degree in Construction Engineering will be launched in September 2011 by the Centre in the University's Department of Engineering, working with Judge Business School.

This course aims to advance the development of the construction sector through the translation of intellectual achievement into practical outcomes. It will produce engineers and managers who will lead the process of breaking down the traditional barriers between construction, consulting engineering and the client, pushing forward an agenda of innovation and technological advancement.

It will encompass the full spectrum of the industry value chain from the high-level financing requirements of major projects through to the latest innovations in analysis, design and materials technology, with a focus on sustainability and whole-life performance. The programme will be multidisciplinary aiming to embrace a broad range of sectors such as housing, buildings, transport, energy, water and waste.

The Centre, led by the new Laing O'Rourke Professor of Construction Engineering, will also deliver undergraduate education, PhD and post-doctoral research and Executive Education. A key goal is to raise the profile of the construction industry across the UK, attracting more young people to consider careers in this field and fast-tracking them through to senior management positions.

Ray O'Rourke said: "I believe the engineering and construction profession has reached a critical crossroads in its development – it has for too long relied on traditional skills and approaches, often failing to keep pace with the political, social and economic demands of modern society. It must once again attract the very best talent, apply radical thinking, embrace new technologies and innovate in a way that removes waste and inefficiency and creates the greatest value for the world's communities.

“The announcement is tangible evidence of the role Laing O’Rourke is committed to playing in this regard, and we are excited by the prospect of sharing our vision and forging an enduring relationship with Cambridge University, in line with our other educational partnerships.”

Professor Dame Ann Dowling, Head of the Department of Engineering said: “The department’s aim is to address the world’s most pressing challenges through our teaching and research. I am excited by the potential of this new centre to develop novel solutions to the challenges of constructing a built environment that is sustainable whilst providing for the needs of society to supply energy, water, shelter, and a transport infrastructure on which economic well-being depends. I am grateful to Laing O’Rourke for their commitment and to Ray O’Rourke for his vision.”

QUBE Group buys out PCSL Partner Tarmac



Qube Group has acquired from Tarmac Ltd, its 50 per cent share of Precast Cellular Structures Ltd (PCSL), the specialist prison houseblock builder.

Following the transaction, Qube Group, the parent company of design and build contractor Composite Ltd, now controls 100 per cent of PCSL. The group has owned 50 per cent of the company since 1996, when Composite set up PCSL as a joint venture with Tarmac, to be part of the first PFI prison project in the country.

Since then, PCSL has completed more than thirty projects in the custodial sector, providing in excess of 5,200 cells. In the past 12 months, the company has completed houseblock projects at HMP Nottingham, Swaleside and Long Lartin, all of which have achieved BREEAM Excellent status.

Qube Group Managing Director, Roy Nield-Dumper said: “This purchase will enable us to consolidate and focus our activities on further developing our modular approach to delivering outstanding prison accommodation.”

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 construction.

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.

Lean project management: getting involved



A collaboration between Construction Skills, Buildoffsite and Lean Thinking Ltd is behind the unique offer to facilitate the implementation of a lean project management.

On offer is an invitation to all sectors of the construction industry to take up facilitated implementation of lean project management system on their projects with a money back guarantee.

This system applies to every stage of the project including pre-construction and design.

Those who have attended recent Buildoffsite Stakeholder events will be

aware that a number of featured construction projects have benefited from the application of lean project management services provided by Lean Thinking Ltd to increase client value, project performance, profitability and sustainability. In turn the application of lean project management has stimulated the increased take up of offsite construction solutions to ensure certainty of project programme, project cost and project quality. The clients involved have included the Ministry of Justice and Marks and Spencer. Main contractors have included Interserve and ISG.

Construction Skills, Lean Thinking Ltd and Buildoffsite are keen to demonstrate that the benefits of lean project management techniques are equally applicable to small projects as well as large projects, new build as well as refurbishment, projects already underway as well as those about to start and are also applicable to the activities of manufacturers, suppliers, sub contractors and designers.

Construction Skills and Lean Thinking Ltd have come up with a scheme that, in the first instance, is being made available to those Buildoffsite members who wish to implement lean project management techniques to the delivery of their projects and services. Put simply the offer is that if as a result of the facilitated application of lean project management the project and the applicant have not benefited from tangible improvements the professional fees incurred will be refunded. There will of course be an obligation that the senior management of the applicant organisations give their total support to the implementation process.

The outputs from this trial programme will be independently verified and case studies will be produced by Construction Skills to further demonstrate the project and organisational value of lean project management techniques along with the associated requirements for new skills. The outputs will be promoted at future Buildoffsite events.

If you think that your company might be interested in getting involved and have a project or a construction activity in mind that you think might benefit from the application of lean project management services contact Ali Mafi, Lean Thinking Ltd (see below for contact details).

If you would like copies of existing project case studies that provide information on the practical outcome from the application of lean project management contact Ali Mafi on:

Email: mafia@lean-thinking.co.uk

Tel: 07974 138 283

Caledonian case study – Surrey St, Croydon



The Bridge House development in Croydon occupies an L-shaped site inbetween the main market street in Croydon and an NCP car park. Due to the tight nature of the site a 500 tonnes crane was used to lift the modules into place. Once in place a bridge was constructed from the new apartment development to link into the neighbouring shopping centre to provide easy access for residents.

As the development was within the M25 and module widths were around 4m, night time deliveries and installation was required.

The modules sit on a concrete plinth, with retail units on the ground floor. One of the unusual aspects of this project was that stair and lift shaft modules were extended through the concrete plinth to level -1, which meant that with an *in situ* staircase, instant access was provided to the modular structure above.



One bedroom apartments, were self contained in one complete module, with an external walkway constructed for access. Due to the nature of the site, one elevation was tapered and as a consequence individual modules were designed to provide the required façade. Our client's aspirations were to achieve EcoHomes Very Good Standard. A range of measures were employed to achieve this including:

- 33% improvement on U-values above Building Regulations
- 650 sq m of green roof and 60 m sq of brown roof
- low voltage lighting within apartments and compact downlighters in public areas
- FSC timber procured (Caledonian has full FSC certification)
- Caledonian modular construction elements have Green Guide A & B ratings
- home office provision
- low ozone depleting materials, which are standard within the modular construction
- a range of external measures including recycling provision, rainwater harvesting, easy access to shops and the local transport network.

For more information on Caledonian visit:
www.cbbuildings.co.uk

Teaming up with Tesco



We are delighted to announce that Tesco has chosen to partner with Britspace on their new store roll out programme for 2010/2011. This contract requires manufacturing of a new hybrid product called "podular".

Retail Director Paul Bonaccorsi takes up the story: "When we looked at Tesco's requirements for back of house units such as the managers offices, staff and customer WC's, staff changing rooms, cash offices etc we developed a new product that was robust with a limited floor depth, the result was a hybrid of modular building and bathroom pods, contributing to our current success with Tesco. These will be rolled out Nationwide from Buckie in the North of Scotland and as far south as Devon and Cornwall".

Britspace continue to collaborate with Tesco with the objective of developing a full modular retail store using the latest methods of offsite construction.

For more information contact:
Emma Cade on tel: 01430 444504 or
Monika Kubacka on tel: 01430 444551

European Hotel Brand of the Year Award

Gateway Pods Limited, European Hotel Brand of the Year



The design of a new brand prototype Holiday Inn Express for Intercontinental Hotels Group has won the prestigious Hotel Brand of the Year Award at the European Hotel Design Awards 2010.



ICA Architects designed the new Holiday Inn Express bedroom suite, bringing in pods experts Gateway Pods to design and manufacture the new bathroom. ICA collected the award at The Sleep Event in London on behalf of the world renowned Hotel group.

Using bathroom pods in hotel projects not only saves the client time, but also reduces on site trades and waste with the certainty of a guaranteed cost. Gateway Pods has partnered with IHG Hotels in the supply of high quality bathroom pods for over 12 years.

Up to 10 Holiday Inn Express hotels throughout the UK have now been built using the award winning hotel room and bathroom design.

Yorkon builds UK's largest modular supermarket – an eco-store for Tesco



Award-winning off-site specialist, Yorkon, has completed the UK's largest retail project to be built using modular construction – a new eco-store for Tesco at Southam in Warwickshire.

Working closely with main contractors RG Carter, the Yorkon off-site approach reduced the build programme to increase the number of trading weeks by eight to the benefit of Tesco and its customers. The architects for the project were the Saunders Partnership.

The scheme is the first application of a new modular store design, which provides 20,000 sqft of retail space, and has uninterrupted spans for the sales areas of 28m, which are unprecedented in the modular industry. This was achieved by reducing internal columns by 50 per cent.

In order to meet the deadline for the store opening, 24-hour factory shifts were employed at the Yorkon production centre in York to manufacture and partially fit out the 70 steel-framed store modules, and the crane phase included both weekend and night working.

Commenting on the project, Lorraine O'Sullivan, Development Manager at Tesco, said: "From a customer experience perspective, you cannot tell this is a modular building. The over-cladding has been very effective and customers have been very complimentary about the new store."

To view a video of the new store and its construction go to:
www.yorkon.info/tescosoutham

"Off-site construction allows more work to be carried out in a manufacturing environment, improving both quality and

the speed of construction on site. This enables Tesco to be faster to market and to open the doors of a new store to our customers more quickly.”

As an eco-store, the new Southam scheme has a number of sustainability features to reduce its carbon footprint, including:

- roof-mounted photovoltaic panels to generate electricity
- a high level of glazing to one elevation for natural light
- sun pipes to the offices and toilets
- rainwater harvesting
- a lobby area to the main entrance with sliding doors to reduce heat loss
- timber cladding from sustainable sources
- mixed mode ventilation
- air scoops for additional ventilation.

The store design also includes back-of-house, staff facilities and office accommodation on the first floor, and has concrete floors with terrazzo tiling.

Yorkon has worked with Tesco for the past 10 years, delivering around 200 projects, including more than 170 Express convenience and petrol filling station stores in the UK and Ireland, and is the market leader in off-site construction solutions for the retail sector.

Buildoffsite events

Buildoffsite breakfast briefings

Delivering enhanced client value: designing for manufacture and assembly

Context:

Clients are looking to their advisers and suppliers for fresh ideas that will help deliver the quality and sustainable buildings they require but at a significantly lower price and with assured delivery times.

This is a significant challenge and it is entirely likely that if the industry is to rise to the challenge it will need to adopt new ways of working collaboratively.

The practice of designing for manufacture and assembly has been adopted by other industries as a proven technique to ensure effective and informed communication and collaboration between those developing the design and those who will deliver the vision.

Designing for manufacture and assembly does not compromise the ability of designers to demonstrate design flair and innovation. However, it does require them and other members of the professional team to be prepared to be prepared to work more closely with constructors and suppliers to establish the optimum methods to deliver the client’s vision whilst minimising risk.

The breakfast briefing:

The breakfast briefing will feature presentations from forward thinking architects, constructors and suppliers on how they are applying the principles of designing for manufacture and assembly in practice and the benefits for all that have emerged. The speakers will be:

- Martyn Wood of Bryden Wood Associates
- Anna Winstanley of Laing O’Rourke.

Date: Wednesday 9 March 2011

Venue: Buildoffsite, Classic House, 174–180 Old Street, London EC1V 9BP

Time: 08.30am – 10.30am

Reserving your place: attending this breakfast briefing is free of charge for Buildoffsite Members. Non-members may attend but a fee of £50 +VAT will apply.

Those wishing to book for this briefing should contact Anna Whiting, Buildoffsite on: anna.whiting@buildoffsite.com or tel: 0207 539 3306.

R&D breakfast briefing

Maximising R&D tax relief



We all know that the business environment at the present time is very challenging and the construction sector is under particular strain. In these circumstances no organisation can

afford to waste money or for that matter miss out on opportunities to recover expenditure where tax credits are available. An obvious concern is that construction businesses should be taking maximum advantage of the opportunities for R&D tax relief.

Companies involved in the development of off-site solutions and other forms of innovation will be investing money in research and development but may not be maximising the benefits available under the UK Tax system. This is your opportunity to find out if you could be recovering more of your investment.

In support of its Members and Guests Buildoffsite is pleased to host a special Business breakfast briefing on *Maximising R&D tax relief* featuring Gareth Edwards of ela. This is your opportunity to find out if you could be recovering more of your investment.

Key issues:

- exchange up to 24.5 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
- intellectual property – can now claim under SME scheme even if IP not owned
- qualifying indirect activities – recent HMRC guidance can increase claims

- new minefield – HMRC guidance on “production” activities
- understand how the R&D tax regimes will change (currently under discussion)
- get tax relief on revenue due to patented technology (current proposal).

To find out more why not join us at our Buildoffsite business breakfast...

Presented by: Gareth Edwards, ela8

Gareth Edwards is a life-long R&D professional and entrepreneur, with extensive experience of putting together and supporting R&D tax relief claims for a wide range of companies, from multinationals to start-ups – gained whilst working as a Director for the award-winning Deloitte & Touche R&D Tax Services group. He has presented at numerous public forums on the benefits available, and how to set about claiming. His deep interest and insight into technology means he can talk effectively with your technologists, quickly extracting the scope and basis for your claim and presenting this in a way that the tax authorities will understand and accept.

This workshop will feature:

- an introduction to R&D tax relief
- what activities and expenditure can be eligible
- examples of eligible projects
- question and answer.

Date: Wednesday 15 June 2011

Venue: Buildoffsite, Classic House, 174–180 Old Street, London EC1V 9BP

Time: 09.00am – 10.00am (registration and refreshments from 08.30am)

Reserving your place: a notional charge of £50 +VAT is payable for each delegate place to cover administration costs. There is no charge for Members of Buildoffsite.

Those wishing to book for this briefing should contact Anna Whiting, Buildoffsite on: anna.whiting@buildoffsite.com or tel: 0207 539 3306.

Benchmarking best practice in the offsite sector



Why is the Buildoffsite Accreditation Scheme important to the offsite construction industry?

The answer is:

- it provides client organisations with greater confidence of delivery to time, cost and quality through the implementation of risk management best practice
- it provides management and shareholders with the assurance that their risk management, competency management and configuration management systems have been independently validated as meeting best practice with the attendant likelihood of costly mistakes minimised
- it represents a key element of the Buildoffsite Property Assurance Scheme and will facilitate a route to market for the offsite provider with recognition of the scheme by all major lenders including RBS, Lloyd's Bank, Santander and Nationwide, together with RICS and the valuer community.

Highlights

The workshop will represent an interactive session with opportunities for delegate debate and discussion throughout.

Representatives from accredited offsite providers will deliver their perspective of the accreditation process – what it meant for them in terms of investment and the realised added value

What will the participants gain from attendance?

The opportunity to discuss the Buildoffsite Accreditation Scheme with both the accrediting body and organisations accredited.

You will learn that we do not seek to introduce new systems and processes but to work with those you have already implemented to achieve best practice.

The session will cover:

- an overall insight into the scheme, scope and coverage
- the importance of an integrated risk management system
- how risk management and configuration management processes reduce the likelihood of costly mistakes
- how an integrated risk management system involves everyone in the organisation and aligns everyone to common aims and goals
- how definitive competency matrices minimise variability of performance
- how the systems required by the scheme encourages communication between members of the supply chain, minimising interface issues.

Dates: Tuesday 5 April 2011 and Wednesday 21 September 2011

Venue: Buildoffsite, Classic House, 174–180 Old Street London, EC1V 9BP

Time: 08.30am – 10.00am

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

Presenters: Nick Whitehouse, Buildoffsite, Simon Wood, Britspace and Terry Mundy, Lloyds Register

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